

# Smallholder Dairy in Vietnam

*Patrice Gautier*

[patrice@asvelis.com](mailto:patrice@asvelis.com)

**Asian Veterinary & Livestock Services**



**26 February 2008, Chiang Mai, Thailand.**

Study conducted on behalf of the **Food & Agriculture Organization**  
within the project “Improved Market Access and Smallholder Dairy Farmer  
Participation for Sustainable Dairy Development” (CFC/FIGMDP/16FT)

# Outline of this presentation

- **Background and current situation of the dairy sector in Vietnam**
- **Overview of models**
- **Description of studied smallholder dairy models**
- **Key reasons for success**
- **Options for improvement, expansion and replication**
- **Key reasons for failure of other models**
- **Conclusion**
  
- **Figures & Tables are not quoted in this presentation. Most of them are taken from the report conducted in 2005 by AVSF & ACI on behalf of FAO. “Review, Analysis & Dissemination of experiences in dairy production in Vietnam”. [www.fao.org](http://www.fao.org)**

# History summary of dairy cattle in Vietnam

## Production:

- **Before 1975:** few farms during colonial period
- **1975-1985:** state farms
- **1982:** smallholder dairy starts in some locations (1)
- **1990 ...:**
  - smallholder dairy in new locations (2), decrease in number of state farms, 3 main processing companies
  - Total of provinces involved: 11
- **2000 ...:**
  - smallholder dairy in new locations (3), almost no state farms left, > 5 private dairy processing companies.
  - Total of provinces involved: 33
- **Today:**
  - 20,000 dairy farms (< 1% of livestock units) - 110,000 dairy cattle – 220,000 tons of milk produced per year.

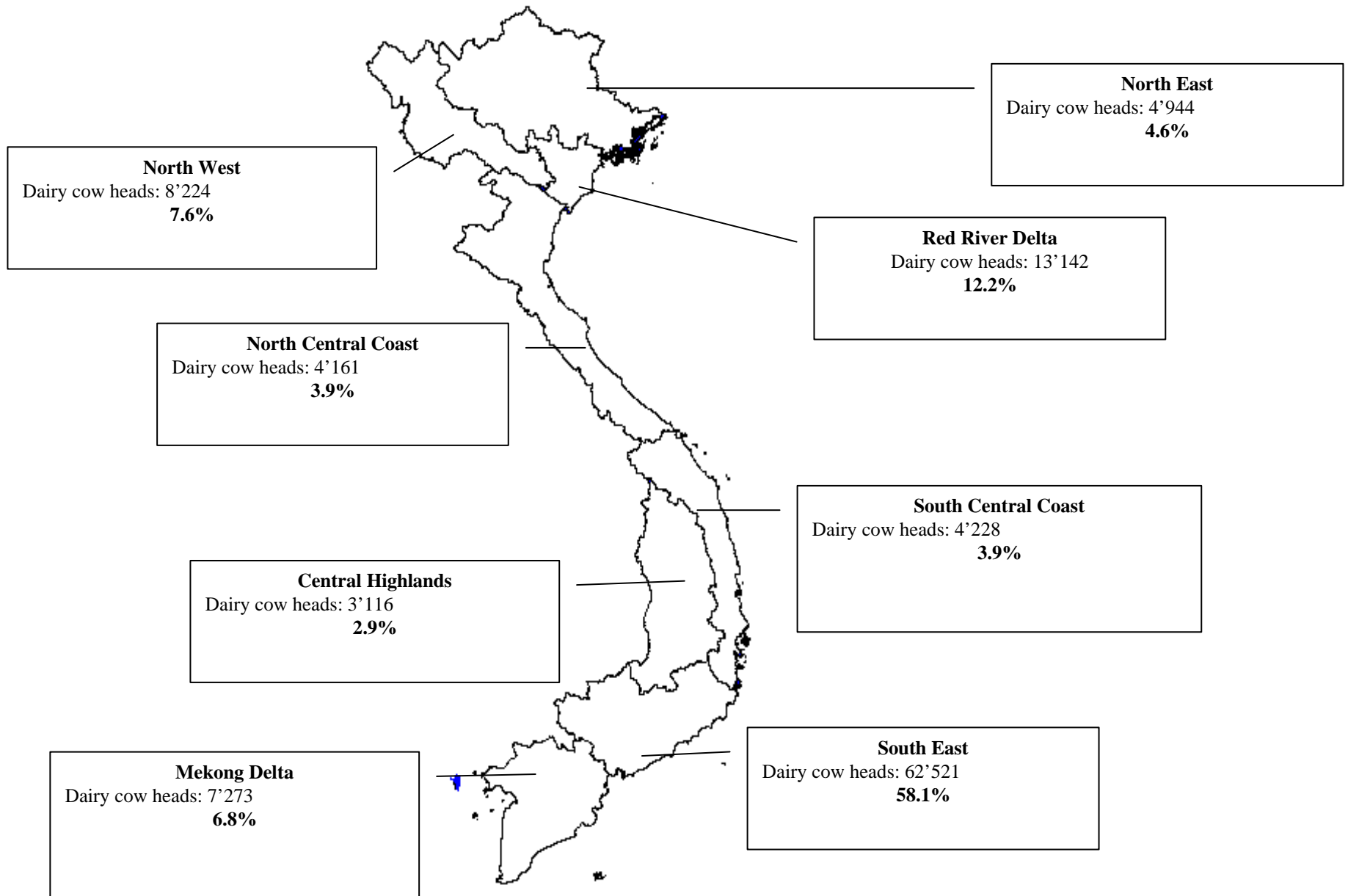
## Consumption

- Major constant increase in milk consumption since 1995
- Around 8 kg per capita now.
- Total population of 84 millions people.

