£3 Million Project to Revolutionize Southeast Asian Shrimp Farming with Advanced Monitoring Systems

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A collaborative international research project, valued at over £3 million, has been launched to transform shrimp farming in Southeast Asia through the development of low-cost, early-warning monitoring systems. This initiative aims to enhance sustainability and mitigate significant financial losses within the region's vital aquaculture industry.

The three-year project will equip small-scale shrimp farmers in Vietnam and Thailand with affordable, real-time tools for water quality monitoring, pathogen detection, and environmental threat prediction. By combining local farmer knowledge with expertise in biosensing technology, climate modeling, aquatic health, and artificial intelligence (AI), the project will deliver practical solutions to address critical industry challenges.

Key innovations include a handheld sensor for rapid pathogen and nitrogen level detection in pond water, and an AI-driven prediction tool that utilizes climate data to forecast disease risks. These technologies are designed to be accessible and user-friendly, overcoming the limitations of existing, expensive, and complex monitoring systems.

The project, spearheaded by the University of the West of Scotland (UWS) and involving partners such as the University of Strathclyde, Can Tho University, Vidyasirimedhi Institute of Science and Technology, and the James Hutton Institute, will also champion gender-inclusive approaches to aquaculture. This ensures that both male and female farmers benefit from training and technology adoption, fostering equitable growth within the industry.

"By working closely with local farmers, we are ensuring that the tools we develop are not just scientifically advanced, but also practical, affordable, and easy to use to protect aquatic health," stated Professor Fiona Henriquez-Mui, project co-lead from the University of Strathclyde. "This research has the potential to drastically reduce shrimp mortality rates and increase yields."

Professor Damion Corrigan added, "This is an exciting step forward in precision aquaculture. The low-cost, real-time monitoring system we're developing could be a blueprint for sustainable fish farming worldwide, helping to tackle food security challenges in a changing climate."

The project aligns with the national aquaculture growth strategies of Vietnam and Thailand, ensuring that its outcomes contribute to long-term economic and environmental sustainability. Funded by the International Science Partnership Funds (ISPF) and UK Research and Innovation (UKRI), this initiative has the potential to reshape global aquaculture practices, offering a cost-effective solution to critical industry challenges.