

Analysis Report on the Vietnamese Rice Value Chain

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Executive Summary

Vietnam has long been recognized as a major player in the global rice market (in 2021 third largest exporter, USD 2.96 billion [1]). The Vietnamese rice value chain is a complex network of activities that spans from input production to the final consumer. The value chain is driven by the markets and influenced by Vietnamese authorities.

Increased organic production is a major goal of the Vietnamese government to provide healthy food for the local and international markets. All provinces concerned are encouraged to develop policies and farmer support to step up conversion to organic production (e.g. Dong Thap, Bac Kan, Tra Vinh, An Giang...) and subsequent sustained production.

This analysis delves into the key components of the value chain, identifies challenges and opportunities, and suggests potential strategies for further improvement.

1. Introduction

Vietnam's rice sector plays a pivotal role in the country's economy and livelihoods of millions, but is also relevant for the export balance sheet of the country. With a rich agricultural history, the Vietnamese rice value chain is characterized by diverse actors, including farmers, input suppliers, processors, traders, and exporters.

2. Key Components of the Vietnamese Rice Value Chain

2.1. Input Production

In general, the Vietnamese agricultural sector is characterized by small-scale farmers dominating the agricultural landscape. Additionally, often still traditional methods are used in the sector with low level of technology. On the other hand, high inputs of fertilizers and pesticides yield in negative impact on the environment and human health.

Major challenges in the rice production include limited access to modern technology and fluctuating input prices.

2.2. Cultivation and Harvesting

The agricultural practices vary across regions, impacting rice yields. Depending on the province and their geographical characteristics there are two or even three harvests per year depending on the elevation and flooding conditions. In some provinces such as Dong Thap earthen separation dams have been constructed between larger paddies or between paddies and larger irrigation channels which allow for cross-production of rice and fruit, the fruit trees growing on the separation dams.

While traditionally rice production requires large human resources for planting and to some extent also harvesting, mechanization is on the rise, improving efficiency and reducing labour dependency. Additionally, this development decreases the production cost and makes Vietnamese rice more competitive on international markets.

2.3. Post-Harvest Handling

Storage and transportation infrastructure need to be further enhancement. In the last few years money has been invested to improve the traffic infrastructure (streets, bridges, ...). Still the boat stays the main means of transport for the leg between the farm and the rice mills. Farmers also do not have extended storage facilities, even on the cooperative level. Storage will be handled by the traders.

Quality preservation remains a concern, affecting market competitiveness. This is mostly due to lacking temperature-controlled storage facilities. This is particularly important if sudden rainfalls or other changes in the rainfall patterns, which cannot be handled by the farmers appropriately, and heavily impacts the quality of the rice both in the field and after harvest. It potentially destroys or impacts young plants or the final ripening process and sometimes even washes away harvested rice. Considering current climate change, this is expected to increase in the future. Additionally, the rice quality might change due to inappropriate on farm storage due to high storage temperatures and humidity.

2.4. Processing

Traditional milling methods coexist with modern techniques. While big exporters have a modern pool of machinery, which allows for standardized processing, single farmers or even larger cooperatives are not so well equipped. In some cases, exporters lend machinery to cooperatives to improve processing standards. On the other hand, the really traditional method of thresh the rice with wooden sticks is only rarely seen anymore. Therefore, investments in technology can improve efficiency and product quality. This holds particularly for the smaller cooperatives and individual farmers. Here, it has to be pointed out that especially organic farms are few and would need an effort to group together in cooperatives, in order to gain access to modern equipment.

On the other hand, large rice traders have their own factory, thus getting the rice directly from the farms and being able to process it following well-defined procedures.

2.5. Distribution and Marketing

There are complex networks involving traders and intermediaries. This means that farmers are dependent on traders which can, also due to the transport issues mentioned, make their own prices, which only loosely follow market prices and potentially incur rebates compared to the local and international markets. This also holds for organic rice, although, the input is more costly and the yield decreased by around 30% compared to conventional farming. On the other hand, the higher price to be achieved on the markets for organic rice reflects higher production cost.

It is assumed that streamlining distribution channels can reduce losses (quantity and quality) and improve farmers' income. This is limited through the shortcomings of the distribution networks and the road and river infrastructure.

2.6. Export and Global Market Access

Vietnam is a major rice exporter globally, in 2021 it was positioned 3rd with annual sales close to USD 3 billion. It accounts for 12% of the total agricultural exports, after marine products and robusta coffee.

Diversification of export markets and adherence to international standards are crucial for sustained growth. This is in particular valid for organic production, since production labelled “organic” for the local market does not necessarily mean that those production follow international standards and is only partially accepted even on local markets. As a consequence of being not internationally certified such rice cannot be marketed internationally. Rice following international standards like EU-Bio, USDA, or JAS must be certified by trustworthy auditors in order to be suited for international markets.

3. Challenges Facing the Vietnamese Rice Value Chain

3.1. Low Productivity and Quality

Fluctuating yields and quality affect international competitiveness. Additionally, quantity was seen as being more important as rice quality. Additionally, Vietnamese rice has low reputation compared to rice produced in other regions such as Thailand.