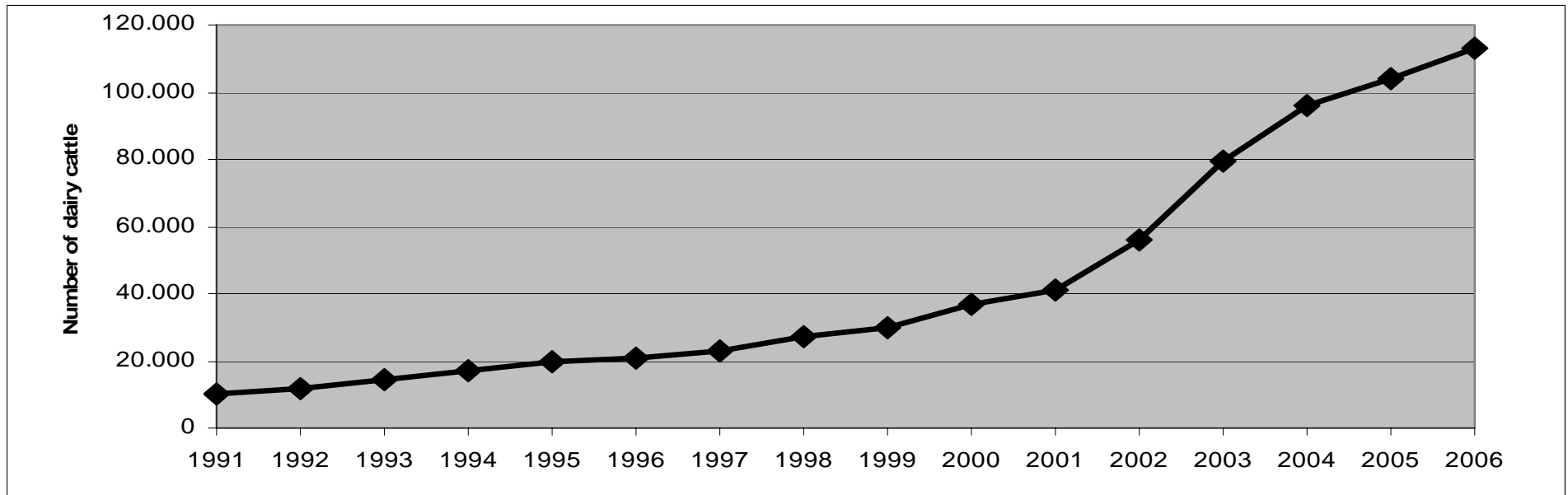
## Today:

- Production = 10-20% of consumption

# Locations of dairy cattle in Vietnam in 2005

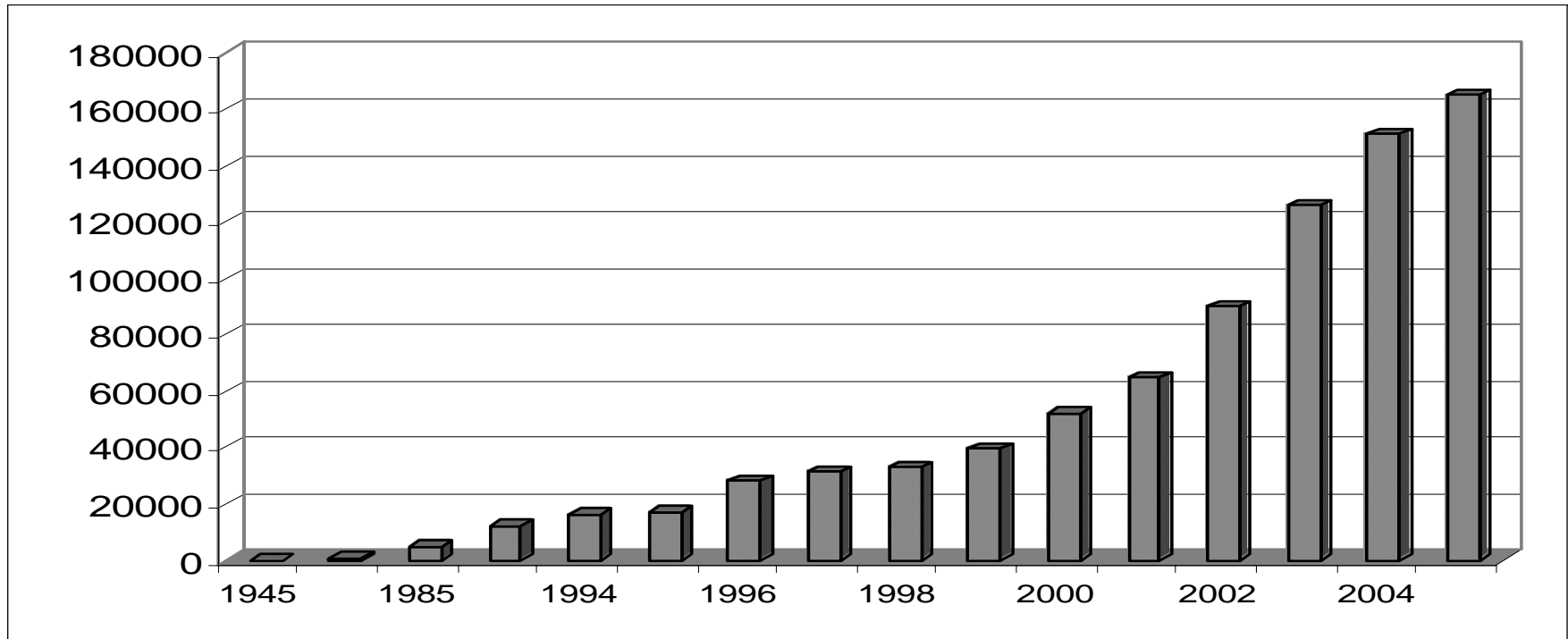


## Evolution of number of dairy cattle in Vietnam between 1990 & 2008



- **Regular increase between 1990 and 2000**
- **Rapid increase between 2001 and 2004 (import of cows)**
  - Increase in old locations
  - Set up of new locations
- **Slower increase between 2005 and 2007**
  - Same rapid increase in southern Vietnam
  - Decrease in northern Vietnam (especially new locations)
- **Likely increase in both south & north Vietnam from 08 onwards**

