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Food consumption in Vietnam: food markets, food habits, diversity and trends

an analysis based on the VHLSS 2002

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INTRODUCTION

In July 2004, the Vietnam General Statistical Office (GSO) has published data of the last national household survey conducted in 2001-2002 (*Mục sông hộ gia đình năm 2002*), the VHLSS, the Vietnam Household Living Standard Survey. This working paper is a quick analysis of the food consumption data furnished by this survey.

It pretends to give a global view of the food sector in terms of food markets, food habits, diversity of consumption model, and trends. .

The objective is to update previous analysis conducted by the Malica research consortium (CIRAD/RIFAV/VASI/IOS) on Vietnamese food consumption (e.g. us Figuié and Bricas, 2003 in Moustier, Dao The Anh, Figuié ed).

Thanks to Paule Moustier and Nicolas Bricas for their support.

Analysis of trends relies on comparison with previous similar national surveys, conducted by GSO: VLSS 1992-1993 and VLSS 1997-1998.

In this document, we make clearly the distinction between "the household expenditure" and "the value of the household consumption". The first category refers to the value of the product bought or bartered by the household, the second one refers to these same products plus the home products (produced and consumed at home).

Table 1. Exchange rate

	1992-1993	1997-1998	2002
1 \$	11 500 VND	14 000 VND	15 300 VND

VND= dong, \$= American dollars

I - VIETNAMESE FOOD MARKET IN 2002

A - VALUE OF DOMESTIC MARKET

Food expenditure of Vietnamese households represents 51% of the total (food and non food) household expenditure.

By "food market" we mean the total of the expenditure of all the households for foodstuffs including drinks, and including food and drinks outside home. It excludes the value of self-produced foods. It has been assessed using data available on the value of household food consumption (food and drinks) and applying a calculated purchasing rate for the food consumed at home (this purchasing rate is 100% for outside home consumption).

In 2002, food market in Vietnam can be estimated around 110 000 billion of dongs (or approximately 7.2 billion dollars), see table 2.

Table 2. Value of food market in Vietnam, in 2002, including food and drinks outside home

1,000 VND (KVND)/cap/year (dongs 2002)	2002
Value of food consumption, inside home, KVND/cap/year	1,463.00
Purchasing rate (%)	78.2%
Expenditure for food consumption inside home, KVND/cap/year	1,144.11
Value of food consumption outside home, KVND/cap/year	228.48
Total expenditure for food consumption inside and outside home, KVND/cap/year	1,372.58
Population (million of inhabitants)*	79.727
<i>Domestic food market, billion of dongs 2002</i>	<i>110,000</i>
<i>Domestic food market, billion dollars, 2002</i>	<i>7.2</i>

*GSO, Statistical yearbook 2003

B - DOMESTIC MARKET, IMPORTATION AND EXPORTATION

This domestic market is important, in comparison with the value of exportations. In 2002, exportations for agricultural, and aquatic products reached 4.4 billion dollars (2.40 for agricultural products, 2.03 for aquatic products).

This market relies only to a small extend on import: in 2002, the value of imported foodstuff was 486 million dollars, (GSO, Statistical yearbook, 2003, p 325 and 329).

C - SELF-CONSUMPTION, PURCHASING RATE

The foodstuffs, bought or bartered, represent 78.2% of the value of the consumed food. But this rate varies a lot in relation with the product (see table 3). It is the lowest for rice and chicken meat (around 50%) and also low (between 60 and 70%) for products such as maize, eggs, cassava, banana and water morning glory.

