Syllabus subtopic: Conservation, environmental pollution and degradation, environmental impact assessment

Prelims and Mains focus: about the findings of the study and its significance

News: More than 70% of India’s power generation comes from coal, a dependence that comes with **serious health consequences**, according to research.

**Findings of the research on harmful impact of coal-fired power plants**

- In a study, Geoffrey Barrows of the École Polytechnique and others find that the expansion of **coal-based power generation** can have **adverse effects on infant mortality** through **increased pollution levels in the form of nitrogen dioxide (NO2)**.

- Coal power plants are **responsible for around 60% of NO2 emissions** in the country, according to their estimates.

- The researchers use gridded pollution data between 1996-2015 and district-level infant mortality rates to show that the **expansion of coal power generation in India has increased infant mortality significantly**.

- Specifically, they show that **1 gigawatt (GW) rise in coal power generation capacity increases NO2 levels by 7.6% and, consequently, infant mortality by 14%**.

- In contrast, a **similar increase in power capacity in the US results in only a 4.8% increase in infant mortality**. The authors attribute the difference to the **technology used in Indian plants, higher baseline pollution and the type of coal used in India**.

- When compared to imported coal, **Indian coal has higher ash content and releases more pollutants**. The authors, therefore, caution against the new policy of the Indian government to place curbs on imported coal.
They also find that cities are more vulnerable to the effects of coal-burning as these are areas with higher pollution levels and older coal-fired power plants.

Taken together, the authors estimate that the health costs of coal power plants outweigh any local economic benefits. Much of the power produced in plants is transmitted elsewhere. They say environmental regulations need to target the use of domestic coal and older plants located in polluted areas.