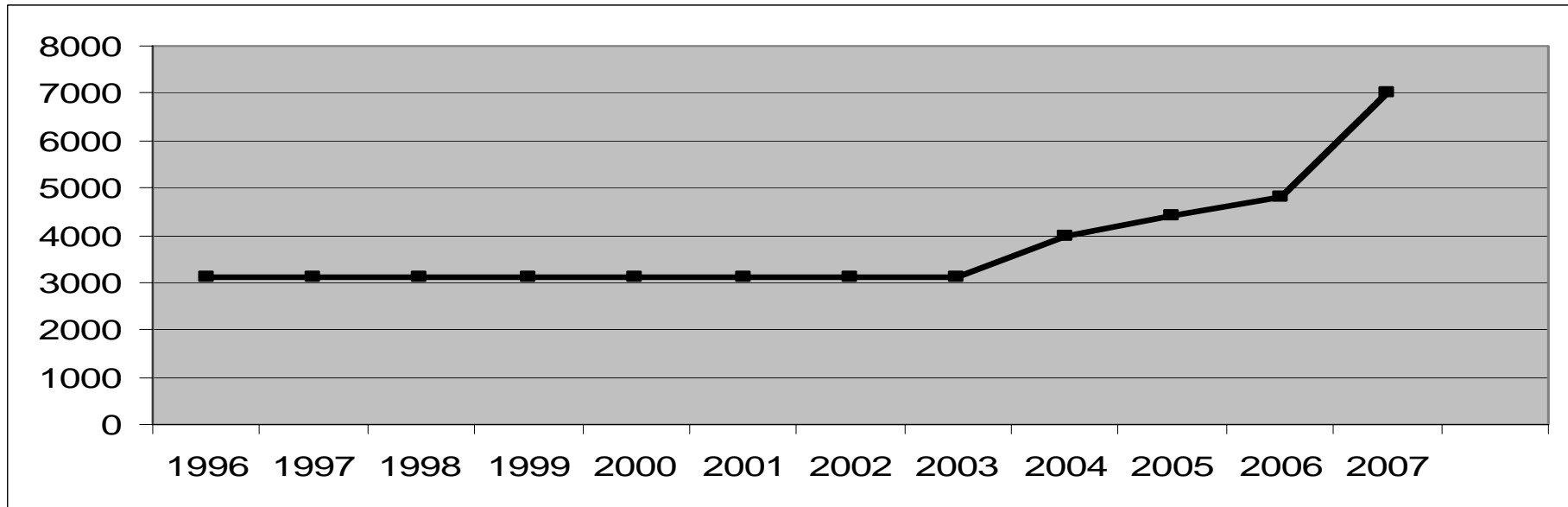
## Evolution of Milk Production in Vietnam between 1990 & 2008



- Trends follow evolution of number of dairy cattle
- Regular increase in cow productivity
- Stable or decrease in production / consumption ratio: 10-20%

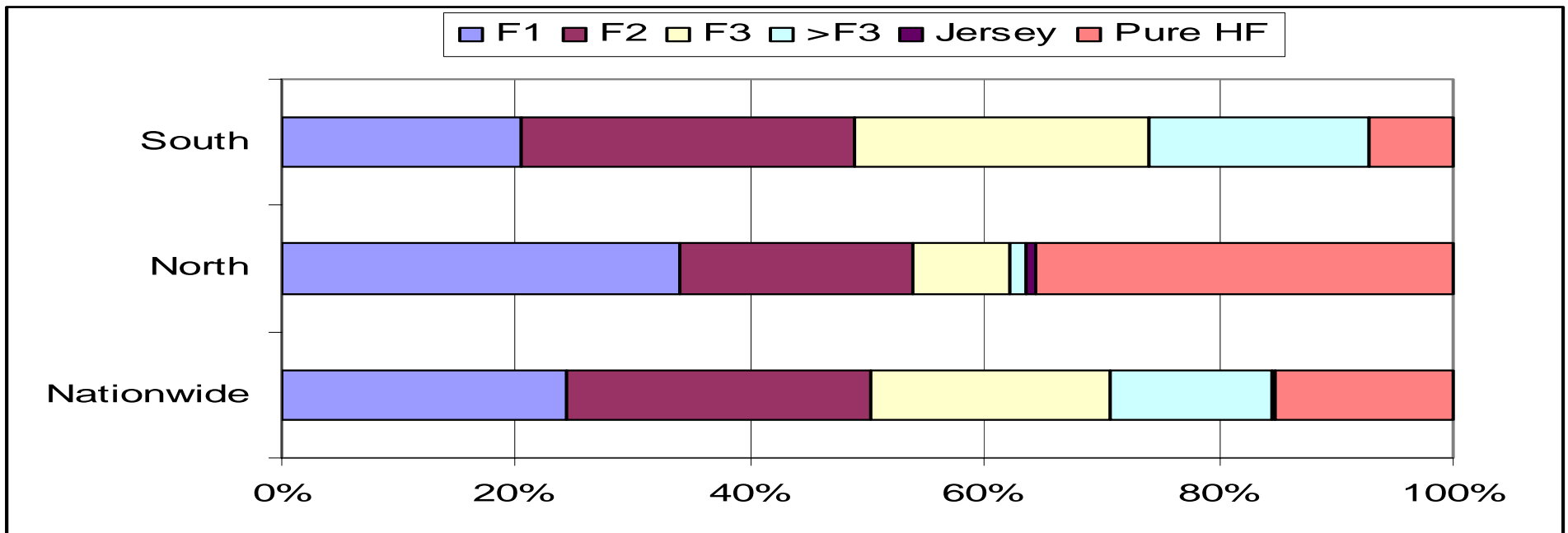
# Evolution of Fresh Milk Price at farm gate in Vietnam between 1995-2008

Prices in Vietnam Dongs (not adjusted to inflation)



- **Stable – Low prices between 1995 & 2003:** 0,2 USD
- **Regular increase between 2004 & 2006:** 0,3 USD
  - Processing companies react to decreased profits made by producers
- **Rapid increase between 2006-2007:** 0,4 USD
  - World Prices for milk powder rapidly increase, making the fresh milk much more profitable for processing companies.

