

# Improved Market Access and Smallholder Dairy Farmer Participation for Sustainable Dairy Development (CFC/FIGMDP/16FT)



## LESSONS LEARNED STUDIES

### CASE OF VIET NAM

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## LESSONS LEARNED STUDIES

### CASE OF VIET NAM<sup>1</sup>

## Chapter 1. Background

### *Some definitions*

- **Small dairy farmer:** is someone who has 1 to 3 crossbred cows and usually occupies less than 0.5 ha of land and represents the less commercially managed dairy systems in the area.
- **Smallholder milk producer:** in Viet Nam, a small dairy farmer is also a smallholder milk producer. The family consumes 8 percent of the milk produced; the surplus is sold to the local milk collection centre. The main source of income is own-farm employment (dairy and cash crops).
- **Formal markets** refer to the dairy companies that operate the processing facility in a dairy zone (i.e. collecting centers set up at commune level) that usually buys the milk either directly from farmers or via middle man.
- **Informal markets** refer to milk sellers and buyers in a neighborhood or village. It includes small dairy farmers and smallholder milk producers who sell some of the farm produce to the local market.
- **Dairy value chain** refers to the various stages through which milk and milk products pass from farm to the final consumer.

### *Brief history and Industry overview*

There is no tradition in Viet Nam for the production or consumption of dairy products. For centuries, cattle have been used for draught power, manure and meat production. The first dairy cows were brought to Viet Nam by colonials at the end of the 18th century with scattered imports of live animals from various sources (France, USA, Australia, Cuba, China). After the wars, in the nationalisation and collectivisation period, there existed only large State-owned dairy farms in Viet Nam, mainly in the North and the Centre.

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The Doi Moi (economic reform) in 1986 initiated a new era of dairy sector in Viet Nam, with a privatisation of the production (small-scale private farms) and marketing sector (emergence of the informal sector, as well as the private and semi-private formal sector), accelerating a rapid development of dairy sector in Viet Nam.

The current dairy development in the country is rooted in the National Dairy Development Plan and pushed up by the Government Decision No.167 2 , with follow-up support provided by provincial authorities.

The total dairy cattle herd increased from only 35 thousand heads in 2000 to 113.2 thousand head in 2006 (MARD, 2007), held by 19,800 dairy farms in Viet Nam with average holding of 5.3 heads per household.

There are two main dairy production systems in Viet Nam

Private production: includes of small- and medium-scale producer who are mostly private farms, private domestic or joint venture companies. This system generates 95% of the total milk production in the country.

State-owned farms/stations generate the remaining 5% of the total milk production in the country.

By region, the average number of dairy cattle per household is 3.7 in the North, 6.3 in the South and 3.6 in the Centre. Each region has one zone, set up by provincial governments with provisional support for initial phases of development, for concentrated industrial farms (with 1,000 to 2,000 heads) such as Tuyen Quang in the North, Thanh Hoa in the Centre and Ho Chi Minh City in the South.

National milk production has been significantly growing, from 12,000 tons in 1990 to 215,900 tons in 2006 with annual milk production growth between 1995 and 2006 varying between 4.2% and 46.8%. The growth peak was highest in 2002 with a jump of 47% supported by gains in both dairy cow numbers and productivity. High demand for fresh dairy products, particularly in Viet Nam's big cities, is driving production. In 2005, per capita fresh milk production reached 9 kg (FAO, 2006), a 29% increase over the year before, though it is still low in comparison with other countries in the region.

But, despite recent achievements, milk production remains significantly below consumption and domestic dairies met only about 22 percent of domestic demand in 2005. Imports of dairy products, mainly in the form of skim and whole milk powder, currently supply 80% to 85% of domestic demand. In 2005, Viet Nam's dairy product imports increased to over USD 300 million and even further accelerated in 2006, with imports of USD 168 million only in the first six months. Viet Nam imports dairy products from various countries, including the United States, Australia, South Korea, and the Netherlands. The import volume from the U.S. for milk and milk products increased sharply, from 5,516 tons in 2001 to 39,934 tons in 2005, and has continued to rise into 2006. Viet Nam's dairy product import growth is forecasted to continue in line with rising living standards, especially in big cities. However, demand is exceeding domestic production capacity.

In Viet Nam, dairy companies play a dominant role in the dairy sector, focusing primarily on milk procurement. Currently, approximately 20 companies collect and process milk and dairy products, of which the 3 most relevant companies are VINAMILK, Dutch Lady and Nestle. Reported from MARD, the VINAMILK now collects more than 60% of milk production, Dutch Lady collects 18%, Nestle and all other 17 companies collect the 22% remained.

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<sup>2</sup> The Decision No.167/2001/QĐ-TTg of October 26, 2001 on a number of measures and policies to develop milch cow farming in Viet Nam in the 2001-2010 period



## **Trade Policy in the Context of WTO Integration**

### **Current trade policies**

Viet Nam protects its indigenous dairy industry by tariffs on imports of dairy products and duty quotas. According to a study of International Research Centre on the Viet Nameese level of protection of trade, the dairy sector “enjoys considerable benefits from governmental interventions” with a NRP calculated at 22,6% and an ERP<sup>3</sup> of 36,6% (Sullivan, 2002) .

#### **Exporting countries to Viet Nam are grouped in two categories:**

- WTO members with whom Viet Nam applies the Most Favoured Nation (MFN) tariffs, with tariffs on manufactured dairy products currently amount 30%, while tariffs on raw material and pre-manufactured products (among others skim and whole powder) currently amount 10% to 15%, depend on the kind of product and on its fat and sugar content.
- ASEAN Free Trade Area (AFTA) members, for whom Common Effective Preferential Tariffs (CEPT) apply. CEPT tariffs for dry skim and whole milk powder are currently subject to 10% tariff. The tariffs will be reduced to 5% for both categories by 2006 . CEPT tariffs also depend on the kind of product imported and on its fat and sugar content.

