

Livestock farms' upscaling unlimited? Building scenarios for Vietnam's dairy sector by 2030

NGUYEN Mai Huong, Jean-Daniel CESARO, Guillaume DUTEURTRE, Bruno DORIN

Key messages

- Between 2000 and 2010, dairy development policies generated 50 000 jobs in family farming.
- Since 2009, national livestock policies have supported the rise of industrial mega-farms.
- Mega-farms provide 7 times less rural employment than family farms in the dairy sector.
- Dairy mega-farms face major problems to adapt to their local environment.
- Foresight scenarios underline the need to support the coexistence of different farming models.
- One of the priority is to support the transition of smallholders towards sustainable market economy.

Summary

In Vietnam, the emergence of large commercial farms and even of some "mega-farms", questions the future of the dairy sector. Is social, economic and environmental sustainability of dairy farming likely to be affected by this rapid farms' upscaling?

The Revalter foresight study depicted 3 contrasted plausible scenarios for the dairy sector by 2030 in order to challenge this rapid transformation. This foresight exercise was conducted through participatory scenario planning with local stakeholders and with the use of a quantitative model.

The "Maximum concentration" scenario is based on the prominence of a limited number of integrated mega-farms of thousands of cows. The "Social and inclusive sector" scenario is built with an exclusive contribution of family dairy farms. The "Smiling cow" scenario is discussed to accommodate different farm models in a complementary approach. In the context of a rapid transition of the economy and of the ecosystems, and with some strong restriction on land access, smallholders and family farms show interesting results in terms of sustainable development. Appropriate policy actions are needed to ensure the coexistence of the different types of farms in view of balancing the supply and demand, as well as adapting to the puzzles of local land, rural labor and the environment.

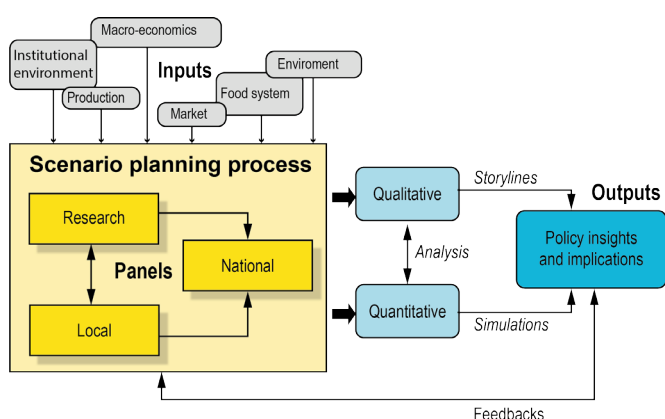
Dairy sector: an emerging sector in Vietnam

Vietnam has undergone a rapid growth in the dairy sector since the launch of the Doi moi economic reforms in 1986. Several consecutive agrarian reforms and institutional innovations led to the development of a market economy. In response to the sudden increase of the demand of urban and rural consumers for dairy products, the Vietnamese government initiated in 2002 a very active national dairy development plan based on the support of small family farms. As a result, the domestic dairy production rose rapidly. In 2010, the production had more than quintupled with around 20 000 farms of 5 dairy cows on average producing a total of 306 000 tons of milk.

However, this spectacular expansion did not cover the huge demand of milk that emerged during this period. Between 1985 and 2011, the average consumption of milk products in Vietnam rose from 1 to 16 kg/capita/year in milk equivalent. Huge quantities of powder milk were imported to be processed by the emerging dairy processing industries. Those imports represented around 80% of the total milk consumption at the end of 2000s. This high import dependency was particularly striking during the "Melamine crisis" that happened at the end of 2008. In response, the Government launched in 2008-2009 a new livestock development plan aiming at boosting the domestic production by supporting large commercial farms.

This complete change in the policy orientations brought some new questions. In 2015, milk production was still dominated by small-scale family farms (less than 5 cows) that needed to be supported in their adaptation to the new situation. Moreover, dairy farms of all type have been facing a number of challenges towards sustainable development in a context of rapid structural changes, agricultural transformation, and ecosystem transition.

In order to contribute to the current debates on whether the future models for dairy production should be based on family farming or large-scale industrial production, the Revalter research project proposed to envision the possible future development pathways of the sector.



The participatory scenario planning process on foresight scenario 2030 for sustainable dairy production in Vietnam took place from 2014 to 2017 and involved different stakeholders and data. Inputs of this process are quantitative and qualitative information on dairy production in Vietnam from precedent surveys.