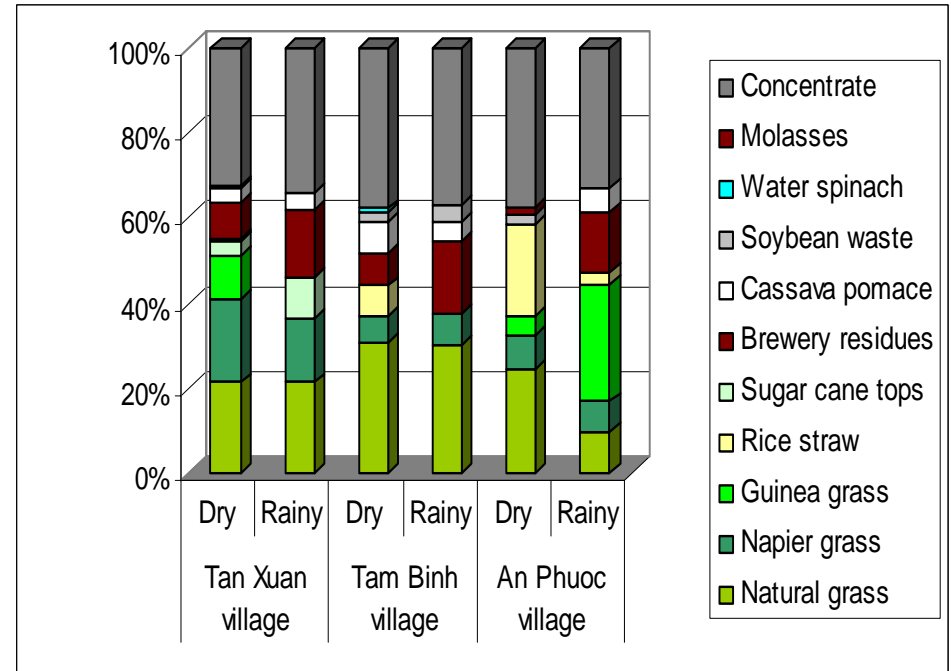
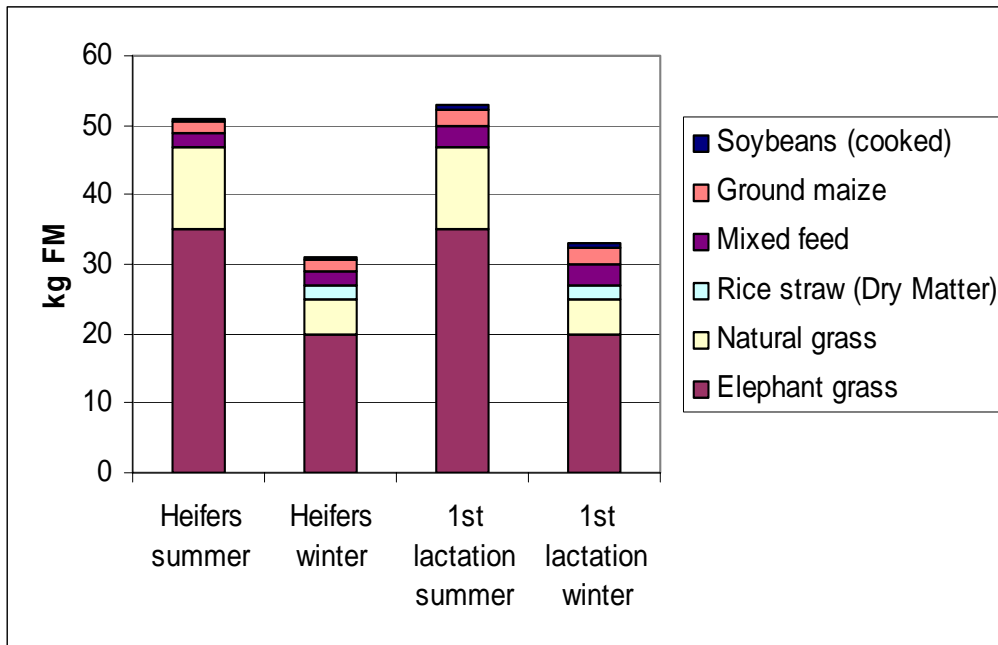
## Breed structure (proportion of dairy cattle according to exotic inheritance)



- **Pure HF: recent & past imports of cows**
- **Cross-bred cows: result of the insemination with HF on cows crossbred between Red Sindhi & Local Yellow Cow**
- **Apart from few upland locations, a 70-80% of HF is the most suitable.**

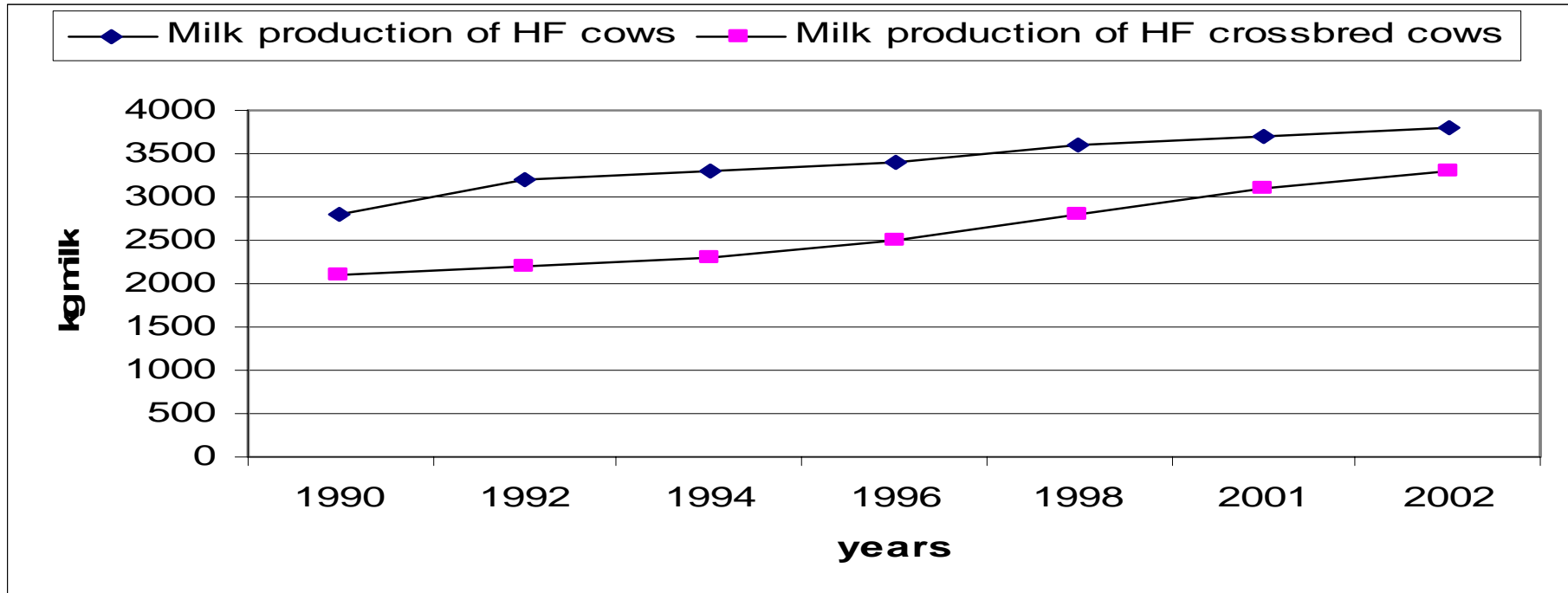
## Feeding

(examples for one location in northern VN & one in southern VN)



- **Elephant (king) grass is the most frequent forage used.**
- **Zero-grazing / cut-and-carry system.**
- **Purchase of forage from non-dairy farmers.**
- **Scarcity of forage in winter-dry season.**
- **Rapid increase of commercial concentrates in 2007.**