Table 3. Purchasing rate of some foodstuffs

Product	Purchasing rate
	year 2002
rice	49.6%
sticky rice (nep)	73.4%
cassava	67.2%
maize	61.6%
tubers	76.7%
cabbage	86.7%
tomato	96.6%
water morning glory	69.9%
orange	89.5%
banana	67.8%
mango	87.9%
other fruits	86.6%
beef meat	99.2%
chicken	51.6%
pork meat	97.5%
dried fish and shrimp	97.5%
fresh fish and shrimp	80.4%
eggs	67.0%
tofu	99.2%
peanuts and sesame seeds	82.6%
noodle	98.8%
sugar, honey	97.4%

D - RURAL AND URBAN MARKETS

Urban market represents nearly 46% of the value of Vietnamese food market with only 25% of the total population (table 4). The importance of urban market can be explained by the fact that the value of the food consumption of one urban dweller is 1.9 higher than the one of a rural dweller. Moreover the purchasing rate is higher in urban area (95.9% for urban, 68.2% for rural).

Table 4. Food market in rural and urban area, Vietnam 2002

	Urban	Rural	Vietnam
Value of food consumption, inside home, KVND/cap/year	2,056	1,283	1,463
% of purchased food	95.9%	68.2%	78.2%
Expenditure for food consumption, inside home, KVND/cap/year	1,972	875	1,144
Value of food consumption, outside home, KVND/cap/year	586.2	120.2	228.5
Total food expenditure, inside and outside home, KVND/cap/year	2,558	995	1,373
Population in 2002 (million inhabitants)*	20.022	59.705	79.727
Domestic food market, billions of dongs 2002	51,000	59,000	110,000
Domestic food market, billions of dollars 2002	3.3	3.9	7.2
% of national food market	46 %	54 %	100 %

*GSO, Statistical yearbook 2003

E - A DECLINING FOOD POVERTY

The food poverty line is defined as the minimum level of expenditure to cover the purchase of food satisfying minimum caloric needs (2100 calories per day). This food poverty line is estimated in 2002 at 146 000 VND per capita and per month in urban area and 112 000 VND in rural area (p191) (0.31 \$/day and 0.24 s/day).

In 2002 9.94 % of the population is supposed to live under this poverty line, with a maximum rate of 28.05% the North West Mountain and a minimum rate of 3.23% in the South-East region. This food poverty is essentially rural: 11.89% in rural area, 3.86% in urban area.

The food poverty rate is continually decreasing: it was 14.98% in 1998 and 24.85% in 1993.

F - IMPORTANCE OF FOOD CONSUMPTION OUTSIDE THE HOME

The importance of food consumption outside the home needs to be underlined. It represents a market of 18,216 billions of dong (1.2 billion dollars), nearly 17% of the national food markets (table 5).

This market is particularly important in urban area where it represents 23% of the urban food market.

Table 5. Share of food consumption outside the home in urban and rural food market, 2002

Vietnam 2002	Urban	Rural	All country
Market of food consumption outside the home, billion dong	11,737	7,179	18,216
Market of food consumption inside the home, billion dong	39,484	52,229	91,216
Share of consumption outside the home in total food market	23%	12%	17%

G - REGIONAL MARKETS

As we have calculated the national food market, we can assess the food market for each region (table 6, see map in annex). Regional differences are linked to the population size, the value of the individual consumption and the rate of purchase. This rate is lower in the northern regions (less than 50% in North West region) and highest in the South East region (more than 95%). Big differences appear also in the value of the individual consumption in the different regions (from less than 1,300 KVND/cap/month in the North West, the North Central Coast or the Central Highlands regions to more than 2,500 KVND/cap/year in the South East).

The South East with only 15.8% of the population represents nearly 29% of the domestic food market.

Table 6. Regional food markets, Vietnam 2002

	Value of individual food consumption* KVND/cap/year	Regional food market, billion VND	% of national market	% of national population
North East	1,479	8,011	7.3%	11.5%
North West	1,247	1,481	1.4%	2.9%
Red River Delta	1,655	22,204	20.3%	21.9%
North Central Coast	1,237	8,632	7.9%	12.9%
South Central Coast	1,560	9,020	8.2%	8.5%
Central Highlands	1,296	4,341	4.0%	5.5%
South East**	2,597	31,468	28.8%	15.8%
Mekong River Delta	1,729	24,747	22.6%	21.0%

*purchased and non-purchased food

** Also named North East of South

II - FOOD PATTERNS

A - TRENDS IN INDIVIDUAL FOOD CONSUMPTION

The diet of Vietnamese is still dominated by rice, and vegetables (table 7).