### **WTO integration**

In the context of the WTO negotiations on Viet Nam membership, considerable pressure was put on the Viet Nameese Government to reduce its current import tariffs on dairy products. The main area of concern is linked to import tariffs of the two main imported dairy commodities: skim milk powder and whole milk powder. Tariff levels on other dairy products are also important, such as UHT milk, butter oil and other dairy products which are all products which can be produced in Viet Nam. A lowering of these import tariffs jeopardizes the ambitious plan of the Government to substitute imported dairy products by locally produced raw material. There is, therefore, a tangible risk that the Government plans to expand the dairy sector will not be fulfilled if the tariff rate falls below its existing level.

## **Chapter 2. Situation analysis**

### **Recent trends and expected future developments in the dairy sector**

#### **1. High growth rates slow in recent years**

Milk production in Viet Nam has been significantly growing from 12,000 tons in 1990 to 215,900 tons in 2006. The average milk production growth between 2000 and 2006 is 27.2%, with the growth peak reached in 2003 with 61,6% . This situation is revealed through changes in the population of dairy cattle in Viet Nam (see Table 1.) The quality of the dairy cattle has also increased, depicted by milk production figures which have witnessed a higher growth rate than that of dairy cattle numbers. However, from 2003, the pace of growth is slowing down, reflecting several problems in the dairy sector. Details will be discussed in coming sections of this paper.

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<sup>3</sup> The Nominal Rate of Protection (NRP) and the Effective Rate of Protection (ERP) are usually employed to measure the protection awarded to local industries.

**Table 1. Dairy cattle and milk production during period 2000 - 2006**

Product	2000	2001	2002	2003	2004	2005	2006
Dairy cattle (mil. Head)	0,035	0,041	0,055	0,079	0,095	0,104	0,113
Growth rate (%)		17,14	34,15	43,64	20,25	9,47	8,72
Milk production (thousand tons)	51,4	64,7	78,4	126,7	151,3	197,7	215,9
Growth rate (%)		25,88	21,17	61,61	19,42	30,67	9,21

**Source:** MARD, 2007.

## 2. Strongly supports from government and local authorities

Dairy development has been mainly supported by the National Dairy Development Plan and the Government Decision No.167 issued in 2001, which aims at (i) Replacing imports, (ii) Generating rural employment and (iii) Increasing rural incomes. The strong government commitment to the development of dairy sector have without any doubts greatly contributed to a rapid expansion of dairy activities throughout the country.

Decision No. 22/2005/QD-BCN dated 26 April 2005 of the Ministry of Industry, on “approving master plan on development of milk industry in Viet Nam till 2010 and planning to 2020”. The Masterplan’s target is to increase indigenous production in order to meet per capita consumption of 8 kg in 2005, 10 kg in 2010 and 20 kg in 2020. The self-sufficiency ratio shall be 20% in 2005 (140’000 MT.) and 40% in 2010 (300’000 Mt.),

Support also originates from provincial governments who put in place dairy development policies such as:

- Free or subsidised Artificial Insemination (AI) and vaccine provision
- Compensation of 200’000 VND per male calf born (first 3 years of provincial dairy project)
- Subsidy (2-3 millions VND) on purchase of Laisind cow for AI with dairy breed
- Subsidy (5-7 millions VND) on purchase of exotic dairy cows
- Interest free (1-3 years) loan from the bank on purchase of dairy cow
- Support of costs on improvement of cowshed
- Support of grass production costs
- Support on milk collection and transportation
- In addition, some provinces have:
- Tax exemption on agricultural land
- Priority on land supply for fodder production
- (Source: Nancy B.L., et.al 2006)

## 3. Milk productivity is increasing steadily due to introduction of an appropriate breed strategy

During the period from 2000 to 2006, the average milk productivity of cross-bred HF increased from 3.8 tons to 4.7 tons/305 day period (MARD, 2007). This productivity is comparatively higher than that of other countries in the region (i.e. China 3.4 tons, Thailand 3.2 tons, Indonesia 3.1 tons etc.)

The production of Holstein Friesian (HF) crossbred cattle (through an artificial insemination program) is considered as the backbone of the National Dairy Development Plan (NDDP) and the main mean to boost milk production in Viet Nam. The breeding program benefits farmers by



improving the productivity of farms by increasing the body size and growth rate of local cattle. Then, the dairy breeding program is implemented by inseminating local improved cows with pure Holstein-Friesian bull semen to produce HF crossbred cows

As result, currently, 14% of total dairy cattle population is pure HF cows, 85% is cross-bred HF (with cross-bred ratio from 50% to 75% and 87.5%) and only 1% is other breed. Of which, 47 thousand (41,5%) out of total 113.2 thousand dairy cattle were carefully selected and recorded to the national cattle breed book, which can be access freely via internet. All the semen for inseminating is also selected from potential bulls which can insure that the milk productivity will be at high level

#### 4. Dairy development program: accompanied by failures in unfavorable regions

From beginning, the Decision No. 167 (2001) approved only 12 provinces to participate in the NDDP. However, totally there were 33 provinces in the final plan due to direct request from People Committee of additional provinces.