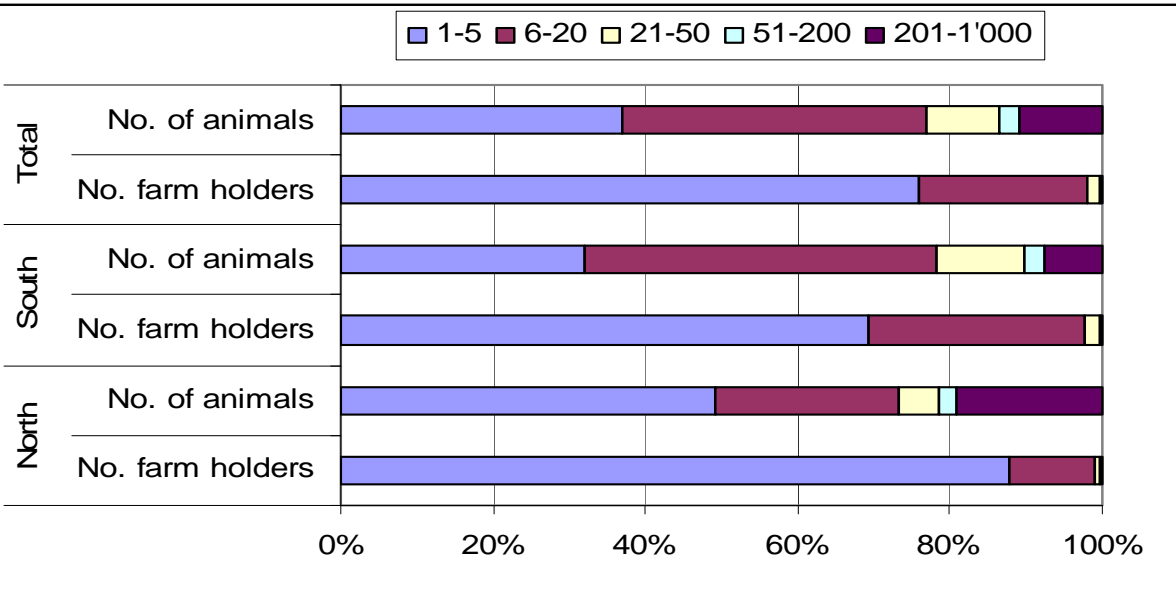
## Milk Production



- **HF: > 4,000 kg ; Cross-bred: > 3,500 kg per lactation**
- **But lactation period of around 400 days?**
  
- **For reference, the figures in France are:**
  - **HF: 7,800 kg & lactation period of 326 days.**

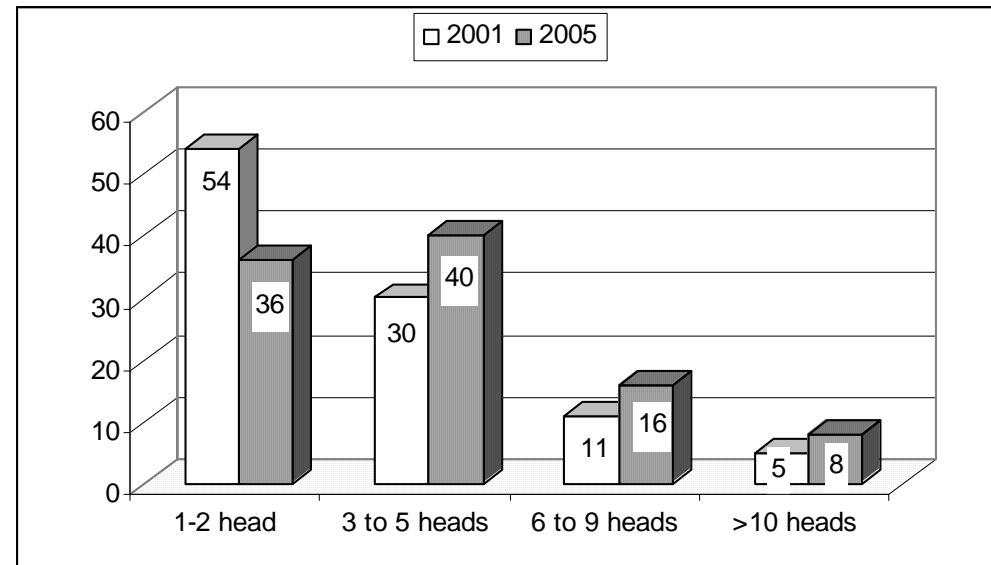
# An increase in the number of dairy farms (around 20,000 in 2005) and in the herd size per farm between 2001 & 2005

## Repartition of dairy farms (N=19'805) and dairy cattle heads (N=107'609) per farm category in 2005



## Countrywide herd holding pattern (in %) of dairy farms

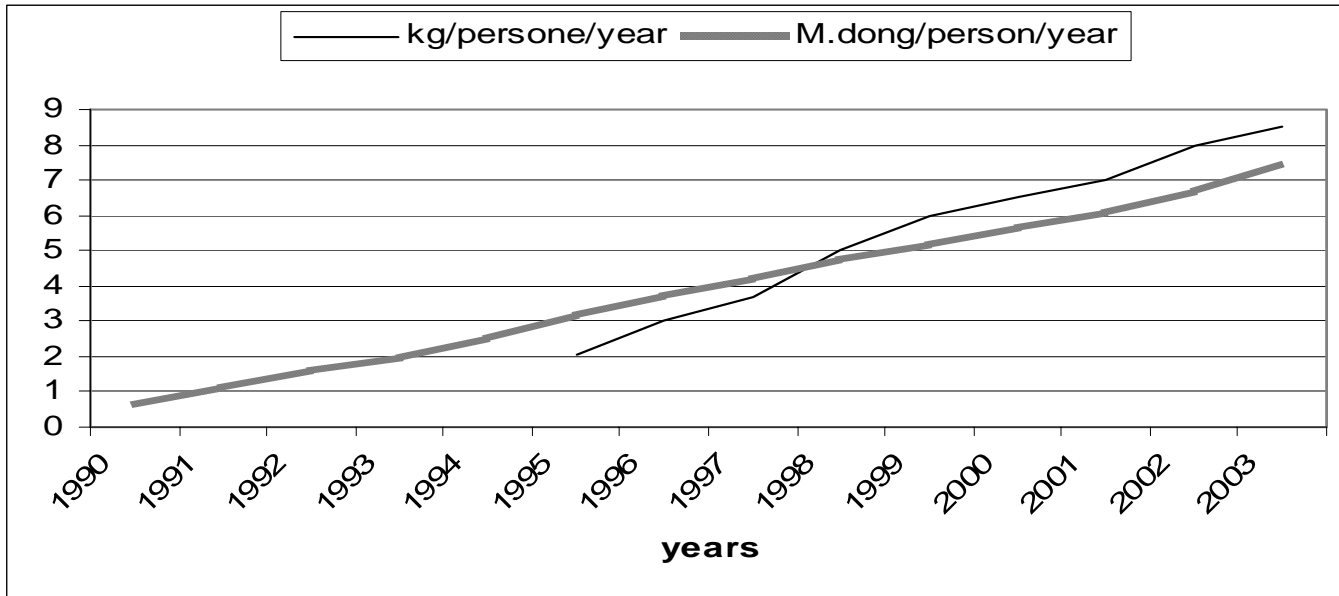
in 2001 (N=13'307)  
and in 2005 (N=17'312)



