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New Dust Control Technology

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Why is in news? CMPDIL Invents New Dust Control Technology

In order to **minimize and control the fugitive dust in mining areas**, Central Mine Planning and Design Institute Limited (CMPDIL), Ranchi (a consultancy subsidiary of Coal India Limited) has invented a “**System and Method for Controlling Generation and Movement of Fugitive Dust**” and obtained patent for the same in December, 2022.

This system can be used in mines, thermal power plants, railway sidings, ports, construction sites wherein coal or other minerals/fugitive materials are stored under open sky.

Apart from reducing the dust generation from open sources, it will **also provide noise attenuation**.

Coal/Lignite PSUs under the Ministry of Coal consistently strive to produce quality coal in an environmentally responsible manner to meet the country's energy needs.

To **prevent or mitigate air pollution** caused by coal mining and allied activities, coal/lignite PSUs are adopting various measure.

Fugitive dust is a form of particulate matter that contributes to **air pollution** that is generated from various sources which are exposed to air and not discharged into the atmosphere through a confined flow stream.

The present invention relates to the synchronized application of **windbreak (WB) and vertical greenery system (VGS)** for reducing generation and dispersion of fugitive dust.

The WB and VGS are erected in the upwind and downwind direction with respect to the fugitive dust source(s) respectively.

The WB **reduces the speed of the wind** approaching towards the source and hence, it reduces the intensity of the ambient air to pick up dust while blowing over the source.

The VGS **acts as a filter** and reduces the quantity of the residual dust moving along with the wind towards the receptors in the down-wind direction.

Therefore, there is a significant reduction in the concentration of the dust in the ambient air at various receptors located in the down-wind direction.

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