Some trends observed between the two previous surveys (1993 and 1998) can be confirmed, such as:

- individual rice consumption is decreasing
- individual meat consumption is increasing and the ratio meat/fish is increasing,
- alcohol consumption is increasing

Many trends observed between 1993 and 1998 have been inversed between 1998 and 2002. That is the case of vegetables, eggs, oil and fat, tea and coffee and tofu in a lesser extend. The individual consumption of these products (kg/cap) shows now a decrease after an increasing period. On the contrary, the individual consumption of staple food other than rice increases after a decreasing period.

Some explanation can be found in the fact that these categories aggregate products which are known, from others data sources like the food balance sheets (see Figuié and Bricas 2003), to follow opposite trends.

That is the case of:

- the category oil and fat: vegetable oil consumption is supposed to increase to the detriment of animal fat
- the category "other staple food" includes tubers which consumption is decreasing and wheat which consumption is increasing.

More surprising is the trend observed for fruits. Data on fruits consumption are always little trustable regarding the importance of fruits consumption outside meals and outside home (Figuié and Bricas, 2004), which is difficult to estimate by consumption survey. As other sources mentioned an increasing of food consumption (Pham, 1997; National Institute of Nutrition, 2001; and less clearly FAO data), GSO goes on describing a decreasing consumption.

Table 7. Trends in food consumption, Vietnam, 1993-2002

kg/cap/month	1993	1998	2002
Rice, kg	12.77	12.53	12.03
Other staple foods (rice eq), kg	1.17	0.81	1.36
Meat, kg	0.80	1.17	1.28
Oil and fat, kg	0.11	0.33	0.23
Eggs, piece	1.21	2.35	2.22
Aquatic product (fish and shrimp), kg	1.12	1.13	1.13
Fruits, kg	1.88	1.48	0.82
Sugar, molasses, cake and milk, kg	0.24	0.40	0.41
Tofu, kg	0.25	0.40	0.36
Sauce (fish, soya,) litre	0.48	0.41	0.36
Tea, coffee, kg	0.04	0.14	0.09
Alcohol, beer, litre	0.33	0.45	0.57
Vegetables and beans, kg	2.39	3.12	2.53

Regarding the impact of these changes on the nutritional status of the population, we have to underline that malnutrition has considerably decreased over the last 15 years (Tuyen and al 2004): it affects in 2002 38% of children under five years old in rural area and 24% in urban area (respectively 60% and 41% in 1989). But at the same time transitional diseases are beginning to appear slowly: overweight and obesity reach 7.6% of urban population in Vietnam (people over 20 years old, NIN 2002). In this context, the increasing intake of meat between the two last surveys, combined with a decreasing intake of fruits and vegetables should be considered carefully. We have to notice that the consumption of fruits and vegetables (at the moment 110 g/cap/day in Vietnam) is still under FAO/WHO requirement: minimum 400 g of fruits and vegetables per capita and per day (excluding starchy tubers such as potatoes).