# Marketing fresh milk & retailers

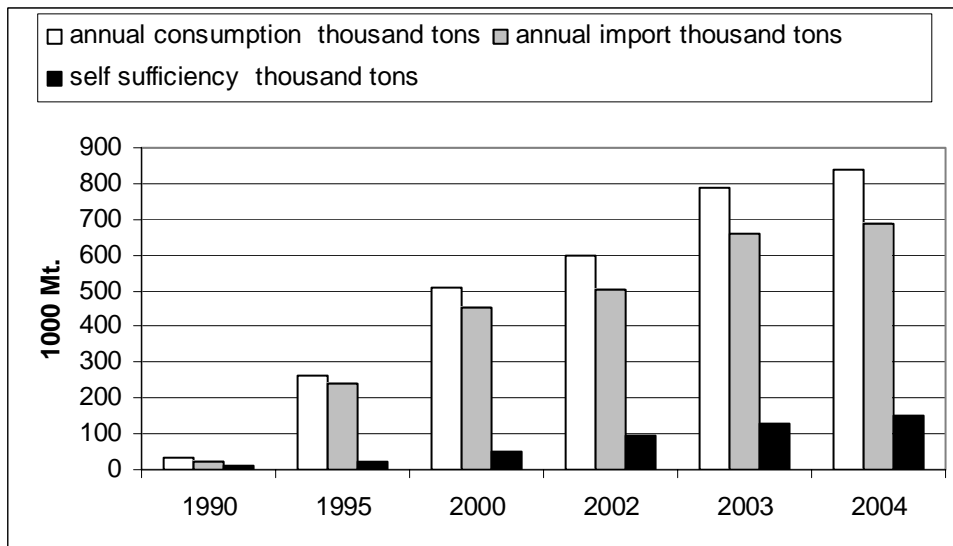
- **Dairy processing companies buying fresh milk collected by Milk Collecting Centers**
  - Vinamilk, leader with > 50%
  - Dutch Lady
  - Anco (ex-Nestle)
  - Hanoimilk
  - IDP
  - ...
- **Informal sector represents around 20%**
- **Distribution:**
  - Small shops throughout the country
  - Supermarkets
  - Canteens, hotels, restaurants

# Consumer Market & Imports



Relation between the  
GDP (Million  
VND/capita/year)

and the milk  
consumption  
(kg/capita/year) in  
Vietnam (1990-2003)



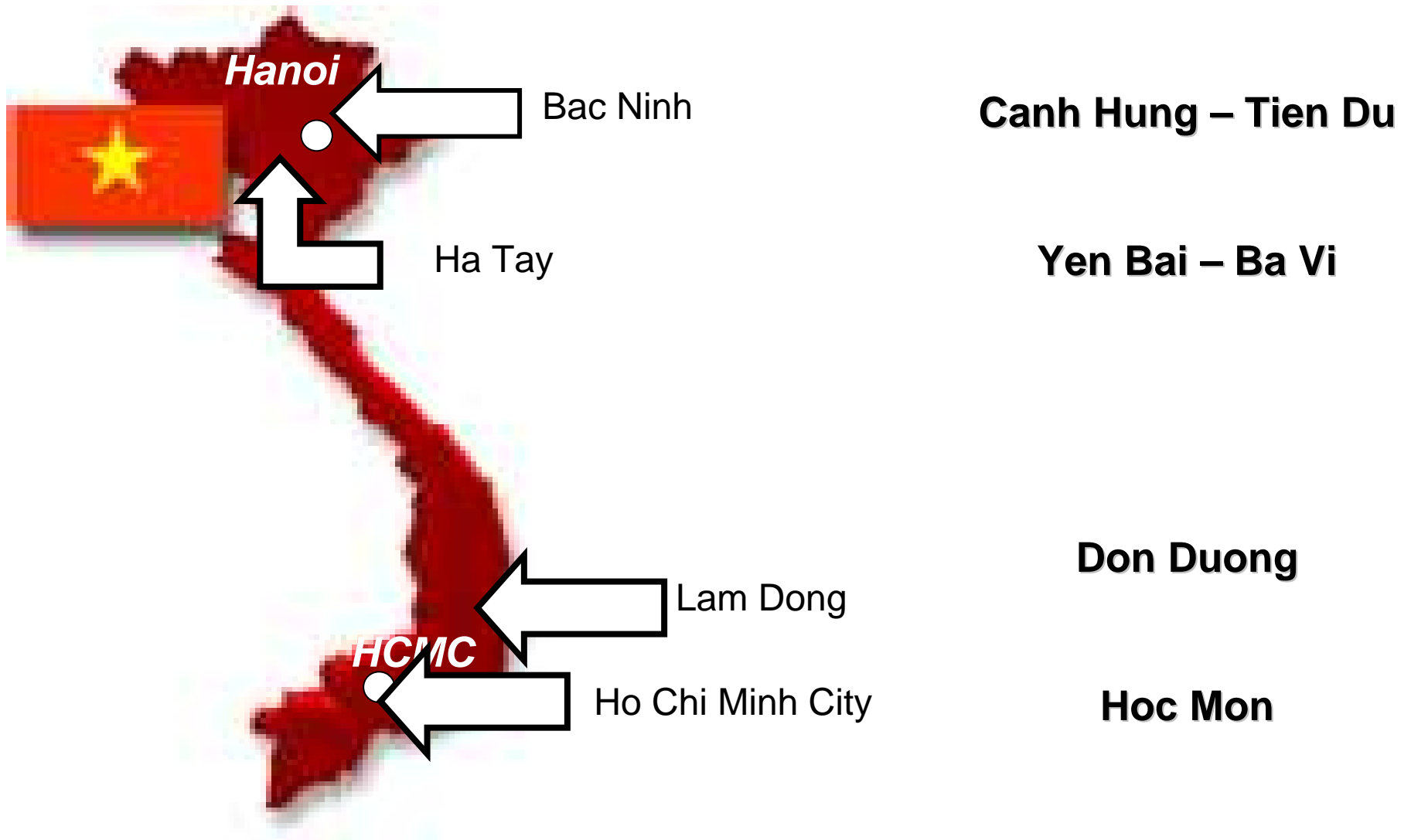
**A regular increase of  
consumption (younger  
generations)**