Finally, adoption of modern agricultural practices is hindered by limited resources.

3.2. Infrastructure Bottlenecks

As already pointed out, inadequate storage and transportation facilities lead to post-harvest losses and also might impact the rice quality.

Therefore, it is recommended that strategic investments are required to upgrade infrastructure, facilitate quick transport from farms and small scale traders to processors and exporters.

3.3. Market Access and Price Volatility

In general, the dependence on a few key markets poses risks to all actors in the production chain. Additionally, diversification and development of value-added products can mitigate risks.

3.4. Climate Change Risks

Changing weather patterns pose risks to the production. In 2023 for example, November dry weather was expected, but a lot of rain fell instead and even so the large production sites are known to be sufficiently wet dry spells nowadays already impact optimal growth or require additional irrigation via pumping, increasing production costs. As it is expected that weather patterns not only change but also become more unstable the pressure on the rice production will increase.

Therefore, it is recommended that sustainable practices and climate-resilient crops should be promoted in order to cope with the increased volatility in the production.

4. Opportunities and Recommendations

4.1. Technology Adoption

It is recommended to encourage farmers to adopt modern farming practices through training and incentives. Until recently, modern high input practises were considered to use input (e.g., fertilizer, pesticides) mostly produced and purchased from international companies. With the shift to organic agriculture, this should and will change as a more sustainable approach to cultivation is needed and local solutions especially for fertilizers are expected. Traditional practises must be leveraged through modern and suitable machinery (like small scale robots for weed control). Care must be taken to use machines which do not have negative side effects like soil compaction. Therefore, the use of precision agriculture and advanced machinery should be promoted. This could be used in especially labour intensive activities like sawing and weeding, which plays a crucial role in the organic production mode. Strategies to minimize pests need to be also developed and early recognition of occurring pests is a very important part of the protection strategy of the crop.

4.2. Infrastructure Development

As mentioned, invest in storage and transportation infrastructure to reduce post-harvest losses is urgently needed and implement quality control measures to ensure the preservation of rice quality are recommended.

4.3. Market Diversification

Explore new markets and establish strategic partnerships might help improving marketing. For organic products, the export to Europe, America, and Japan is a promising alley, since the markets there are not saturated for organic products. Currently, Vietnamese worldwide exports of organic goods account for USD 335 million only, with coffee and cashew as the main products. Europe is currently the biggest market for organic exports and Germany the biggest market in Europe. Vietnam is 7th in Asia and 3rd in ASEAN countries with respect to organic production area, so a large potential for increased organic production is given. Approaching international markets for the biological goods yield difficulties mostly through the long distances, high initial acquisition cost, and not the least through the language barriers. Grouping products on the production level (e.g. through landscape-based approaches) could support new export and market opportunities.

Finally, one can encourage the development of value-added rice products to increase market share. Organic rice in itself is a value-added product already, since the price level is much higher in the export target states. Other rice based products (e.g., crackers, refreshing drinks) need to be identified with the final markets in mind.

4.4. Sustainable Practices

Sustainable farming practices to address climate change concerns should be promoted. Organic production itself goes a long way to address this challenge, but climate change adaptation is also required in order to cope with expected change in rainfall patterns and increased heat waves. Therefore, support research and development for climate-resilient rice varieties should be initiated. This is an important aspect for organic production, since often only rice cultivars used in conventional farming are employed for organic production. Due to the specific requirements of organic agriculture, those cultivars are often not ideal with respect to quality and resistance to pests and plant sickness. Research is therefore needed to identify existing and breed new cultivars well suited for organic agriculture. Same holds for fertilizers. Next to available certified organic fertilizers from international markets local solutions need to be established. Finally, also locally adapted pest control, especially for weeds and yellow apple snail invasions need to be developed.

4.5. Policy Support

Policies that facilitate a conducive environment for the rice value chain need to be developed and implemented. The last years have seen important activities of the Vietnamese government in this respect, encouraging the provinces to produce less, but better quality rice, especially under organic production standards. One important step are to provide financial incentives and support for small-scale farmers. Some incentives are provided by the provinces already, but require constitution of legal entities like cooperatives or companies. This still is a general problem in Vietnam, where ad-hoc commercial activities have been abundant for centuries and still is an important economical factor nowadays. Once constituted, the Vietnamese state provides support for conversion to organic production, but also traders are willing through contracts to support the 3-year transition period, where products cannot yet be sold as organic yet.

5. Conclusion

The Vietnamese rice value chain faces both challenges and opportunities. Strategic interventions and collaborative efforts from government, private sector, and international organizations are essential to overcome challenges and unlock the full potential of this critical sector.

In particular, organic rice production has a huge export potential and is getting supported through government funds and traders once legal entities are constituted. This constitution is also required from a certification point of view, since the holding of organic certificates through traders is not allowed anymore from 2024 onwards.

By focusing on technology adoption, infrastructure development, market diversification, sustainable practices, and policy support, Vietnam can strengthen its position in the global

organic rice market and ensure the prosperity of its farmers and stakeholders in the value chain.

6. References

[1] <https://oec.world/en/profile/bilateral-product/rice/reporter/vnm?redirect=true>