In 2006, 33 provinces in all regions of Viet Nam maintained a dairy cattle sector. However, as recorded by MARD, within first 6 months of 2006, dairy cattle population decreased sharply in 12 provinces (Department of Livestock Production, 2006). The ratio of unqualified heifer increased, calves and even, milking cows had been slaughtered in those provinces. In the North: cattle numbers declined in Thai Nguyen by 45%, Phu Tho 68%, Thai Binh 37%, Ha Nam 18.5%; in the South: Tra Vinh decreased by 80%, Vinh Long 34%, etc. The reason for the decline of dairy population is that those provinces have not prepared sufficiently for dairy production (such as imported pure HF cows (less appropriate with local climate, more difficult for those lack of experience) instead of cross-breed ones, lack of fodder supply (due to unfavorable natural condition or lack of production zone planning); often there is a far distance from dairy farm to dairy companies, and lack of collection and storage facilities, etc.)

##### Box 1: Failures of dairy development plan in inappropriate provinces

Tuyen Quang is the first province announced the failure of the dairy development plan. Within four years (2003-2006), the province imported 3,279 pure HF cows but it was only around 1,000 HF cows counted in September 2006. The reasons of this failure were found as the insufficient infrastructure, lack of efficient management, the plan was a “central planning” rather than an economic development plan, etc.

In 2000, DARD of Son La province requested the Provincial People Committee to import 100 dairy cows in order to set up pilot demonstrations at potential households. However, the People Committee granted a project which approved to import of total 6,000 dairy cows (ten times higher than the plan of DARD). However, it was recorded by DARD that, out of 6,000 cows, only 945 cows were in lactation, 222 cows died and the rest could not conceive.

*(Rural Economy Newspaper, September, 2006)*

#### 5. Scale of production at household level is increasing

Average number of head per dairy cattle herd are increasing with the proportion of herd with less than 5 heads decreasing, replaced by 5 – 10 heads' herd. Economies of scale are considered as the most important reason for this change with capital availability the most important constraint of dairy farmers, especially the smallholders to increase the scale of their production.



## 6. Dairy companies depend on imported milk powder rather than domestic fresh milk production

Import dependency resulted in segmented chains, separating the stakeholders in the dairy value chain—milk producers, milk processors and milk consumers, each of whom have different priorities. Since domestic production meets only 22% of total demand of dairy companies, international market developments influence the Viet Nameese dairy sector and domestic milk powder price decreased in Viet Nam after WTO accession in 2007. By importing milk powder to process “fresh milk” product (as indicated in the cover of product), milk companies could have much higher profit than using domestic fresh milk. That is one of the reasons that, the procurement price of fresh milk, which was mostly defined by the large-scale milk companies, remained constant over 4 years from 2002 while the input costs have been increasing rapidly.

On the consumption side, fresh milk supplies are not highly appreciated by Viet Nameese consumers who seem to consider the short shelf-life of pasteurized milk as an indication of inferior quality. In addition, the low frequency of home refrigeration, especially in rural areas, makes UHT milk (ultra high temperature processing) more convenient for consumers. However, as average income increases in Viet Nam, processors are expecting some shift of consumption habits from UHT milk to pasteurized milk. This trend is assisted, as Nestlé recurrently does, by marketing and improving awareness on the quality of pasteurized milk compared to UHT milk.

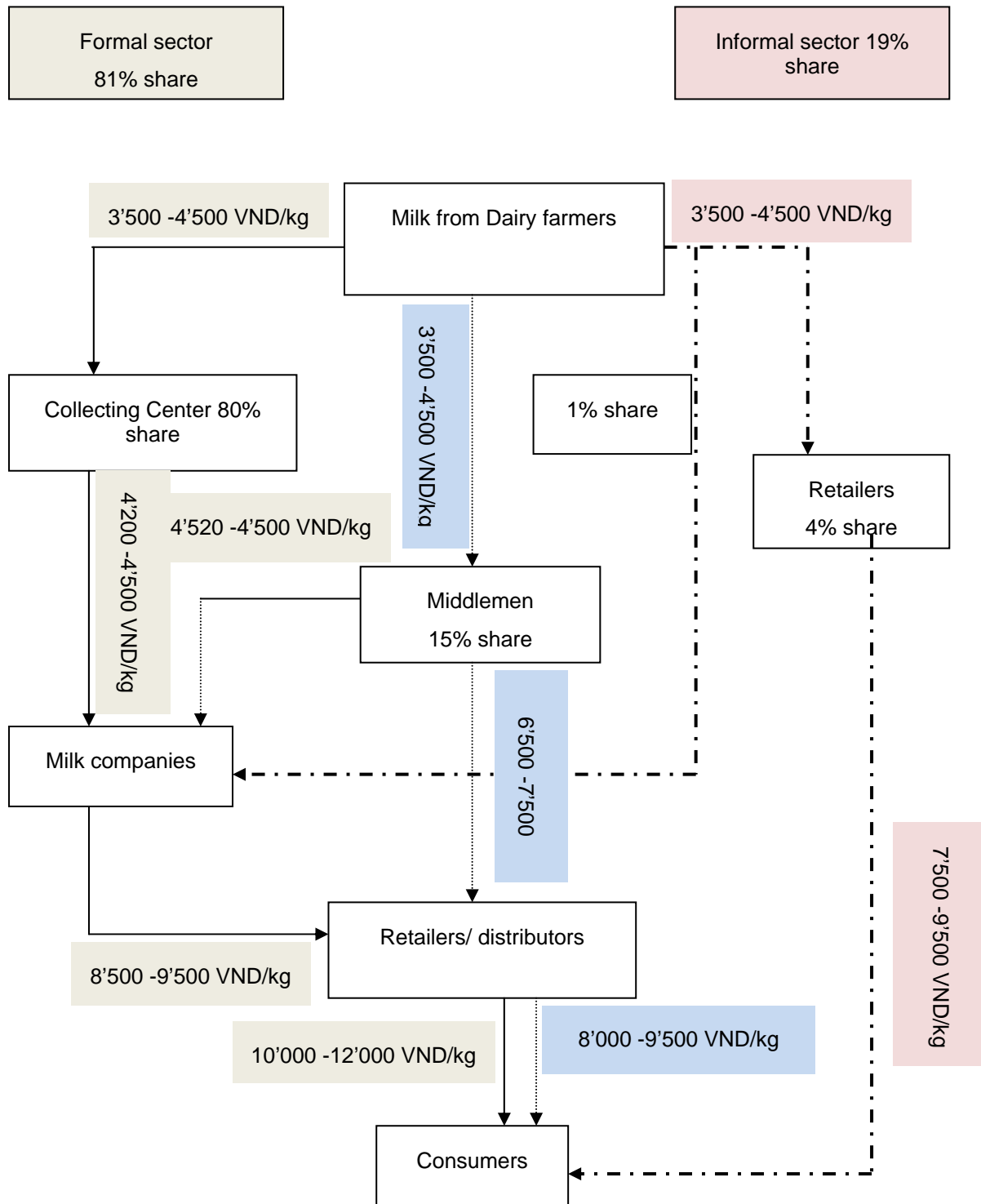
## 7. World price increases, an opportunity for Viet Nam dairy farmers

