

Hydroseeding Technology for Mine Land Reclamation

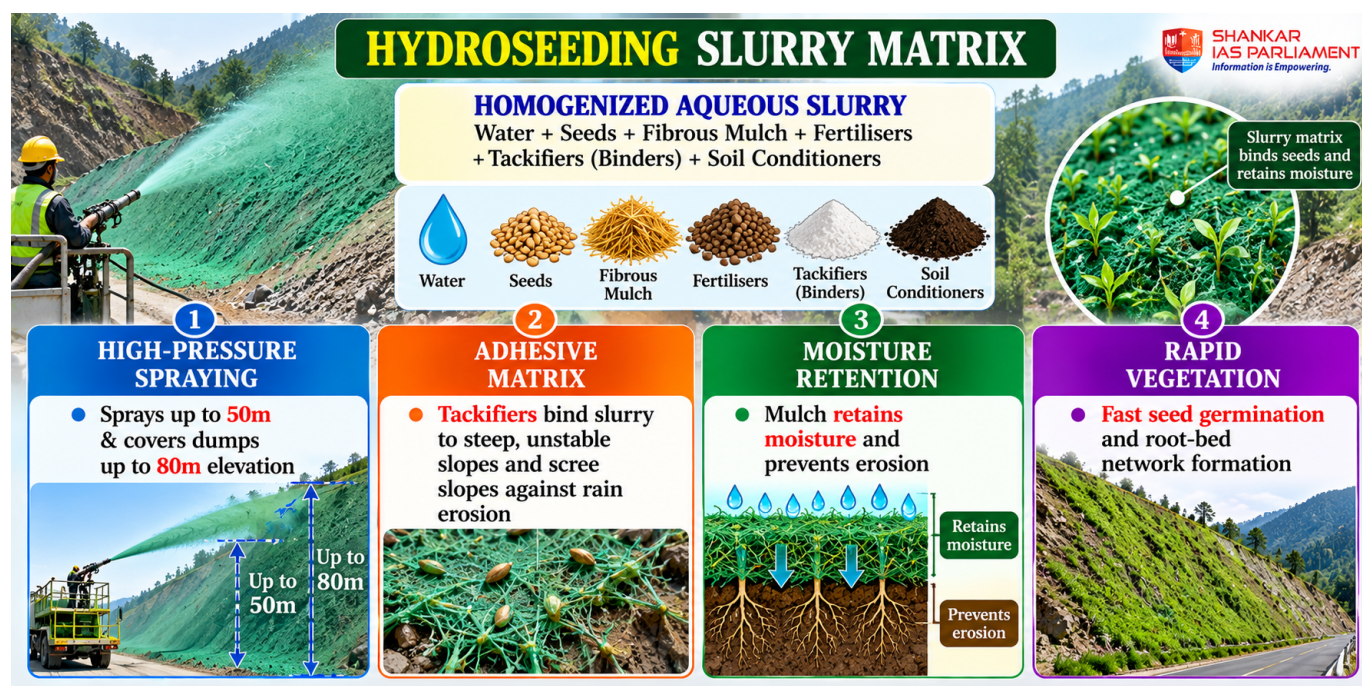
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Why in News?

Recently, Tata Steel introduced advanced hydroseeding technology at its West Bokaro Division in Ramgarh district, Jharkhand.

- It marks the ***first-of-its-kind initiative*** in the state.
- The project spans over **50 acres** of overburden dumps, unstable mine slopes, and nurseries to accelerate green ecological restoration and slope stabilization across mined-out landscapes.

Working Mechanism



Component / Parameter	Operational Functionality & Specifications
Slurry Composition	A balanced mixture of seeds (grasses, leguminous shrubs, local flora), wood-fiber/paper mulch , slow-release fertilizers , tackifiers (natural resins/binders for soil adhesion), and biostimulants .
Machinery & Reach	Specialized high-pressure hydroseeding cannons capable of spraying up to 50 meters horizontally and treating dump slopes elevated up to 80 meters , completely eliminating manual planting on hazardous benches.

Germination Advantage	The mulch matrix shields seeds from harsh solar radiation, wind displacement, and avian predation, while retaining soil moisture necessary for rapid root establishment.
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Strategic Significance

- **Overburden Dump Stabilization-** Mine overburden dumps (OBDs) consist of loose, highly unstable scree subject to severe erosion, gulying, and landslides during monsoon downpours. Hydroseeding binds topsoil immediately upon application.
- **Safety -** Minimizes manual interventions on steep, precarious quarry benches, dramatically lowering operational risk while achieving scale across remote mining sites.
- **Alignment with ESG -** Directly supports compliance with the Ministry of Coal's **Mine Closure Plan (MCP) guidelines** and Environmental, Social, and Governance commitments for sustainable mining and post-mining ecological succession in India.

Reference

[New Indian Express | Hydroseeding technology](#)

