

**Improved Market Access and Smallholder Dairy Farmer Participation  
for Sustainable Dairy Development  
APHCA/CFC/FAO project CFC/FIGMDP/16FT**

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**Case study: Smallholder dairy in Vietnam.**

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**Background and current situation of the dairy sector in Vietnam**

1. Vietnam has a relatively short history in both production and consumption of dairy products. Five main waves of development of smallholder dairy can be described:
  - a. Early eighties: the first smallholders started in the 4 provinces (Son La, Ha Tay, Lam Dong and Ho Chi Minh City) where state dairy farms had been set up by the government.
  - b. During the nineties, dairy smallholder models started in 7 additional provinces nearby the major two cities (Hanoi & Ho Chi Minh City).
  - c. From 2000 to 2004, with the implementation of the first Dairy National Plan and the import of dairy cattle, a more rapid development happened in 22 new provinces.
  - d. From 2005-2007, the number of dairy smallholders and of dairy cattle decreased in the Northern provinces and especially in the most recent dairy provinces.
  - e. Since the end of 2007, a new wave of development is observed due to the major increase of world milk prices which has resulted in a major increase of the price of fresh milk.
  
2. Today, most of the milk is produced by up to 20,000 smallholders. They account for less than 1% of the total number of livestock smallholders in Vietnam. The country's herd is now around 110,000 dairy cattle with a total milk production of around 220,000 tons per year. Around 70% of the production is located in and nearby Ho Chi Minh City. The herd includes around pure Holstein-Friesian (15%) and crosses between HF and the Lai Sind (already a cross between Red Sindhi & a local small cow). Most smallholders have less than 5 dairy cattle raised in a zero-grazing way. The average herd size per farm tends to increase over the years. Elephant / king grass and local grasses are the main forages given, although maize silage and new tropical and non-tropical forages are being more used. Average production levels are reported to be around 4,000 kg (pure-HF) and 3,500 kg (HF crosses) per lactation. However, there are great variations and generally a very high calving interval.
  
3. Milk is sold to nearby milk collection points generally equipped with cool tanks then transported to more than 5 private processing factories. These factories produce pasteurized, UHT milk, yoghourts ... The informal market accounts for less than 20%. Consumption constantly grows since the mid-nineties and reaches now around 1 million tons (around 10 kg per capita). Imports of dairy products represent around 80% of the consumption.

## **Overview of models and description of studied smallholder dairy models**

4. More than 90% of dairy producers have less than 10 cattle. They are found mainly in lowland areas where the human density is high. A small amount is located in more upland locations where also the few large-scale dairy farms are. Smallholder dairy models can therefore be found in almost half of Vietnam's provinces.
5. Four models were visited during the study (see map in annexes):
  - a. Tien Du / Bac Ninh
  - b. Ba Vi / Ha Tay
  - c. Don Duong / Lam Dong
  - d. Hoc Mon / HCMC
6. In these models:
  - a. Smallholders are either less than 1 hour away or more than 6 hours from processing factories.
  - b. Weather is tropical for most of them but with a cooler season for northern Vietnam. In Lam Dong, the weather is less tropical and more temperate.
  - c. There are strong differences between the models in term of forage availability, distance from market, competition between processing factories, ...
7. All 4 provinces where the models are located have experienced a herd increase (increase by 2 to 4 times between 2001 and 2007). However, in Bac Ninh & Ha Tay, after a rapid increase between 2001 and 2004, the herd has then been decreasing.
8. A table (in annexes) summarizes the main characteristics of these 4 models.

### **Key reasons for success**

9. The recent increase in milk price makes these models' success more obvious today. Three of them have been operating for 25 years and one for 12 years. These models were not so much affected by the decrease in number of dairy smallholders observed from 2004 to 2007. Should the recent increase in milk price had not happened, some of them would probably have started to reduce production too (particularly in the north).
10. The key reason for these models to be still operating today (despite the low profitability during some years) is likely to be that smallholder dairy developed there in a gradual manner. Many initial weaknesses (low technical skills of farmers; weak local services; milk marketing; ...) were therefore addressed "on-the-job" rather than artificially corrected. This enabled over the years to reach an adequate and favourable balance between the models' strengths and weaknesses. Indeed, a model may have a weakness that another one does not have, but the negative impact of this weakness may be balanced by the positive impact of some strengths.
11. The common favourable factors identified in these models (and not or less observed in models that have been unsuccessful) : Experience > 12 years (rather than rapid training); Good local service providers & supported by external actors (NGO, Nestlé, Dutch Lady & state companies); Existence of a milk buyer; Appropriate feeding; Appropriate breed (with management / environment).