From 1st June 2007, two main dairy companies VINAMILK and Dutch Lady increased farm-gate procurement price from 4,600 VND/kg to 5,000 VND/kg and to 6,400 – 6,800 VND/kg at the end of June 2007. The world demand for milk this year increase sharply (by 35 – 100%), pushing up prices, particularly in a context of drought and reduced fodder availability. Additionally, some EU countries had cut the subsidies for dairy sector, making the milk price rise closer to the real value of product.

This is a real opportunity for dairy farmers in Viet Nam. This price gives the farmer a profit of 3,000 – 3,500 VND/kg or 45,000 – 52,000 VND/day (2.8 – 3.25 USD/day) for 15kg of average daily yield of per dairy cow, a very valuable income for rural households in Viet Nam. The cost of dairy calves also decreased from 24 million VND/head (as result of high demand at the peak period of the NDDP) to 17 – 19 million VND/head (which is estimated as “real” price of the calf).



## Milk flow and dairy price charts





## Chapter 3. Smallholder Dairy Farmers

The following situations are worth noted when reviewing the status of Viet Nam's small-scale dairy farmers

### *Smallholder farmers move into dairy production - The success of NDDP and other support programs/projects*

- Farmers who are creative and responsive to market requirements will be success in dairy sector. One of the well-known case is presented below:

#### **Box 2: Success case of a small scale farmer in Dong Nai province**

Like many other farmers in Long Thanh, Dong Nai province, Mr. Lam Quang Tri experienced a very hard life, mainly living on cashew and rice production. In 1982, he recognized that goat milk was limited with one goat producing only 1 liter of milk a day; consequently he initiated dairy cow production, with one cow producing 10 liter of milk/day. He sold all jewelry and borrowed more from relatives to buy 6 Sind cows. He kept 1ha (most of his land at that time) for planting grass as feed for his cows.

Each time his cows were ill, he asked for help from veterinary technician in An Phuoc Cow Factory. Later on, he read relating books and finds treatment ways by himself. He even went to ask professors of Agricultural University and the Southern Institute of Agricultural Science about disease treatment, raising techniques and cow development methods. In 1985, his cows firstly produced milk. He was bringing milk to sell around but people were not familiar with such fresh cow milk. He then had to learn techniques to cook milk in a two-layer bain-marie and then distil into clean glass bottle. Even though, local people were not appreciate of the product. He then advertised the product by producing yogurt and presented them, free of charge, to those he knew. After just a short time, his customers have increasing continuously along with the higher and higher demand of local people. His sterile fresh milk is now very famous in the region.

In 2003, his herd increased to over 100 cows, and he has 5ha of grass production. He signed the contract to sell a part of his product to the An Phuoc Milk Company, who later will sell processed milk to the VINAMILK.

Lesson learnt: This success is gained mainly through his creativeness and responsiveness to the market requirement. Furthermore, the stable inputs source from his owned grass and feed provided through contracts with animal feed company also favor the development of the enterprise. Technical and extension works supported from scientific institution also played a crucial role in his success.

However, in 2004, the enterprise was facing a number of difficulties, especially higher input price (feed price, labor wage and transportation cost) and lower milk price. This led to the reduction of cow heads to 80 and of the revenue by 30-35%.

- Most of smallholders in dairy sector entered as a result of government support policy (such as decision No. 167, the NDDP and other provincial policies, etc.). Decision No 167-TTg issued in 2001, which set production targets of 350,000 tons of fresh milk by 2010, aiming to produce about 40% of domestic demand to save foreign exchange and reduce the dependence on the world milk market. This is the catalyst encouraging the establishment and expansion of dairy cow production nationwide, especially for the small scale farmers.

#### **Box 3: Dairy Development plan implemented in many provinces**

Following the decision No.167 of state government, Thai Nguyen provincial leader implemented dairy development production in Thai Nguyen starting in October of 2003 with the total investment of 21 billions VND. The project provides 4 million VND support for each household to buy either an exotic breed or 3 millions VND for a domestic one; 200,000 VND for each male calf and 70,000 VND for each 360m<sup>2</sup> of grass as feed of cows. This plan created a very high incentive for farmers in Thai Nguyen to shift from a solely crop production to one which includes husbandry production.



