

The contribution of the livestock production on the growth of the Vietnamese economy and their challenge in the next 10 years

Hoang Van Tieu

Tran Thi Mai Phuong

Animal Husbandry research Institute

Thuyphuong – Tuliem – Hanoi – Vietnam

1. Introduction:

Even though Vietnam's economy has grown considerably during the 1990s. Its GDP per capita is still low at Dong 5.2 million/person in 1999 (about \$ 374) (according to ADB JA 3223 – VIE report). Structural transformation of the economy has reduced the share of agriculture in the economy, declining from 38% in 1990 to 24% in 1999 but Agriculture is still the backbone of the Vietnamese economy. It employs 70 percent of the labour force (52 million are farmers), contributes 24 % of gross domestic product and generates roughly 30% of export revenue. Vietnam's agriculture grew at a sustained rate of 4.3% per year between 1990-1998.

One of the main production of agriculture is livestock production. It provides 13%-18% of the value added in agriculture. In recent years, the livestock sector is growing strongly, especially in livestock population.

2. Strong growth of livestock sector

On the past ten years, Vietnam's livestock GDP has grown at an average of about 4.4 percent. The growth rate of livestock sector was the same as in the crop sector (4.4%) and induced mainly by growing domestic demand for meat (about 6% per year).

Table 1: Growth rate of Agricultural GDP (%)

	1990-1999	1990-1995	1995-1999
Total GDP	7.70	8.20	7.00
Extended Agriculture	4.20	4.10	4.40
Agriculture	4.30	4.10	4.70
Crops	4.40	4.10	4.80
Livestock	4.40	4.50	4.30
Agricultural service	3.00	2.90	3.10
Forestry	1.60	1.70	1.40
Fishery	4.40	5.20	3.30

Source: ADB – TA 3223 VIE report

The survey of Ministry of Agriculture and Rural Development (MARD) suggests that for livestock producers, the return to labour in livestock is higher than the return on other agricultural activities.

Table 2. Livestock Gross income and labour as a proportion of total

Farm size	Livestock gross income as a share of total agricult. gross income (%)	Non-Livestock gross income as a share of total agricult. Gross income (%)	Livestock labour as a share of total agricultural. labour (%)	Non-Livestock labour as a share of total agricult. labour (%)	Livestock gross income share/ Livestock labour share (%)
Small farms	74.96	25.04	59.26	40.74	1.27
Medium farms	90.43	9.57	69.45	30.55	1.30
Large farms	94.97	5.03	78.17	21.83	1.21
All farms	80.10	19.90	63.22	36.78	1.26

Source: *MARD survey 1999*

For small producers, with 59% of labour engaged in livestock, they can produce 75% of their agricultural income. That suggests that for these producers, livestock activities are 1.27 times more productive than other agricultural activities.

The small size of the holding is one of the characteristic of small farm system. Usually, few number of animal are raising in mix-species with 1-2 cattle or buffaloes, 3-5 pigs and dozen of poultry.

For the Medium size with 69.45% of labour engaged in livestock, they can produce 90.43% of their agricultural income, 1.30 times more productive than other agricultural activities. And for the large farm with 78.17% of labour engaged in livestock, they can produce 94.97% of their agricultural income, 1.21 times more productive than other agricultural activities.

Table3: Livestock and poultry population from 1997 to 2001 (in 1000 head)

Item	1997	1998	1999	2000	
1. Pig					
Population	17,635.9	18,132.4	18,885.8	20,193.8	21,747.0
Growth rate	4.22	2.82	4.15	6.93	7.7
2. Cattle					
Population	3,904.8	3,987.3	4,063.6	4,127.9	3,896.0
Growth rate	2.76	2.11	1.91	1.60	-5.6
3. Buffalo					
Population	2,943.7	2,951.4	2,955.7	2,897.2	2,819.4
Growth rate	-0.35	0.26	0.15	-1.98	-2.7
4. Poultry					
Population	160,550.1	166,382.0	179,323.0	196,100.0	215,8
Growth rate	6.04	3.63	7.78	9.4	10.0
Of which					
- Chicken					
Population	120,567.0	126,361.0	135,760.6		
Growth rate	6.91	4.81	7.44		
- Duck					
Population	39,983.1	40,021.0	43,563.0		
Growth rate	3.51	0.09	8.85		

