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Q81

Which of the following is/are the possible consequence/s of heavy sand mining in river beds? 1. Decreased salinity in the river 2. Pollution of groundwater 3. Lowering of the water-table Select the correct answer using the code given below: (a) 1 only (b) 2 and 3 only (c) 1 and 3 only (d) 1, 2 and 3 Official key: B.

UPSC Civil Services Prelims 2018 · General Studies · 2 marks · Environment and Ecology
Environment, ecology, climate, biodiversity - Prelims GS Paper I.

Explanation**(a)**

(a) 1 only. Heavy sand mining does not characteristically decrease river salinity; in coastal reaches it can worsen **saline intrusion**. Statement 1 is therefore not a valid consequence. This option is not the key.

(b) Official key

(b) 2 and 3 only. Removing the sand aquifer's filter and storage lowers the water-table and can pollute groundwater by exposing it to river contaminants and by damaging the hyporheic buffer. Statements 2 and 3 follow; 1 does not. This option is the official key.

(c)

(c) 1 and 3 only. Water-table fall (3) is real, but decreased salinity (1) is not the expected effect. This option is not the key.

(d)

(d) 1, 2 and 3. Statement 1 is wrong, so the full set fails. This option is not the key.

Summary

Official key is (b) 2 and 3 only. River-bed sand stores and filters water. Mining it lowers the local water-table and can contaminate groundwater. Salinity in the channel is not thereby decreased; coastal mining may even pull the salt wedge inland. Statement 1 therefore drops. The surviving consequences are pollution of groundwater and lowering of the water-table.

Related possible facts

These can be asked in a future Prelims paper.

Hyporheic zone

Saturated sediments beneath the stream that filter water

Sustainable Sand Mining Guidelines

MoEFCC framework for extraction

Saline intrusion

Risk when beds are mined near estuaries

Channel incision

Bed lowering that disconnects floodplains and wells

Illegal mining

Enforcement issue on many Indian rivers

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