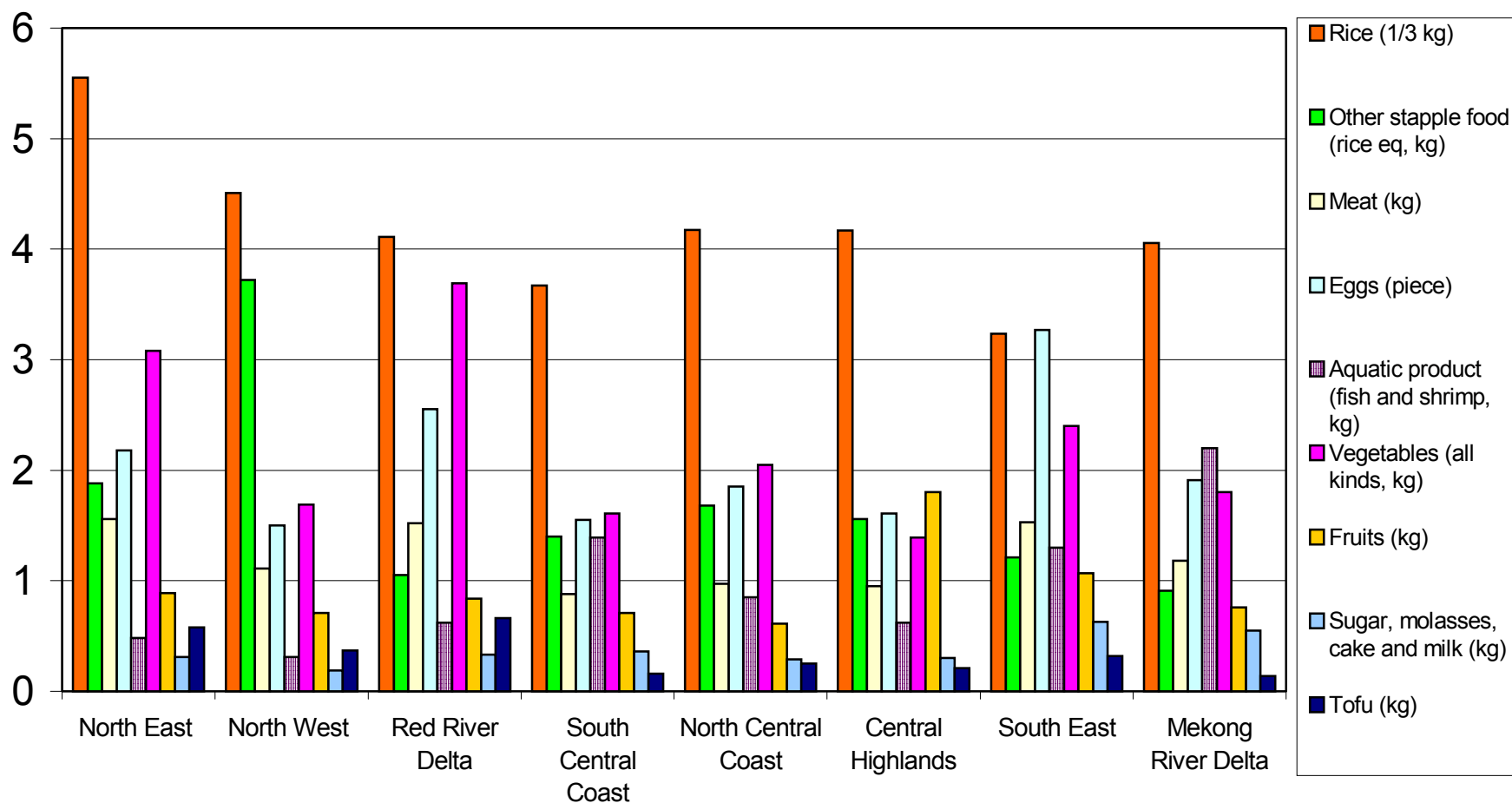
B - REGIONAL FOOD CONSUMPTION PATTERNS?

Significant differences of consumption appear in the different regions (figure 1). Diet is little diversified in the North West region and highly diversified in the South East: In the North West region, the consumption of rice is high, (2nd rank after the North East region), the one of other staple foods is the highest in the country (probably roots and tubers), and the consumption of animal products is low (the lowest consumption of fish in the country). The South East region shows an opposite picture: low consumption of rice, high consumption of meat, eggs, fish and vegetables.

Some region are marked by the importance of one specific product: vegetables in the Red River Delta; fish in the Mekong Delta, fruits in the Central Highlands and eggs in the South East. The South Central Coast is, with the Mekong Delta, the only region where fish is consumed in bigger quantity than meat.