Prospective scenario planning for dairy sector

Foresight studies are increasingly used to research on sustainable development policies. In our context, we applied the method of scenario building to debate on contrasted policy options for the dairy sector in Vietnam.

We use participatory scenario planning exercises to explore plausible dairy development options, considering different levels of analysis (farm, value chain, district, nation). In particular, we tried to compare the role of smallholder farmers versus large scale farms under similar assumptions and socio-economic conditions. Based on local and national planning workshops with stakeholders, the research team depicted 3 contrasted plausible scenarios that were described in detailed “storylines”.

In parallel, a quantitative simulation based on the FAO’s 2030 projections was conducted to characterize the impact of those 3 scenarios.

Plausible pathways for the dairy sector by 2030

The “Maximum Concentration” scenario

This first option describes a scenario where milk production would be entirely supplied by a small number of very large integrated industrial farms. In this scenario, Vietnam is more and more deeply integrated into the global economy. Besides, strong population growth and increased urbanization put a high pressure on food markets. Rising per capita incomes generate a higher demand for protein-rich and animal produce-based diets, including milk products. To respond to the severe competition from imported livestock products, the Government, in coalition with private firms, only supports large-scale concentrated farms and industrial “mega-farms” of thousands of cows. In order to set up those large-scale farms, local authorities organize the transfer of land from smallholder farmers to corporate investors. This policy is technology-oriented with a clear objective to increase production and to reduce production costs. This orientation results in heavy environmental impacts due in particular to the very high concentration of liquid wastes and to the increasing imports of feed raw materials produced in intensive systems (maize, soybean, etc.). The social impacts are also very problematic, with thousands of agricultural workers being excluded from their land.

The “Social and Inclusive sector” scenario

The second option is a scenario where milk is exclusively produced by competitive professional family farms. Acknowledging the critical role of family agriculture, especially from a social perspective (livelihood and rural labor), the government supports smallholder dairy farmers through long-term development programs. Those national policies are adapted to each local situation in strong partnerships with dairy processing industries. Family farmers see in milk production a strategic economic option thanks to contract farming with milk processing industries and government supports. Each farm aims at reaching forage autonomy, which allows them to recycle local manure for forage and maize cultivation as well as in fish ponds and horticulture. They get good economic returns from their agricultural activities, which is complemented by off-farm income. Local environment is green and healthy, and many localities tend to develop their own geographical indication for dairy products. New cheese processors appear in some localities which boosts direct local sales and agro-tourism. Consumers focus on high quality products with cultural and environmental values. Vietnam remains highly dependent on milk powder imports, and the Government maintains trade barriers in order to reduce domestic prices volatility.

The “Smiling cow” scenario

The third option proposes a scenario where both large and smallholder dairy farms coexist. In order to become a nation of prosperity, creativity, equity and democracy by 2035, and to fulfill Sustainable Development Goals, Vietnam engages in a rapid structural transformation towards a modern, green and inclusive economy. Despite the decreasing share of the agricultural sector in both GDP and employment, a dual system of agricultural production develops: small and middle size farms play an important role in local ecosystems; and intensive large-scale farms are highly integrated in the global supply chains. In districts where large land areas are available, such as on former state farms, some mega-farms develop in association with large-scale processing units, with high technology and capital. Those industries also collect from smaller farmers, thanks to a very dynamic milk collection system based on contracts with private collectors and cooperative farmers. Those processing industries produce generic products of standard quality to satisfy the increasing domestic demand. Small professional farms are also oriented in providing milk to smaller milk processing units, providing high value dairy products to niche markets and wealthier consumers. Markets and downstream industries (processors, multinational firms, retailers, and supermarkets) put strong influence on structural changes and food supply. But national and local authorities are engaged in strong policy programs to balance concentration and social redistribution. While mega-farm complex target market with long life products, small farms and cottage industries valorize short distance marketing of their local specialty products.

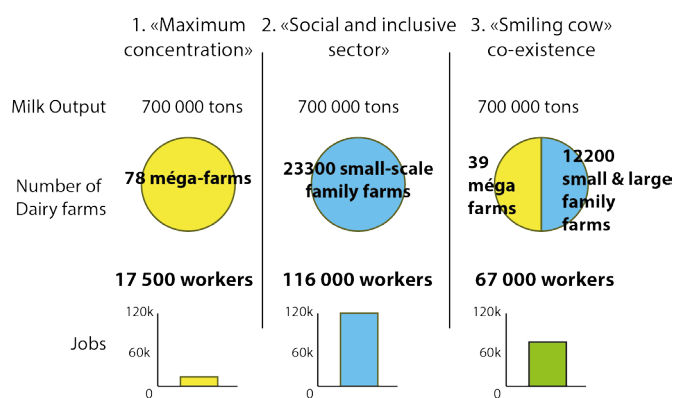
Policy implications

Those 3 scenarios are not predictions. They only allow us to anticipate what could be the future, and how to engage into different development pathways. The role of public policies is particularly underlined, which brings us to formulate 3 main policy recommendations.

