Person 1: Shivansh [2 minutes]

"Good morning, sir and ma’am.

Imagine a forest consumed by flames, turning vibrant green landscapes into ashes. Forest fires devastate ecosystems, destroy habitats, and become a catalyst for climate change and global warming by releasing large amounts of carbon dioxide.

For example, The recent 2024 Uttarakhand fires burned almost 1100 hectares of land releasing 2 lakh tons of co2. To cover losses of forest fires, it costs India annually 440 crore rupees.

The impacts of forest fires are profound:

1. \*\*Biodiversity Loss:\*\* They cause species extinction, habitat destruction, and disrupt food webs.

2. \*\*Soil Degradation:\*\* Fires destroy soil structure and increase erosion.

3. \*\*Climate Change:\*\* They release carbon dioxide and reduce the Earth's ability to absorb it.

4. \*\*Economic Impact:\*\* Significant financial losses occur in the forestry industry and increased firefighting costs, with damage to agricultural lands reducing food production.

Globally, forest fires are a serious issue. For instance, California's 2023 wildfires burned 324,917 acres. Bangladesh and India are also heavily affected, with forest fires peaking from March to May.

Numerous organizations work to control forest fires, like IBAMA in Brazil and various state Forest Departments in India. However, response times can be several hours, allowing fires to spread uncontrollably, thus can’t be stopped.

Person 2: Hardik [2 minutes]

"To address this pressing issue, we introduce 'Dawanal Rakshak,' our innovative solution designed to combat forest fires with minimal human intervention. The name 'Dawanal Rakshak,' derived from Sanskrit, translates to 'Protector of Forest Fires.'

Our system integrates pre installed surveillance cameras with a custom Computer Vision model to detect fires in real-time. Once a fire is detected, the system activates water pumps that use underground water to suppress the flames, minimizing waste by allowing the water to be absorbed back into the soil.

Furthermore, the system activates red LED lights and a buzzer to alert nearby communities. It also sends real-time updates via WhatsApp to key organizations such as the Forest Department, Fire Brigade, and aerial firefighting agencies.

\*\*The advantages of 'Dawanal Rakshak' include:\*\*

1. Enhanced safety for wildlife, people, and property.

2. Rapid response to fire outbreaks.

3. A cost-effective solution compared to traditional methods.

4. Prevention of large amounts of smoke and pollutants from entering the air.

By aligning with Sustainable Development Goal 15—protecting, restoring, and promoting sustainable use of terrestrial ecosystems—'Dawanal Rakshak' offers a comprehensive and effective solution to the global challenge of forest fires.

Total India’s forest cover is almost 800000 km².A 7 horsepower pump can cover an area of 2 km² costing 10000 rupees. Thus to cover a whole forest, it would cost 400 crore rupees and 4 lakhs pumps, which is less than the amount India spends each year on recovering from forest fires.

Thank you for your attention. We are happy to answer any questions you may have."