Data on North East region draw a rather unexpected picture (regarding in particular the low value of the food consumption of this region): this region shows the highest consumption of rice but also meat and it holds the second rank for vegetables and fruits consumption.

Figure 1. Individual food consumption in the different regions of Vietnam 2002, cap/month



C - URBAN AND RURAL PATTERNS

Differences appear between urban and rural food consumption. Rural dwellers have a less diversified diet than urban ones: they consume more rice and other staple foods, and less meat, fish, eggs, fruits, vegetables sugar,... In comparison with the previous survey (1998), we can note that the differences with urban consumption, tend to increase for products such as meat, oil and fat, fruits, alcohol and particularly "other drinks". It tends to decrease for products such as eggs, but also rice and other staple foods, aquatic product, sweet product, tofu, peanuts and sesame (table 8).

Table 8. Urban and rural individual consumption, Vietnam 1998 and 2002

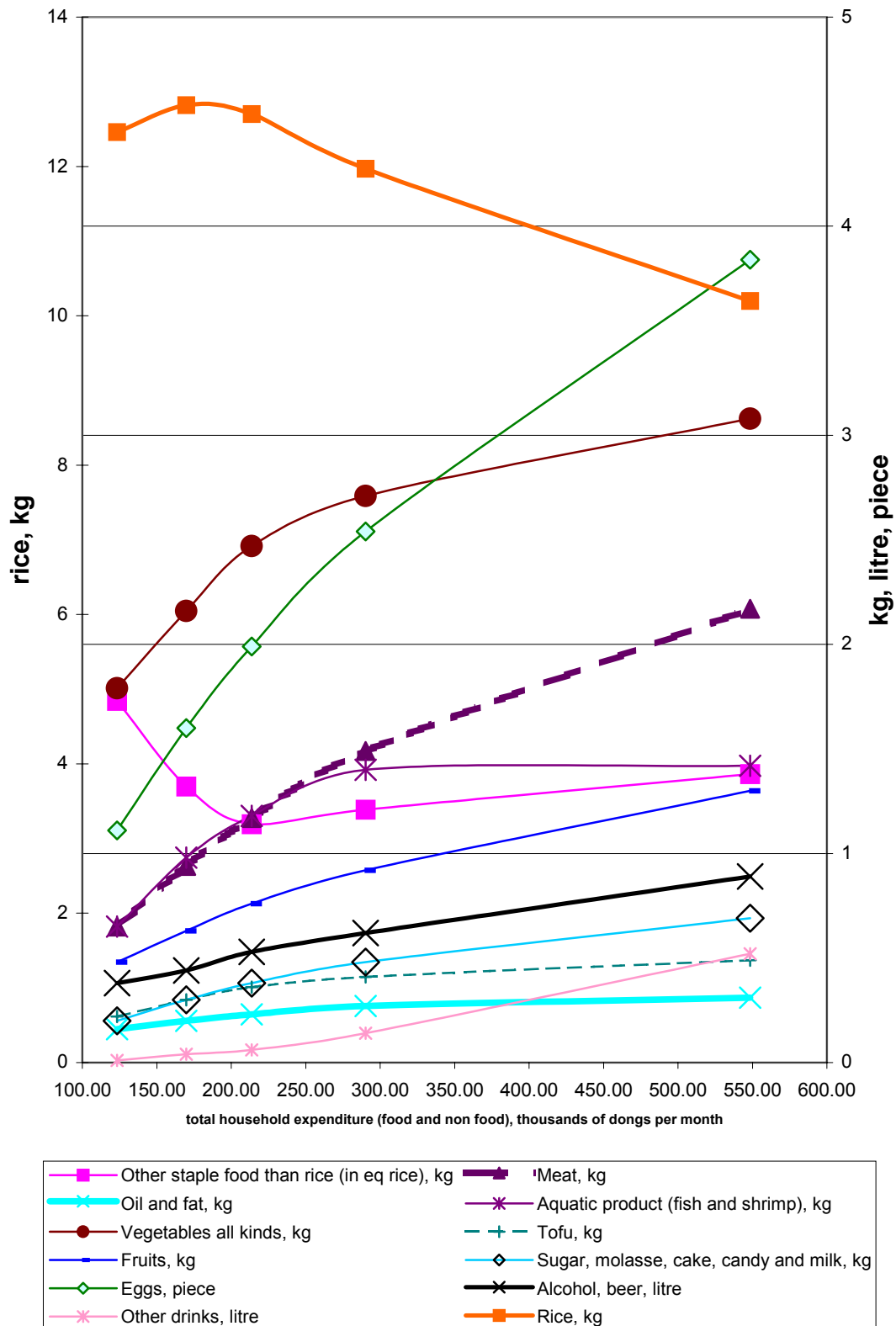
<i>per capita and per month</i>	1998			2002		
	urban	rural	urban/rural	urban	rural	urban/rural
Rice, kg	10.04	13.24	0.8	9.56	12.78	0.7
Other staple food (rice eq), kg	0.77	0.82	0.9	1.19	1.41	0.8
Meat, kg	1.58	1.04	1.5	1.81	1.12	1.6
Oil and fat, kg	0.38	0.32	1.2	0.28	0.22	1.3
Eggs, piece	4	1.87	2.1	3.36	1.87	1.8
Aquatic products (fish and shrimp), kg	1.27	1.1	1.2	1.23	1.09	1.1
Fruits, kg	1.84	1.38	1.3	1.11	0.73	1.5
Sugar, molasses, cake and milk, kg	0.58	0.35	1.7	0.55	0.37	1.5
Tofu, kg	0.59	0.34	1.7	0.48	0.32	1.5
Sauce, litre	0.38	0.42	0.9	0.36	0.36	1.0
Tea, coffee, litre	0.08	0.16	0.5	0.09	0.09	1.0
Alcohol, beer, litre	0.5	0.44	1.1	0.69	0.54	1.3
Other drinks, litre	0.24	0.06	4.0	0.43	0.07	6.1
Peanuts, sesame seeds, kg	0.16	0.18	0.9	0.05	0.07	0.7
Vegetables, beans, kg	3.61	2.98	1.2	2.83	2.44	1.2