**A self-sufficiency ratio of less  
than 20%**

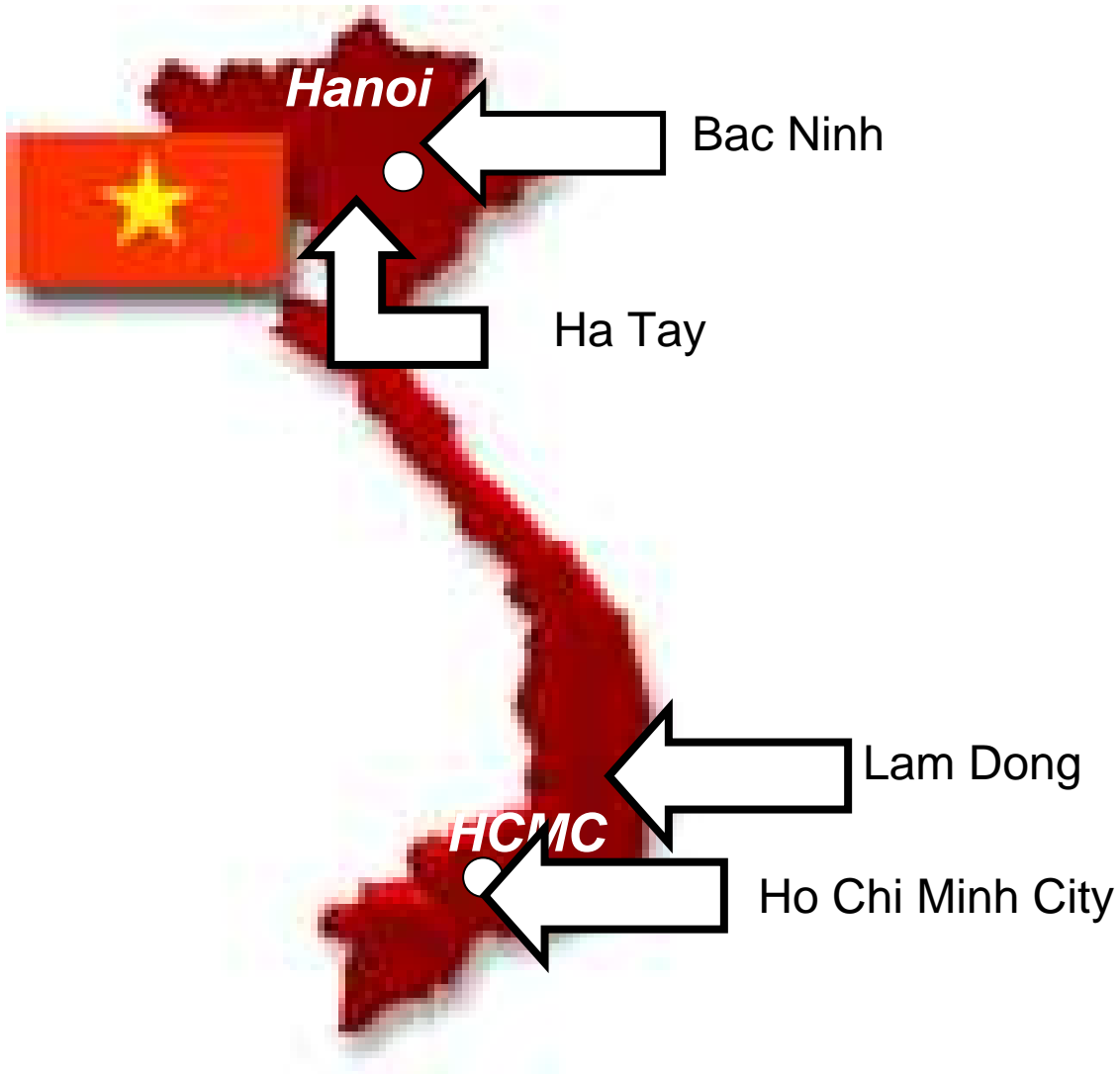
# Overview of models

- **Large-scale dairy farms**
  - Vinamilk: recent set up or purchase of farms
  - Others: near HCMC, near Dalat
- **Family enterprises: < 20,000 farms**
  - “Old” models:
    - Smallholders in lowland of southern Vietnam
    - Smallholders in upland areas
    - Smallholders in lowland of northern Vietnam
  - New locations
    - Smallholders in new midland - lowland areas