- Rural development projects/programs play an important role in the development of smallholder milk producer

**Box 4: Case of Mr. Lieu Van Do (Vien An commune, My Xuyen district, Soc Trang province): being a well-off farmer from dairy cattle production funded by the CIDA's project**

Seven years ago, Mr.Lieu's family, a Kho Me ethnic minority household, had poor living standards even they worked hard on their 1.5 ha of paddy field. In 2002, he participated in the so-called program "*Improving rural household living standard*", sponsored by the CIDA. His family was provided a dairy cow and a training course about breeding experiences from a dairy production model in Binh Duong. Since then, he has started applying the knowledge that he learnt from that model to breed his dairy cows.

After five years, from only one cow, his dairy cow herd now developed to 7 heads. In 2006, two dairy cows produce 3.5 tons of milk in a period of 10 months and bring over 20 million VND after the all costs. In addition, other two cows are of breeding age and will likely milk soon. Lieu's family now is better off; he built a new house with good conditions and facilities. Lieu said that "he is going to extend his dairy cow herd".

### *The impact of NDDP slows*

1. **Small dairy farmers can only enter the sector with financial supports.** Dairy production demands high capital (high initial investments for cows and shed) and technical capacity. In particular, prices for a dairy cow are as high as 20 to 30 million VND, usually exceeding the capital availability of a small farmer. Too often, credit schemes proposed by the Banks and supported by the Government do not match with people's situation, e.g. high transaction cost, strict collateral on land titles and other assets. Thus, the small farmers, who often lack of liquidity capital, could only enter into this sector with the supporting programs/projects from the Government or Dairy companies.
2. **The involvement of small-scale farmers in several provinces was threatened due to the "fever" on prices of breeding stock and inputs.** The strong support from provincial governments through subsidies for the purchase of cows/heifers "sparked a race between farmers to buy profitable imported breeds". [...] "the buying spree guaranteed profits because the farmers were supported by their provincial and municipal officials to obtain fodder and diseases resistant stock" (Viet Nam News, 17.09.2005). Consequently, provincial decisions and their "facilitating conditions" created a "fever" on prices of breeding stock and other inputs. Particularly, the price for a dairy cow increased double or even tripled in 2003 as high as 20 to 30 million VND.
3. In addition, although provincial and district subsidy and encouragement measures are important, they are often **issued in rather haphazard ways**. In Tien Du district, Bac Ninh province, some farmers received subsidies twice to purchase two batches of cows, while theoretically only the first batch can be subsidized (to encourage farmers to raise their own progenies). One farmer even mentioned having raised his own calves, but declared them as purchased from a third party in order to receive a subsidy of 3 million. The policy of subsidizing cows/heifer/calves purchase had further perverse effect on quality of breeding stock. In the value chain of dairy production, as many studies pointed out, the small farmer is the segment that bears all the increase of cost and gains less in the increase of benefit (see the price flow chart for further information).
4. **Economies of scale are one of the most important reasons that caused the exclusion of small dairy farmers.** According to Prof. Le Viet Ly (2006), the optimal scale for dairy production is more than 10 heads, meaning that most of small farmers could not meet the requirement for the most efficient production.



5. **Small farmers are not experienced and knowledgeable about dairy production.** Dairy small-scale producers receive government support; however, most of them lack of all necessary information and technologies (e.g. in breeding, feed supply sources, technologies of storage and marketing skill, etc.). MARD (2006) shows that 22 provinces out of total 33 provinces with dairy production reported unsuccessful results in their respective dairy development plans. The NDDP rightly points out that the country lacks experience in dairy, the absence of any tradition common to most of the Southeast Asian countries. It would therefore be expected that Viet Nam might learn from experiences of neighboring countries, in order to avoid similar mistakes.
6. **Insufficient veterinary services.** Unlike government's strong support in breeding, veterinary services still remain inadequate to serve the requirements of dairy sector. In Viet Nam, the State veterinary service network spreads down to district level with the District Veterinary Station. However at commune level, there exist mainly private veterinary paraprofessionals, so called "paravets". Since dairy cattle are prone to various health hazards, the State veterinary services are not systematically used/or available to dairy farmers. Overall, the deficit of veterinary practitioners with sufficient knowledge in dairy production is a critical problem for dairy development in Viet Nam.
7. **Milk quality** is considered as a major bottle-neck in the absence of any standardized milk quality testing scheme for the whole country with no independent quality control agency carrying out regular checks at farms, collection centers and processing factories. This situation causes more difficulties for small farmers. Usually, small farmers get lower price for their output due to untested quality of their milk product in the collection centers.
8. In most of the provinces, where the NDDP failed, **milk basins were set far from the market, which causes a higher cost for transportation** as well as directly affecting the milk quality. As a result, it makes domestic dairy products non-competitive with imported milk products.
9. Last but not least, the **low procurement price** of output was the most important reason that had pushed the small farmers out of the dairy sector during the period from 2004 to the end of 2006 in Viet Nam. During a long period, farm-gate procurement price which was set mainly by large-scale milk companies, was 3,200 – 4,100 VDN, which is possible for farmers to recuperate their money, not to make profit. Milk companies do not depend on fresh milk, but on imported milk-powder, meanwhile the dairy farmers depend on the companies, but the milk procurement price is set by the companies, not by the farmers. As the result, the dairy producers, especially the small scale ones, are bearing all the risk of the production.



#### **Box 5: Thai Nguyen dairy development plan**

Despite favorable policies and interventions mechanisms, two years after the project was implemented, the dairy herd of province attained only 20% of planned targets with only 491 milk cows distributed, 816 million VND of disbursements made to 199 households and enterprises. Among them, only 74 milk cow can be milked (accounted for 9% of the planned target). The dairy herd is not increasing, leading to a reduction in grass area each year although grass area can double profit compared with the same area for farm producing. In 2003, the whole province planted 147ha (reached 471% of planned), the respectively number of 2004 was 82ha (276% of planned) and 2005 was 9,7ha (only 97% planned).