## **Options for improvement, expansion and replication**

12. A pre-condition for the further development of dairy is a better measurement and analysis of the current production and economic performances of smallholder dairy units. This can be done initially via a simple and cost-effective system that records and analyse the animal and the farm results. The benefits are to know if improvement is possible; to identify the elements that can be improved; to assess how these elements can be improved; and to measure if improvement occurs after actions.
13. Improvement of productivity is essential if smallholders want to survive should world prices of milk drop again. Needed changes (in addition to the recording & analysis of performances) may be:
  - a. Farmers going up in the value chain (Decrease the role of independent milk collectors; Transparent payment of milk; ...)
  - b. Mandatory minimal standards for milk quality Manage heat stress
  - c. Adequate supply in essential veterinary medicines
  - d. Continuing Professional Education for farmers and services
  - e. Increase size of farm's herd and/or number of farmers
14. Replication of the existing models can be successful if:
  - a. There is an active & transparent dissemination of lessons learnt from successful & unsuccessful models
  - b. SWOT analysis are conducted
  - c. There is a good selection of new dairy candidates ("dairy is not for any farmer!") and a mandatory training course for them as well as for their new support services.

## **Key reasons for failure of other models**

15. The models that have been set up from 2000 onwards have experienced serious difficulties if not almost complete failure during their first years. But following the recent milk price increase, development could occur again in these "inexperienced" dairy locations.
16. These models had to deal with a combination of several weaknesses at the same time. These weaknesses were probably similar to the ones met by the older models during their initial phases. However, the new models started in a period where (1) the cost of heifers was very high; (2) the price of milk was very low.
17. Summary of reasons that explain the difficulties of some new models:
  - a. High speed implementation / Insufficient SWOT analysis
  - b. Low experience + Low milk price + High heifer price + High feed price
  - c. Small milk production - No interested dairy processor
  - d. Insufficient support services (public was there but inexperienced; whereas private was not there yet because of small production)
  - e. Lack of learning from successful models
  - f. Farmers discouraged because of lack of trust with dairy processors

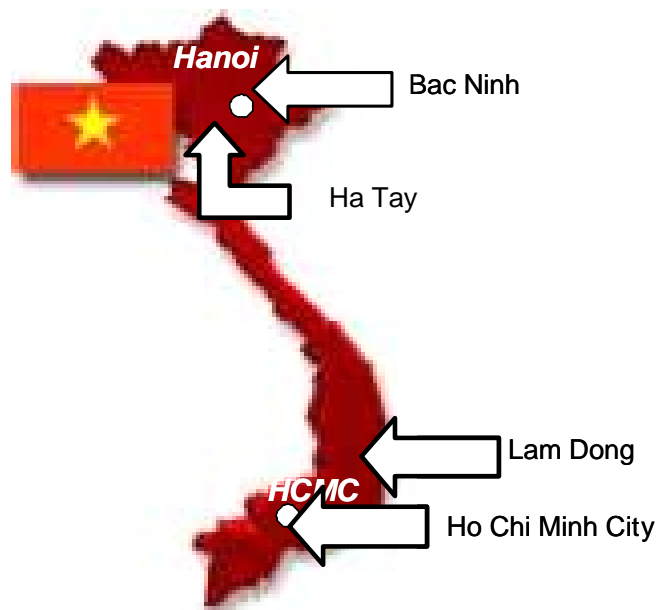
## **Conclusion**

18. Smallholder dairy in Vietnam is still a young activity. Major gradual changes could occur in the coming years and decades particularly as urbanisation is rapid near the current main production zone (Ho Chi Ming City). The success of smallholder dairy depends a lot on the world price of dairy products and on the willingness of the processing factories to decrease their margin especially during difficult times for farmers.

19. Few important factors are however controllable and can be encouraged by policy makers:

- a. Various actions to improve productivity: continuing professional education; recording of performances; more support to local private service providers; milk quality standards ...
- b. Information sharing (example of “Dairy Vietnam”), facilitation of public-private initiatives especially in new locations

## Annexes



	<b>TIEN DU</b>	<b>BA VI</b>	<b>DON DUONG</b>	<b>HOC MON</b>
(1 USD = 16,000 VND)	Canh Hung Commune	Yen Bai Commune	Tu Tra & Da Ron Communes	Entire District
Years of experience	12	12	25	25
Number of Dairy Farmers	78	85	285	2,000
Number of Dairy Cows	115	285	600	10,000
Genetic of dairy cows	75-80 % HF	75-80 % HF	HF 100%	75-80 % HF
Number of Milk Buyers	2	6	1	2+
Price of pregnant heifer	25,000,000 vnd	25,000,000 vnd	30,000,000 vnd	15,000,000 vnd
Price of milk at farm gate	7,500 vnd	7,500 vnd	6,500 vnd	7,500 vnd
<i>Milk production per lactation (overestimated?)</i>	<i>5,000 kg</i>	<i>5,000 kg</i>	<i>6,000 kg</i>	<i>5,000 kg</i>
Rented Labor	NO	NO	NO	YES
Ingredients used for feeding dairy cattle	Elephant grass, local grass, fresh maize, rice straw, corn flour, rice bran, maize silage, factory concentrates, minerals & vitamins	Elephant grass, local grass, fresh maize, rice straw, corn flour, rice bran, banana trunk & leaves, sweet potato leaves, factory concentrates, minerals & vitamins	Elephant grass, local grass, fresh maize, maize silage, leaves from sweet potatoes / carrots, tomatoes, green salad, factory concentrates, minerals & vitamins	Elephant grass, local grass, residues from beer factories, residues from cassava, rice hay, factory concentrates, minerals & vitamins