

Q.Highlight the significance of shale gas. Mark the distribution in India and why it is not a sustainable form of energy in India. 15 marks.

21st century is a 'century of crisis' where one of the most prominent crises is **energy crisis and climate change**. World countries are moving towards more **sustainable sources of energy**.

The countries like USA identified that the **deepest part of the rocks known as Shale rocks** are having some reserves of **hydrocarbons with very less Sulphur content**.

India has good reserves associated with Shale gas and Shale rocks.

[A map of India showing areas of Shale gas potential]

To explore Shale gas and Shale oil, the technology is **Hydraulic Fracking** where **the mix of fresh water, sand and some chemicals are inserted into the deep Shale rock with pressure** which over time generates cracks and from these vents we can explore Shale gas and oil reserves.

For a country like India the Shale gas technology **is not sustainable because:**

- 1. Water scarcity**
- 2. Biodiversity loss as good amount of land is required for exploration of Shale gas**
- 3. Tribal displacement and resettlement issues**
- 4. Problem of land acquisition**
- 5. Contamination of groundwater reserves**
- 6. Highly expensive technology where we are dependent on USA**

and its royalty charges.

7. Good amount of CO₂, Nitrogen and Sulphur emission.

Therefore, **India should not be greedy** about Shale gas and the money invested in Shale gas should be **diverted for development of solar panels, offshore wind power plants, tidal energy and small hydropower plants.**

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