There are many reasons for this failure, however, the most obvious one is that a comprehensive market study was not completed. Also, Thai Nguyen developed the dairy sector too fast, mostly like a movement, the “herd-effect” kind of activity.

In fact, when the project was implemented, almost every Thai Nguyen farmer did not understand that raising milk cow is very different with raising other livestock and the authorities could not imagine the overall picture of the sector to prepare from beginning. Besides, the quality of breeding animals also affected the result of project. In order to meet the demand for breeding, many agencies, enterprises had hastily imported cow breeding, many of which were of good quality, but many that were not suitable to the region.

Breeding dairy cow requires lots of investment, much more time to recuperate costs and it is hard to control output market. Because of this, many farmers believe that this work is less profitable than expected, then gave up the work and sold their dairy cows. At the beginning, the farmers felt highly enthusiastic in this initiative; they borrowed credit to build facilities, to buy breedings animals, to shift to grass cultivation, grow or purchase maize for feeding requirements. Up to now, the “dream” of making money from raising dairy cows has disappeared, instead of that is the worry of finding market for the product, of paying back all the debt.

- Besides successful stories of small dairy farmers gained, there are several unsuccessful cases which could provide useful lessons for the development of dairy production in future.
- Contract farming and a vertical integration usually have positive effects on capacity building and technical know-how development. The greatest danger is to “firmly bind” farmers (in certain cases, farmers lose their land if they give up dairy) and leave them virtually helpless and without advocacy rights.
- There are many reasons for the failure of contracts, usually caused by the lack of awareness and experience in such business of the farmers. Examples are given below:

#### **Box 6: An unsuccessful contract in Thai Nguyen**

Another reason for this failure of the program is that provincial authorities expected dairy companies and farmers to sign contracts. Based on the contracts, the company will provide investments for milk storage systems, facilitating the preservations of milk for purchase. However, up to now, there are no signed contracts. The company only invests when they are ensured that the farmers will provide enough milk for their production. It is said that one milk store can hold at least 2,000 liters of milk per day. However, the whole province can provide only from 15 to 20% of that capacity. Furthermore farmers have the habit of waiting for company to sign contract before they buy the dairy cows. Meanwhile, the company in their turn, want to ensure that sellers have enough milk for them before signing contract. This was critical to the delay of the project.



### **Box 7: Contract Farming of Nestle Company in Ha Tay province**

In 1998, the Nestle company cooperated with the Ha Tay People's Committee to encourage farmers to convert from rice growing to cow raising. With the careful training, technology subsidies, and inexpensive credit, many farmers changed to raise milk cows and started signing annual contracts with Nestle. Other facilities such as milk collection terminals and other complementary equipments, as well as cleaning chemicals were also provided by the company. In 2004, ninety three percent of the milk used to be collected by Nestlé.

#### **The contract**

Under the contract, Nestle bought the milk supply by groups of farmers and in return, the group was obliged to sell back all their milk. The farmers, on the other hand, are responsible for building their own farms and buying other inputs, such as feeds, electricity, water, and labor.

Prices, which are determined solely by Nestle, barely reflect the market price. However, Nestle wished to ensure a stable price throughout the year under the contract, even if prices have gone through harsh fluctuations across the year.

Nestle has a bonus and fine system to discriminate milk of different qualities. The company has developed a tight quality control under which they would take a random sample of milk from each village every month to test. Among all the qualities, Nestle is most careful about the proportion of antibiotic, which is only allowed to be less than one billionth. In order to achieve such a small proportion, Nestle had trained the farmers and provided a gradual scale of qualifications.

#### **The contract performance**

There are several experiences gained from the case of Nestle, details are as follows:

First of all, as contracted, Nestle provided feed for households to raise dairy cows. The quality of feed was good the first few times, but got worse after that. The farmers had no way of maintaining the expected milk yield and quality with such provided feed. The farmers wish to have more transparency and responsible in this part of the contract.

Nestle's quality control was one of the main barriers to the farmers to maximize their profit. Despite skill improvement across time, the farmers still complained about the low level of accepted antibiotic. It limited the incentive of farmers to sell product to Nestle since the final price after bonuses and fines were unpredictable. It raised doubts of farmers about the quality control system of Nestle; consequently, the farmers started to question the company's integrity.

The most important reason, according to the farmers interviewed, was that the procurement price of milk was low for long time. The price of milk used to be 2,700VND/kg in 1998, which afforded a farmer with 10 heads of dairy cow a profit of 7 to 8 million VND a month. Farmers could then take good care of their cows so that they provided more and better milk. In 2006, the price was 3,200 VND/kg, which is higher than in 1998, but is barely profitable, considering the significant increase of input cost. With only 4 cows remaining, an interviewed household earns only 400,000VND/month after subtracting all the costs.

The low prices resulted in not only a lower quality but also a lower quantity of milk; the amount of milk produced by each dairy cow also decreased to only 10 to 12kg per day, compared to 18 to 20kg in 2004 – 2005 period. Deep in the milk price crisis, the farmers were trapped in a vicious cycle where small income from milk provides insufficient nutrition for the cows. The cows, in return, provide low milk quality and quantity, thus producers earned even less money. Many of contracted farmers coped with the crisis by slaughtering the cows that provide not enough milk and change to other businesses.

From the Nestle side, it had no solution to deal with the contract violations. There is no legal system that the company could rely on nor could it bind the farmers economically. Furthermore, there is little threat of the company's refusal to renew the contract since the company lacks milk and needs to gather as much milk as possible. The company now has to resort on powdered milk as an alternative input for their production.

