

University of Southampton Leads £3 Million Project to Enhance Sustainability of Asian Mollusc Farming

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The University of Southampton is spearheading a new £3 million research initiative aimed at bolstering the sustainability of mollusc farming across Asia, the world's leading region for the production of oysters, mussels, and clams.

The project, funded by UK Research and Innovation (UKRI) through a consortium named WAVES (Working towards Adaptive and Versatile Environmental Sustainability), will investigate strategies to enhance food security and safeguard livelihoods within the Asian aquaculture sector in the face of global warming, climate shocks, disease outbreaks, and evolving commercial pressures. A key focus of the research will be to assess the adaptability of various mollusc species to the changing environment.

Professor Chris Hauton of the University of Southampton, who is leading the project, emphasized the critical nature of the research. "Climate change presents significant challenges to mollusc farming in Asia, including rising sea temperatures and alterations to monsoonal patterns impacting coastal water salinity," he stated. "The current reliance on a limited number of species for the vast majority of production increases vulnerability to climate shocks and disease, risks that are likely to intensify with rising temperatures."

The WAVES consortium comprises a multidisciplinary team from the University of Southampton, the Royal Veterinary College, the University of Stirling, Can Tho University, Marine and Fisheries Polytechnic of Jembrana, Universiti Sains Malaysia, Northumbria University, and Newcastle University. The consortium will also collaborate with Worldfish (Malaysia) and the Research Institute for Aquaculture No. 1 (Vietnam).

The research will involve comprehensive mapping of mollusc production systems in Vietnam, Malaysia, and Indonesia, engaging with local communities to understand existing practices, stakeholders, and challenges. Dr Lucy Brunton of the Royal Veterinary College highlighted the importance of this initial phase: “By thoroughly understanding current mollusc production and the threats posed by climate change, we can develop effective tools for the future sustainable expansion of aquaculture, safeguarding food security and the livelihoods of farming communities in the region.”

Furthermore, the project will evaluate the tolerance of diverse mollusc species to environmental shifts, salinity variations, and disease. This research aims to identify alternative species that can contribute to a more resilient and diversified aquaculture stock. The findings will be integrated into predictive models to forecast the potential impacts of different climate, commercial, and policy scenarios on Asian mollusc farming.

Dr Andrew Desbois from the Institute of Aquaculture at the University of Stirling noted the environmental benefits of mollusc farming. “Mollusc farming has a low environmental footprint, and by filtering seawater, these species can enhance water quality,” he said. “Ensuring the continuation of production in a changing climate will help maintain the availability of these nutritious foods for consumers globally.”

The project will also gather data to demonstrate the benefits of diversifying farmed species and investing in hatcheries to produce high-quality seed, which can enhance resilience and improve food safety and nutritional value. The research outcomes will be disseminated to mollusc farmers and policymakers across Asia to facilitate a transition towards more sustainable and equitable aquaculture practices.

Professor Hauton concluded, “The insights gained from this project will provide crucial information for regional planners to strategically support the future of mollusc farming and empower farmers to adopt improved practices for sustainable and resilient production of high-quality mollusc products.”