Q6

Discuss the natural resource potentials of 'Deccan trap'

UPSC Civil Services Mains 2022 · GS I · 10 marks · Natural Resources and Industries

Distribution of key natural resources across the world (including South Asia and the Indian sub-continent); factors responsible for the location of primary, secondary, and tertiary sector industries in various parts of the world (including India).

Core demand of the question

- Discuss the natural resource potentials of the Deccan Trap
- Cover rock, soil, minerals, water, and farming that the lava plateau supports
- Keep the explanation within a 10-mark length

Revision summary

The Deccan Trap is a huge basalt plateau of late Cretaceous to early Cenozoic age.

It supplies building stone and weathers to black cotton soil and laterite.

Cotton, soybean, and dry millets ride that soil.

Fractured basalt holds patchy groundwater; rivers still matter for irrigation.

Bauxite and some other ores sit on or beside lateritised trap country.

Introduction

The Deccan Trap is a vast Cretaceous-Paleogene basalt pile across Maharashtra and neighbouring states. Its resource potential is the lava itself, the soils it weathers into, and the minerals and water stored in its layers.

Body

Rock, soil, and farming

- Flood basalts yield road metal, railway ballast, and building stone on a continental scale.
- Weathering produces black cotton soil (regur), which holds moisture and supports cotton, soybean, sorghum, and pulses in Maharashtra, Madhya Pradesh, and Gujarat.
- Laterite caps on trap plateaus give brick earth and, in places, bauxite-rich profiles.
- Inter-trappean beds hold thin sediments and fossils; they also mark breaks where soils and aquifers can sit.

Minerals and energy-related uses

- Bauxite on lateritised trap and nearby plateaus feeds aluminium in parts of Maharashtra, Chhattisgarh, and Odisha's border belts.
- Iron, manganese, and some limestone occur in and around the trap country, though the richest iron belts of India are not only trap rock.
- Vesicular and fractured basalt stores groundwater in shallow unconfined systems, which dug wells and tanks have long used, even if yields are patchy.

- Geothermal and ornamental-stone uses exist locally; they are secondary to soil and aggregate.

Limits of the potential

- Poorly managed black soil erodes into gullies, and rain-fed cotton belts remain drought-prone.
- Hard compact basalt is a poor deep aquifer unless fractures connect, so irrigation still leans on rivers such as the Godavari, Krishna, and Tapi.
- Resource wealth is therefore agricultural and construction-led, not a hidden oil province inside the lava pile.

Flow diagram

Deccan basalt -> Black cotton laterite

Deccan basalt -> Road metal stone

Deccan basalt -> Fracture groundwater

Deccan basalt -> Bauxite caps

Black cotton laterite -> Cotton pulses millets

Conclusion

Deccan Trap potential is basalt aggregate, black cotton and laterite soils, patchy groundwater, and plateau bauxite. It is a farming and building storehouse, not an unlimited mineral sea.

Facts & figures

Deccan Trap
Flood-basalt province covering much of Maharashtra and adjoining western-central India.

Black cotton soil (regur)
Moisture-retentive clay soil from basalt, famous for rain-fed cotton.

Laterite
Leached plateau cap that yields brick earth and, in places, bauxite.

Godavari-Krishna-Tapi
Major rivers that drain trap country and support canal irrigation where wells fail.

Inter-trappean beds
Sedimentary breaks between lava flows that mark soils, fossils, and local aquifers.