As an attempt to target the problem of reduced milk quantity, the company decided to buy milk by clusters. Each cluster had a head, voted in by the members, and then trained by the company. The cluster head must make sure the farmers supplied the contracted amount of milk and distribute the company's payment to everyone. In an attempt to strengthen the contract system, Nestle offered this person a fixed salary and payment for his electricity bill. As more farmers started to break the contract arrangements, the company decided to award the cluster head 200 VND for each kilogram of milk collected to increase his/her incentive. Buying milk by cluster also helps Nestle better control the quality of the milk, since the milk of many households is now stored in one container. Therefore, if one household has anti-biotic in the milk, it will affect others economically and lead to social costs. The households will, hence, monitor one another to ensure mutual benefit.

*Continue : next page*



**Box 7: Continue**

Unfortunately, having the cluster head as the mediator has caused occasional conflicts within each cluster. Even though s/he was voted by the farmers, the head is sometimes non-transparent in distributing the payment. One example is that s/he would receive the payment from the company but delay the distribution. The company has yet to find out a way to tackle this conflict.

At the end of 2006, the rate of contract violation, estimated by the company's business director, was approximately 50% though the real rate could actually be much higher.

**Box 8: Payment system of Dutch Lady Viet Nam**

Pricing and payment systems vary according to the processors. Recent information collected from Dutch Lady Viet Nam in October 2005 depict its pricing system.

Dutch Lady Viet Nam has set-up an elaborate but transparent pricing system basing on strict quality standards and results (minimal standards are 3.5% fat, 12.0% total solids and 4.0 Rezasurin grade on a scale of 6, being top quality). The average overall milk quality obtained in 2004 in DLV project was 3.8% fat, 12.3% and 4.1 Res. Grade.

DLV operates various quality check-ups, the first at the collecting point (CP) and the other at the milk chilling centre. If milk is rejected at the MCC, it is returned to the CP, so that individual farmers do not have to bear the responsibility for bulk bad quality.

Milk payment is made every 15 days based on the daily average results of the CPs and on random individual quality checks (1 per payment period, i.e. every 15 days). If individual farmers get lower quality than the group's average, they are penalised and they are rewarded if they get higher quality. Specialised farmers get individual payment.

The quality payment scale is the following: DLV has developed a software for payment, which has been under use since 2005. Results from weighing and quality checks are registered through the Information and Milk Payment Programme (in MPP). Farmers get a payslip that they can check against their own production record booklet. Upon presentation of their bi-monthly payslip, farmers get money from the bank.

## Chapter 4. Conclusion

### *Strength, Weakness, Opportunity and Threats analysis for the development of small scale dairy producers:*

STRENGTHS	HOW TO BUILD ON THEM
Literacy of small scale dairy farmers (ability in read and write)	Continue to organize training courses about the breeding techniques to farmers to maximize the profits from dairy products
Success in cross-breeding to have higher milk productivity	Distribute the appropriate breed to all the regions, especially for favorable ones. Control the breed's price fluctuation by a controlled breeding system. Continue to find high milk productivity, climate suitable and disease resistant breeds
Small farmers also got awareness of artificial insemination technology	Provide certified quality breeding/semen for small farmers
Experience of 40 year's dairy sector (successful or unsuccessful) and the small farmers are those who very motivated in working for their better life	Continue to develop dairy production in favorable regions and most appropriate and modern technologies



Residual products (such as rice straw, sugarcane, maize stover etc...), which are available for small farmers as mean to reduce the input cost	Study a most optimal ratio for feed that uses residual products but still keeping sufficient nutrition for dairy cows
<b>WEAKNESSES</b>	<b>HOW TO CORRECT THEM</b>
Milk production: (i) is highly seasonal; (ii) limited experience in modern dairy farming and lack of technical skills; (iii) high investment costs and high risk	Encourage milk production through price incentives, staggered breeding and fodder conservation. Set up affordable, sustainable dairy cattle breed improvement scheme. Strengthen dairy sub-sector organizations. Support credit with low interest Mobilize more resources
Milk collection and processing: (i) infrastructure fragmented; (ii) inadequate number of milk chilling and processing centers; (iii) obsolete equipment and technologies; (iv) fragmented and weak financial standing of main dairy enterprises (v) chronic lack of technical and management skills; (vi) low quality control.	Increase number of model dairy demonstration units. Find more funds for restoring milk collection. Provide more resources for capacity building and training
Milk marketing: (i) relatively small dairy market; (ii) milk products are not commonly used in daily food, especially in rural areas; (iii) poorly developed cold chain; (iv) lack of marketing strategies.	Focus on improving the quality and attractiveness of milk and dairy products. Start a national milk promotion campaign than focuses on: (i) improved food security (ii) the nutritional quality of milk and dairy products Set up school milk nutrition scheme (children are tomorrow's milk consumers).
Dairy training: (i) lack of technical and vocational training (ii) lack of product development/adaptation facilities for dairy operators and milk producers	Set up needs based vocational training program Organize outreach training delivery system Set up demonstration dairy for practical training and product development.
Insufficient land for raising cows and forage production; lack of suitable tropical grasses (primarily legume grass varieties) for fodder production and ration balancing	Setting a national plan to identify the areas for growing dairy cow and fodder production.
Scale of economic of small dairy farm is far from the optimal scale	Only develop dairy production in highly comparative advantage regions and appropriate households
<b>OPPORTUNITIES</b>	<b>HOW TO EXPLOIT THEM</b>
Strong support of Government and provincial authorities Milk consumption, particularly among people living in cities and industrial areas, is increasing rapidly.	Identify the most appropriate strategies to support the small scale dairy farmers, rather than develop broadly as before Focus on urban consumers as main market and identify the potential market
Milk consumption, particularly among people living in cities and industrial areas, is increasing rapidly.	Focus on urban consumers as main market and identify the potential market
The improvement of living standard, especially in urban areas	Promote Viet Nam milk and dairy products. Continue to build milk and dairy products consumption levels, especially in urban areas. Diversifying the products to meet the demand of urban and high value markets
Model technologies for dairy production and milk processing in the world are being adapted	Testing new technologies for dairy production of Asia countries and the world to Viet Nam and



