

World's first 'Plant based' smart air-purifier "Ubreathe Life"

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In news- The scientists of **Indian Institutes of Technology, Ropar and Kanpur and Faculty of Management Studies of Delhi University** have developed a **living-plant based air purifier "Ubreathe Life"** that amplifies the air purification process in indoor spaces .

About plant based purifier-

- **IIT Ropar's startup company, Urban Air Laboratory**, that has developed the product claims it to be the world's first, state-of-the art 'Smart Bio-Filter' that can make breathing fresh.
- It has been **incubated at IIT Ropar, which is a designated iHub - AWaDH (Agriculture and Water Technology Development Hub)** by the Department of Science and Technology, Govt. of India.
- The results of testing, conducted by National Accreditation Board for Testing and Calibration Laboratories and the Laboratory of IIT Ropar maintains that the AQI (Air Quality Index) for a room size of 150sq.ft. drops from 311 to 39 in 15 minutes after using 'Ubreathe Life',

How does it work?

- The technology **works through the air-purifying natural leafy plant.**
- It uses **UV disinfection and a stack of Pre-filter, Charcoal filter and HEPA (high efficiency particulate air) filter fitted** in a specially designed wooden box.
- The **room-air interacts with leaves and goes to the soil-**

- root zone** where maximum pollutants are purified.
- The novel **technology used** in this product is '**Urban Munnar Effect**' along with patent pending "**Breathing Roots**" to exponentially **amplify the phytoremediation process** of the plants.
 - Phytoremediation is a process by which plants effectively remove pollutants from the air.
 - 'Ubreathe Life' effectively improves indoor air quality, increasing the oxygen levels in the indoor space through specific plants like **Peace Lily, Snake Plant, Spider plant** etc...
 - There is a **centrifugal fan** which creates a suction pressure inside the purifier, and releases purified air, formed at the roots, through the **outlet in 360degree direction**.

iHub-AWaDH (Agriculture and Water Technology Development Hub)

- iHub – AWaDH is established by the DST, Government of India, at the IIT Ropar in the **framework of National Mission on Interdisciplinary Cyber Physical Systems** with time-bound predefined deliverables.
- The hub supports R&D in the domain of Agriculture & Water, and provides incubation resources and support to technology-based start-ups towards sustainable agriculture.