Source: *Statistical yearbook – 2001*

Because of the population pressure, the urbanization and industrialization made the demand of animal products increasing rapidly. The protein consumption of Vietnamese is rather low to compare with other countries in the region. There is a good opportunity to promote animal production to meet the demand of domestic market.

Table 4: Animal products per capita

Item	Unit	1990	1995	1999	Growth rate in 10 years (%)
Live weight	Kg	15.21	17.99	22.43	4.44
- Pig	Kg	11.00	13.60	17.28	
- Poultry	Kg	2.52	2.66	3.43	
- Ruminant	Kg	1.69	1.73	1.72	
Eggs	Eggs	28.6	38.16	45.10	5.24
	Kg	1.40	1.91	2.26	
Fresh milk	Kg	0.14	0.28	0.52	16.44

Source: Le Viet Ly - NIAH - 2000

Pork is the most important source of animal protein in the traditional diet. The consumption of animal protein is varied between city and the countryside. People in the countryside need more energy for their hard working, then they can accept any meat (even with high fat content), while the people in the city only look for the lean meat. In the next few years, the pig production in Vietnam will be developed in order to meet the demand of domestic market and for exportation.

In fact, in the recent years, the increasing in liveweight supply mostly due to increasing herds rather than offtakes.

Based on the State Statistic Department, there are 1642 livestock enterprises in the whole country, in which 418 are pig enterprises (occupies 25.45% of the total livestock enterprises).

Table 5: Livestock enterprises in different ecological zones in 2000

Ecological zone	Total	Ruminant enterprises		Pig enterprises		Poultry enterprises	
		Number	Percentage	Number	Percentage	Number	Percentage
Whole country	1642	152	9.25	418	25.45	1072	65.28
Red River Delta	59	10	0.6	20	1.21	29	1.76
North East	28	7	0.42	7	0.42	14	0.85
North West	48	21	1.27	9	0.54	18	1.09
North central coastline	31	6	0.36	9	0.54	16	0.97
South central coastline	95	13	0.79	34	2.07	48	2.92
Central Highland	42	6	0.36	9	0.54	27	1.64
North East of HCM	1066	80	4.87	226	13.76	760	46.28
Mekong River Delta	273	9	0.54	104	6.33	160	9.74

Source: Le Viet Ly - NIAH 2000

The strong industrialization and urbanization lead to put more attention to promote the livestock enterprises (medium size and large size). The aim of this tendency is to meet the social demand especially the demand of the big cities and also to get more profit.

With this tendency the balance between the livestock and the Land is getting broken, and the result lead to pollute the environment. While the production of the ruminants still link closely with the land, the pig production can be considered as the bigger factor

Table 6: Herd size in different ecological zones

Ecological zone	Ruminant enterprises		Pig enterprises		Poultry enterprises	
	Number	Herd sizes	Number	Herd sizes	Number	Herd sizes
Whole country	152	300	418	238	1072	3456
Red River Delta	10	92	20	186	29	3499
North East	7	239	7	110	14	2052
North West	21	42	9	21	18	2000
North central coastline	6	281	9	120	16	2010
South central coastline	13	233	34	90	48	2118
Central Highland	6	160	9	96	27	2005
North East of HCM City	80	438	226	278	760	3776
Mekong River Delta	9	165	104	259	160	2953

Source: Le Viet Ly – NIAH 2000

It is easy to realize that the herd size of the livestock enterprises in Vietnam is small in comparison with other countries in the world.

