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Sustainable Rice Production in Vietnam: Challenges, Innovations, and Market Opportunities

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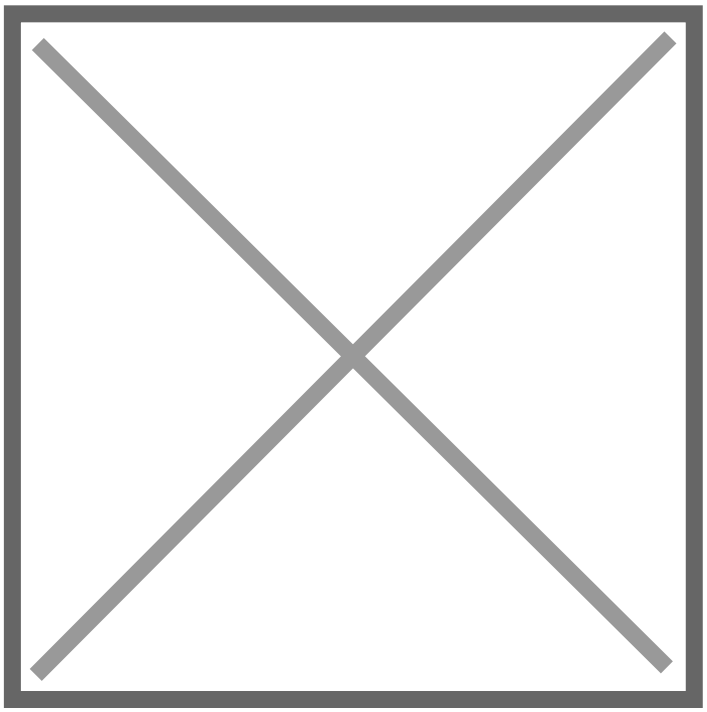

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1. How does Vietnam's reliance on rice exports impact its economic stability and food security? What challenges does the industry face in terms of sustainability and environmental impact?

Vietnam is one of the worldâ??s largest rice exporters and relies heavily on rice cultivation for rural employment, food security, and foreign exchange earnings. However, intensive rice production practicesâ??designed to meet global demandâ??have led to growing environmental challenges that directly threaten the sectorâ??s long-term viability. These include inefficient water use, excessive fertiliser and pesticide application, and the widespread burning of rice straw after harvest. Together, they contribute to soil degradation, declining biodiversity, and substantial greenhouse gas emissions. Methane from flooded rice paddies is especially concerning, as global rice cultivation contributes approximately 10% of anthropogenic methane emissions.

In particular, Vietnamâ??s Mekong Delta faces severe climate risks. As climate change intensifies and global buyers increase scrutiny of sustainability practices, Vietnamâ??s rice sector must adapt through more resilient, environmentally responsible approaches. For the nation, sustainable rice production is not only vital to preserve export competitiveness but also to ensure domestic food security and rural livelihoods over the long term.

2. How do inefficient water use, overapplication of fertilizers and pesticides, and the burning of rice residues in Vietnamâ??s farming sector contribute to soil degradation, biodiversity loss, and higher greenhouse gas emissions?

Rice farming in the Mekong Delta still depends heavily on conventional practices that are no longer sustainable. Continuous flooding of rice fields, for instance, creates anaerobic conditions ideal for methane-producing microbes. Overuse of synthetic fertilisers and chemical pesticides leads to runoff, water pollution, and long-term nutrient imbalances in soil.

The common post-harvest practice of burning rice residues is particularly harmful. It releases large amounts of COâ??, methane, and black carbon into the atmosphere, while also destroying organic matter that could otherwise enhance soil quality. These approaches not only damage the environment but reduce the long-term productivity of farmland and increase costs for farmers due to chemical dependency and soil fatigue.

Transitioning to sustainable and regenerative practices is essential to break this cycle and restore soil health, reduce emissions, and protect biodiversity.

3. How is BENEO's collaboration with Rikolto and CarbonFarm driving sustainable rice production in Vietnam? What role does the Government of Flanders play in funding this initiative?

BENEO is working alongside Rikolto and CarbonFarm in a three-year project to promote sustainable rice production in Vietnamâ??s Mekong Delta. The initiative is designed to reduce greenhouse gas emissions, improve soil health, and support farmers in adopting climate resilient practices aligned with the Sustainable Rice Platform (SRP) standard.

Rikolto leads farmer engagement and training, leveraging its deep experience with agricultural cooperatives. CarbonFarm contributes climate-tech tools, using satellite imagery and AI to monitor methane emissions, water usage, and field-level practices. This enables transparent tracking of sustainability performance. BENEOâ??s role focuses on integrating the resulting SRP-certified rice into responsible sourcing pathways that support long-term market demand.

The project is supported by the Government of Flanders through its International Climate Action Programme, providing funding of approximately 800,000 Euros. Selected by the Government of Flanders as one of seven demonstration projects out of 26 proposals for 2024, the initiative was evaluated by an expert jury and chosen for its relevance in addressing global sustainability, climate and environmental challenges. This financial backing enables the project to scale quickly, build local capacity, and demonstrate real-world climate impact through innovative partnerships.

