

ICAR-CIFT gets Indian patent for waterless live transport of aquatic species

Kochi, Sep 2 (UNI) The ICAR-Central Institute of Fisheries Technology (ICAR-CIFT), Kochi, has been granted an Indian patent for an innovative technology that enables the waterless live transportation of aquatic species, potentially offering a more sustainable and cost-effective alternative to conventional water-based transport systems.

The patented invention, titled "A System and a Corresponding Method for Waterless Live Transportation of Aquatic Species," seeks to overcome several challenges associated with transporting live aquatic organisms, including the weight and volume of water, separate aeration, filtration and cooling systems, continuous power requirements, and the use of plastic bags and other packaging materials.

The technology operates under controlled hyperbaric-hypothermic conditions, combining elevated pressure with reduced temperature to facilitate the transportation of aquatic species without water. The system consists of an insulated container fitted with appropriate devices and holding arrangements to accommodate the species during transit.

An integrated monitoring and control mechanism is another key feature of the invention. Sensors continuously monitor critical parameters, including oxygen, humidity and temperature. Predefined threshold values can be stored in the system and compared with real-time readings, enabling alerts to be generated when parameters move beyond the desired range.

The system can be operated in both manual and automatic modes, providing flexibility in its application. Experimental demonstrations conducted using different aquatic species produced promising results, with survival rates of up to 95 per cent recorded.

The technology is designed to reduce transportation costs and power consumption while offering a more environmentally sustainable approach to the movement of live aquatic species. It could have applications across the fisheries and aquaculture sectors, particularly where live aquatic organisms need to be transported over distances.

The invention was developed by a multidisciplinary team of ICAR-CIFT scientists comprising Dr. Parvathy U., Dr. B. Madhusudhana Rao, Dr. Murali S., Dr. Binsi P.K., Dr. Sathish Kumar K., Mr. Vishnu R. Nair and Mr. Jithin Joy T.