and improved to suit conditions in Viet Nam.	combine with the traditional experiences of local dairy farmers
Growth in demand of higher value added product such as cheese and dairy ingredients	Research & develop new processed products from milk. Create the marketing channels for new products.
Increase of agricultural/seasonal unemployment in rural area.	Train the farmers to have sufficient technical knowledge to sustain the dairy production, also create more employment opportunities by dairy production activities
<b>THREATS</b>	<b>HOW TO AVERT THEM</b>
Milk and dairy product imports are accelerating. What about the impact of WTO commitment to the small farmers?	Need to do researches about impacts of WTO commitment to small scale dairy farmers of Viet Nam
High proportion of imported milk powder in the products of dairy companies would push all the small scale farmers out of this business	Work with Government to control quality of imported dairy products Increase competitiveness of small scale dairy producers based on related researches to improve economic and technical efficiency of dairy production as well as quality of milk and dairy products
Risk of cow disease which may affect milk supply and quality of supply.	Continues the breed program. Improve the veterinary network and technical skills
The climate in Viet Nam is hot and humid and therefore very unfavorable for high yielding milk production	Encourage milk production through AI and incentive payments for milk. Select the suitable breed

## Chapter 5: Dairy Strategy Prospects

### *Important strategic lessons for the local dairy sector to competitively supply growing markets in the future:*

- The National Dairy Development Plan, and subsequently the Decision No. 167 amended accordingly, concentrated technical and financial efforts in “dairy priority zones” which may be identified in a manner similar to the identification of priority “economic zones”. The criteria for such zones should be: tradition in dairy, existing level of technical know-how, availability of processing facilities and current access to market, climatic and natural constraints/strengths, land availability for fodder cultivation, availability of industry by-products etc.
- First indications show that small holders tend to disappear from dairy production in crisis periods. Most of the time small-holders are more vulnerable, as they took up dairy recently and did not have enough time to gather sufficient resources to pay back their debts and enlarge their herd
- All efforts should be made to strengthen capacity of existing small and medium scale farmers who show a potential to enlarge their herd (enough land, interest, technical know-how) small holders should, whenever possible, be encouraged to group in interest groups in order to lower their production costs. The organizational approach should be addressed step by step (primarily by forming interest groups or clubs rather than cooperatives). Active



exchange of experiences should be promoted by study tours to private farms and existing interest groups

- However, developing very large farms with the latest technology might, at this stage, not be sustainable in Viet Nam. Large estates should not be artificially created by the government or the provinces (exceptions might be done for joint ventures, drawing foreign capital and technical inputs), but should naturally evolve from existing large private structures
- To solve the constraint of lack of dairy experience of farmers, extension agents and veterinary staff, it is necessary to have financial and technical efforts to tackle the human resources constraint. Technical staff with existing knowledge in dairy (veterinarians, extensionists) should be utilized as trainers in the areas identified as “priority dairy zones”. Extension agents in “priority dairy zones” should be specifically trained on dairy issues, not only on theoretical matters, but on practical topics (hand milking, feeding, heat detection, deliveries, management of animals etc.).
- Further, in each zone, successful farmers with a sound technical knowledge should be identified as possible farmer to farmer trainers. Farmers should be intensively trained on relevant topics (heat detection, calf raising, feeding, hygienic milking, basic detection of health disorders etc.) possibly on farm rather than on station (exchange of experience with successful farmers)
- Regarding the situation of breeding policy and breed selection. Viet Nam should emphasize improving the management of the various types rather than on the appropriate level of exotic blood.
- For feed and fodder availability, significant efforts need to be put in future to establish “priority fodder growing areas” in communes concerned by dairy production. Villages, communes and districts of “priority dairy zones” should elaborate a plan for fodder growing suitable to the existing conditions (taking into account irrigation facilities and constraints, seasonality, land quality etc.)
- Small scale farmers should be encouraged to buy feed, industrial by-products (e.g. brewery waste) and crop residues (e.g. rice straw) in bulk in order to short-cut several layers of middle-men. This can be achieved by encouraging farmers to form interest groups or clubs (rather than cooperatives, which often have a negative connotation)
- In order to give more incentives for the small scale dairy farmers, a new pricing system should possibly be set-up, basing on a basic milk quality (fat, protein, total solid, bacterial count and absence of antibiotics). The basic payment system should be unique throughout the country. Private processors are then free to establish their own payment system.
- In order to overcome higher prices for bad quality paid by private agents and middle-men, quality-based payment system should be implemented, similarly to the Dutch Lady system. The higher the quality, the higher the price.
- At present, the economic viability and the competitiveness of the dairy sector in Viet Nam is biased by the factor “sales of heifers”. The purchase of cross-bred heifers or cows should not be subsidized or encouraged by loans or other incentives. The raising costs of heifers should be assessed on large scale, depending on the production area (urban, per-urban, rural). Ideally, the sales price of heifers should cover the raising costs and allow for a reasonable margin



- In order to reduce the initial investment costs, farmers should be encouraged to produce their own cross-bred progenies, knowing that they run the risk to get male calves and that dairy production takes more time to develop
- Proper guidelines on contract conditions (e.g. no firm binding of dairy production and land use rights) should be issued by national authorities. Contract dairy farming should be discussed with the major processors and the concerned ministries in order to fix a general framework.

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