4. How does the Flanders International Climate Action Programme support the new project launched to reduce rice production's environmental impact? Describe the initiative's key features?

The Flanders International Climate Action Programme (FICAP), launched in 2021, aims to support countries in the Global South in the fight against climate change. It strengthens the implementation of climate policies, strategies, regulations, and action plans in countries by providing financial support for projects that demonstrate new technologies, disseminate knowledge, and initiate capacity building for both adaptation and mitigation purposes. From 2021 to 2024, there have been 4 successful calls for proposals. At the moment, there are more than 60 running projects in 31 countries.

In Vietnam, FICAP is funding the joint initiative between BENEO, Rikolto, and CarbonFarm to support the transition to sustainable, climate-resilient rice cultivation.
Key features of the project include:

- Training at least 1,000 farmers on sustainable rice cultivation practices aligned with Sustainable Rice Platform (SRP) standards.
- Use of digital tools (e.g., satellite monitoring and digital logbooks) to collect verifiable data on water use, fertiliser application, and methane emissions.
- Demonstration fields to showcase the tangible benefits of alternative farming techniques.
- Capacity-building for local cooperatives to ensure ongoing farmer support after the project ends.

- Providing incentives for farmers through guaranteed purchase quantities for their SRP-verified rice, which is processed into high-quality ingredients for food and pet food markets worldwide.

By integrating capacity building, technological innovation, and long-term market linkages, the project aims to create a sustainable model for climate-smart rice production.

5. How are BENEO, Rikolto, and CarbonFarm's collaborative efforts supporting Vietnamese farmers and encouraging sustainable rice production?

The partnership is farmer-focused at its core, with training for at least 1,000 farmers in Vietnamâ??s Mekong Delta. Rikolto leads local implementation, working directly with rice cooperatives to train farmers. Farmers also receive hands-on learning through demonstration fields, making it easier to adopt new practices with confidence.

Digital logbooks and satellite tracking provided by CarbonFarm allow each farmerâ??s progress to be documented and verified. This data-driven approach supports transparent sustainability evaluation and lays the groundwork for access to climate finance mechanisms in the future.

As part of the project, BENEO plans to process 10,000 tonnes of SRP-certified rice, giving farmers a guaranteed purchase quantity and added financial security.

By adopting these practices, farmers can reduce environmental impact while maintaining yield and securing long-term soil health and productivity. Through linking sustainable cultivation to premium sourcing opportunities, the collaboration not only reduces environmental harm but also supports farmer livelihoods and long-term resilience in a changing climate.

6. In rice cultivation, how do high-quality ingredients contribute to optimizing texture and nutritional composition? How is the market for SRP-certified rice ingredients driving innovation in value chain models, and what impact is it having on small-scale farmers and sustainable rice cultivation?

At its state-of-the-art production site in Wijgmaal, Belgium, BENEO processes rice into high-quality starch, protein and flour ingredients for use in the food and feed industries. Rice protein is a valuable plant-based source of nutrition and can be used in baked goods, for example, to enhance their nutritional profile. Rice starch serves as a texturizer in applications such as soups or sauces, or to create smooth surfaces in confectionery like chocolate lentils. Rice flour, meanwhile, is ideal for developing gluten-free bakery products or improving the texture of cereals. Overall, rice ingredients help manufacturers achieve an appealing texture and mouthfeel across a wide range of products.

Rice also enjoys a strong positive perception as a natural, healthy, and appealing ingredient. Globally, 81% of consumers consider rice a (very or somewhat) sustainable source of protein while 87% view it as (very or somewhat) nutritious.

At the same time, 3 in 4 global consumers say that how food is made and what goes into it is very important to them, while 1 in 2 place high value on honesty and transparency around ingredients and sourcing. These preferences highlight the need for manufacturers to use high-quality ingredients that align with the values of health- and environmentally-conscious consumers. With the added benefit of being sustainably sourced, ingredients made from SRP-certified rice from Vietnam offer a clear competitive advantage.

7. How do you perceive Vietnam's rice trade challenges and opportunities amid U.S. tariffs and global trade uncertainty?

Global trade dynamics, including tariffs, inflation, and shifting consumer expectations, continue to create both risks and opportunities for Vietnamâ??s rice sector. Maintaining export competitiveness under these conditions will increasingly depend on sustainability, traceability, and quality assurance.

As global trade dynamics continue to evolve, it is essential for agricultural sectors like rice to focus on resilience, diversification, and long-term sustainability. Vietnam has a strong foundation in rice production, but must now position itself to meet the growing demand for climate-smart, responsibly sourced agricultural goods. International buyers are moving toward stricter sourcing standards, especially in the EU and North America. Projects like this one can help Vietnam differentiate its rice sector by aligning with those expectations while supporting smallholder farmers and improving ecosystem health.

While trade challenges can impact export volumes and market access, initiatives that strengthen environmental and social sustainability can also open new opportunities by aligning with global consumer and regulatory expectations.