3. Low productivity of livestock sector

There are many reasons explaining the low productivity of livestock sector including the low adoption of improved breeds by farmers, inadequate feeding practices and poor animal health. The limited access to improve animal breeds suitable to the needs of small holder farmers is one main reason for the low adoption of improved breeds by farmer

Adoption of exotic breeds by smallholders may be restricted by lack of access to exotic genetic (table 7)

Table 7: Proportion of producers obtaining pig breeding stock from various sources

Pig breeding stock source	Small farm (%)	Large farm (%)
Farmers/Traders	93.00	74.00
Government	5.00	16.00
Other private	1.80	5.60
Other	0.20	4.40

Sources: MARD survey –1999

The source of pig breeding stocks is related to the farmsize and the farm's location. Almost 93% of the small pig farms indicated that they obtained their pig breeding stock from either farmer or traders. Only around 5% of small farms obtained pig breeding stocks from Government source. In contrast, 16% of large farms obtained their pig breeding stocks from Government sources and further 5.6% obtained pig breeding stock from private businesses other than traders.

The situation is a little better for poultry breeding, even in this case, it is mostly large farms using state breeding centers (table 8)

Table 7: Proportion of producers obtaining poultry breeding stock from various sources

Poultry breeding stock source	Small farm (%)	Large farm (%)
Farmers/Traders	46.70	15.40
Government	14.19	22.33
Other private	27.60	52.10
Other	11.50	10.17

Sources: *MARD survey –1999*

As was the case of pig breeding stocks, the sources of poultry breeding stocks vary with farmsize and location. 42% of small producers obtained poultry breeding stocks from the government enterprises and other private enterprises. The figure is almost 75% for large farms. Only 15.4% of large farms obtain poultry breeding stocks from farmers and traders.

The periurban areas of Ho Chi Minh City and Hanoi are the biggest markets for animal products. The Red River delta, South Central Coastline, North East of Ho Chi Minh City and Mekong River delta can be considered as the main production zones.

The poor hygiene and vaccination of the remote areas lead to the result of disease infection and pollution.

4. The challenge of livestock production in the next 10 years

In the next 10 years, the livestock will be given the priorities to develop in order to reach 30% of value added in agriculture GDP. Pig production must be developed to meet the demand of domestic market and for exportation. Dairy cattle must be developed in order to have 100,000 dairy cows with the yield of 300,000 tonnes of fresh milk per year, strongly develop the poultry production to obtain the following objectives:

- To meet the demand of the domestic market on livestock products
- Finding out the suitable method to process the animal waste is an urgent strategy in order to keep the environment clean
- Better use of the livestock by-product.
- Developing the livestock production closely linked with crop production in a sustainable farming system to keep a healthy environment
- Increasing the livestock products for exportation
- To create new jobs for the farmers to improve their living standard.
- Decrease the damages to the environment (pollution from animal waste)

5. Strategies to develop the livestock production:

One of the big constraint of animal production development is the marketing problem. Due to low income, a large part of the population is still in deficit of animal protein, but the exporting of animal production is also an urgent issue. The MARD has decided to invest for improving the livestock in order to meet the demand of domestic and international market.

- Selection and improvement of animal breeding for good performance and adapted well with the local condition by using the local animal genetic resource to reach the following objectives:
 - + Pig: with lean meat of 55-58% and feed conversion is lower than 3 kg food/kg liveweight
 - + Dairy cattle: with more than 4.000 lit/lactation
 - + Beef cattle: more than 300 kg liveweight at 24 months
 - + Broiler chicken: liveweight at 7 weeks of age is about 2.5 kg with the feed conversion of about 2-2.5 kg food/ kg liveweight.
 - + Laying hen: Egg production: 280-300 eggs/hen/years.....
- Reducing the tax upon imported feeding material (soybean, corn..)
- Subsidize for meat exportation.

References

1. Statistical year book – 2000 Statistical Publishing House
2. Vietnam agricultural sector program – interim report of MARD – august 2000
3. Le Viet Ly – 2001- proceeding of workshop on food security, Chiangmai – Thailand – 2001
4. General Plan of agricultural researching in Vietnam - 2001