Geography · GS - I

Analyze the major drivers of human-induced land-use changes in India and their geographical consequences.

EXAM YEAR	PAPER	SUBJECT
2026	GS - I	Geography

MARKS	WORD LIMIT
15	~250 words

Answer Hint

Urbanisation, industrialisation, agriculture, infrastructure, mining, deforestation, population growth, land conversion, fragmentation, soil degradation, biodiversity loss, hydrological changes, regional disparities

Model Answer

Land-use change in India is driven by demographic, economic and technological transformations. Rapid urbanisation, industrialisation, agricultural expansion, infrastructure development and resource extraction have significantly altered the country's geographical landscape.

Population growth and rising consumption increase demand for housing, food, transport and energy. Expansion of cities converts agricultural and peri-urban land into built-up areas. Industrial corridors, highways, railways, dams and other infrastructure further transform natural landscapes. Agricultural intensification, commercial crops and irrigation projects also alter land-use patterns, while mining causes direct conversion and degradation of forest and agricultural land.

These changes have several geographical consequences. Urban expansion contributes to loss of agricultural land, habitat fragmentation and increased surface runoff, intensifying urban flooding. Deforestation and fragmentation reduce biodiversity and ecosystem services. Mining and intensive agriculture can accelerate soil erosion, land degradation and groundwater depletion. Conversion of wetlands and floodplains increases vulnerability to floods, while changes in vegetation cover can modify local microclimates and carbon cycles.

The impacts are spatially uneven. Ecologically sensitive areas such as forests, coastal zones, wetlands and Himalayan regions face particularly high risks, while rapidly urbanising regions experience intense pressure on land and water.

Sustainable land-use planning, environmental impact assessment, ecological zoning, compact urban development and restoration of degraded landscapes are therefore essential.

Thus, human-induced land-use change is an important driver of India's environmental transformation and requires balancing economic development with ecological sustainability.

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