# Location of studied smallholder models



# Climate

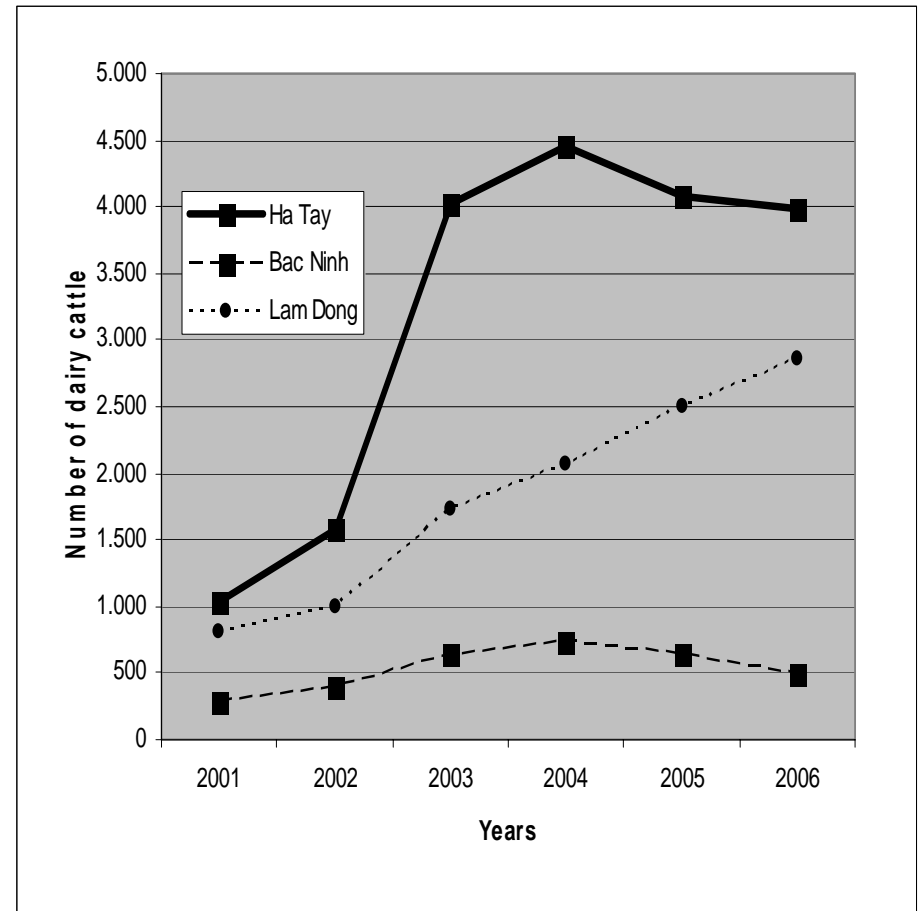
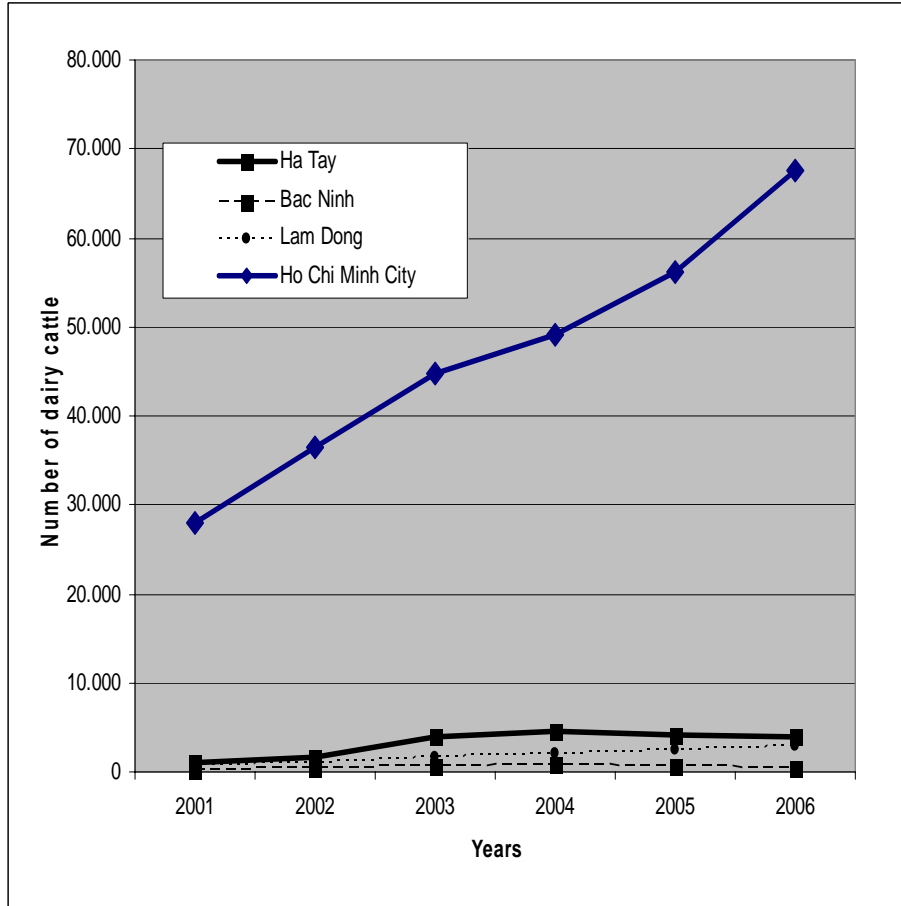


**Hot & Humid in Summer  
Cold & Dry in Winter**

**Almost Temperate**

**Hot all year**

# The models within their provinces: dairy cattle



- **Increase x 4: Lam Dong & HCMC (HCMC = 70% Vietnam's herd)**
- **Increase x 3: Ha Tay (but decrease since 2005)**
- **Increase x 2: Bac Ninh (but decrease since 2005)**

# Number of dairy cattle & farmers in the district in 2007



## Dairy Cattle – Smallholders

Bac Ninh	260	106
Ha Tay	1,550	513
Lam Dong	1,350	270
Ho Chi Minh City	10,000	2,000 ?

	<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

## **Key reasons for success**

- **Success happens when there is a favorable balance between STRENGTHS & WEAKNESSES.**
- **Common favorable factors identified in the successful models in Vietnam (and not or less in the unsuccessful ones) :**
  - **Experience > 12 years (rather than rapid training)**
  - **Good local service providers & supported by external actors (NGO, Nestle & state companies)**
  - **Existence of a milk buyer**
  - **Appropriate feeding**
  - **Appropriate breed (with management / environment)**
- **No formal farmers organization in any of the 4 models**
- **Recent increase in milk price makes their success more obvious now.**

## Options for improvement of existing models (1)

- **A pre-condition:**
  - **Need a good assessment of current situation**
  - **By SIMPLE recording & analysis of the animal performances and of the farm economics**
  - **Allows to:**
    - **Know if improvement is possible.**
    - **Identify the elements that can be improved.**
    - **Assess how these elements can be improved.**
    - **Measure if improvement occurs after actions.**
- **Improving productivity is key if smallholders want to survive should world prices of milk drop again.**

## **Options for improvement of existing models (2)**

- **More balanced nutrition**
- **Farmers going up in the value chain**
  - **Decrease the role of independent milk collectors**
  - **Transparent payment of milk**
- **Mandatory minimal standards for milk quality Manage heat stress**
- **Adequate supply in essential veterinary medicines**
- **Continuing Professional Education for farmers and services**
- **Increase size of farm's herd and/or number of farmers**

## **Options for replication**

- **Active & transparent dissemination of lessons learnt from successful & unsuccessful models**
- **Serious SWOT analysis**
- **Dairy is not for any farmer!**
- **Mandatory training course for new farmers, new vets ...**

## General

- **The role of “Dairy Vietnam”**
- **Improve initial training (universities, agriculture schools)**
- **Continuing Professional Education**
- **Strengthen public-private & private-private initiatives especially in new locations**
- **Balance political wishes with realistic feasibility**
- **Private local services (vets, AI...) do generally better than public local services.**

# Key reasons for failure

- Failure happens when **STRENGTHS << WEAKNESSES.**
- A combination of weaknesses at the same time.
  - These failed or less successful models could succeed in the future if few weaknesses are addressed.
- High speed implementation / Insufficient SWOT analysis
- Low experience + Low milk price + High heifer price + High feed price
- Small milk production - No interested dairy processor
- Insufficient support services (public was there but inexperienced; whereas private was not there yet because of small production)
- Lack of learning from successful models
- Farmers discouraged because of lack of trust with dairy processors

# Conclusions (1)

- **An obvious finding:**
  - **Success happens when STRENGTHS >> WEAKNESSES.**
- **A good & operational SWOT analysis that focus on a location helps prevent mistakes & failures. Both public and private experts should be associated to ensure this is done for existing & new dairy models.**

## Conclusions (2)

- **M. Tru - Hoc Mon district, Ho Chi Minh City:**
- **25 years of experience!**
- **25 inseminations per day!**
- **25 smallholders per day !**



- **Good, full-time, local service providers (vets, inseminators, advisors...) are essential for the development of smallholder dairy in a cost-effective way.**