1. Promoting coexistence and cohabitation of different farming models

The comparison of the 3 scenarios underlines the importance of promoting the co-existence and cohabitation of different farm models. Since the impacts of different types of farms are different (mega-farms, specialized family farms and mixed crops - livestock farms), their role in sustainable development pathways are complementary. This coexistence is particularly important in view of balancing the supply and demands as well as adapting to the puzzles of local land, rural labor and the environment.

Scenarios to 2030



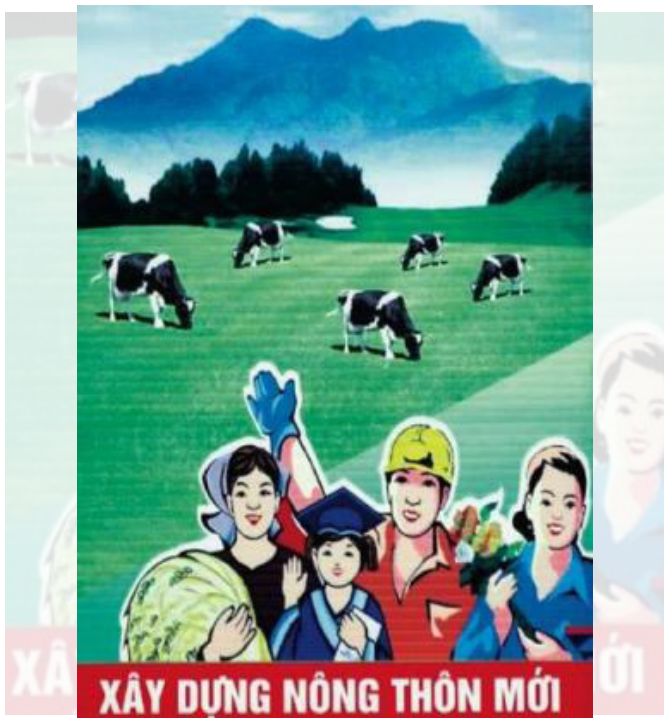
2. Supporting the transition of smallholder farms towards market economy

The dual system presented in Scenario 3 does exist in the contemporary Vietnam because smallholder farms manage land for crop - livestock production in most rural areas, whereas mega-farms are set-up on state-farm owned land, which limits their expansion. The main role of family farming appears to support rural livelihood, but also to produce local products and cultural values, and to maintain rural ecosystems. Yet, smaller farms will have to diversify their activities, to change their production and marketing practices. High investments in institutional and technological innovations will be required, with appropriate public credit schemes and supports. Those investments will lead to more resource-intensive and labor-intensive farming systems. New institutions and technologies will need to be shared in order for smallholder farmers to better integrate supply chains.

3. Integrating economic - social - environmental endeavors in livestock development

The policy makers need to take into account not just economic dimensions but also labor, land tenure, social and environmental indicators to promote a sustainable future for dairy farming in Vietnam. National and local governments will have to adapt their supports to sustainable development of mega-farms (via favorable land policies, technology) but also to family farming (via access to credit, institutional and technical assistance, and infrastructure building: paved road, etc.).

Additional campaigns to improve natural resources saving and environment preservation will need to be launched. Efficient institutions will have to address emerging concerns about low labor productivity, low profitability, urban underemployment, uncertain food safety, low value addition, price volatility, and gaps in multimodal farm-to-market connectivity.



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Further References

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Author bios

NGUYEN Mai Huong is senior economist and Vice-Director at Rural Development Center (RUDEC) of the Institute of Policy and Strategy for Agriculture and Rural Development (IPSARD) in Hanoi, Vietnam.

Jean-Daniel CESARO is geographer at UMR Selmet, CIRAD, France. His research in livestock focuses on territorial dynamics of livestock systems and interactions between crops and livestock systems.

Guillaume DUTEURTRE is senior agri-economist at UMR Selmet, CIRAD, France. He is specialized in livestock development in Southern countries.

Bruno DORIN is senior economist at UMR Cired, CIRAD, France, currently on secondment at the Centre for Social Sciences and Humanities (CSH) in New Delhi.

A few links

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