D - SOCIO-ECONOMIC PATTERNS

Consumption differs also in relation with the income of the households (estimated here through the total expenditure). Like in the previous survey (1998) we can note (figure 2) that the consumption of all the foodstuffs increases with income except for rice and other staple food than rice.

In the poorest households, rice consumption increases with the income. Then it tends to decrease. But in 2002, the decrease begins earlier (since the 2nd quintile of income in 2002, since the third in 1998, see Figuié and Bricas 2003).

Figure 2. Food consumption and total household expenditure, Vietnam 2002



CONCLUSION. TRENDS DURING THE LAST TEN YEARS

Comparison can be made with previous national surveys (VLSS 1992-1993, VLSS 1997-1998) but is limited by the problem of homogeneity of the data.

The period from 1993 to 2002 has been a period of little inflation and price stability for food products.

Between 1998 and 2002, the value of individual food consumption has increased by 27% at constant prices (from 111.000 VND/capita/month in 1998 to 141.000 VND/capita/month in 2002).

If the value of individual food consumption increase in both rural and urban area, differences are growing: the ratio between the value of consumption in urban and rural area was 1.5 in 1998. It is 2.1 in 2002.

Self-consumption decreases in all households but Northern regions still remain little integrated to the market whereas regions such as South Central Coast, South East and Mekong Delta regions have a high and significantly growing purchasing rate (table 9).

Table 9. Trends in food purchasing rate between 1993 and 2002 (value of foodstuffs bought or bartered /value of total food consumption)

Purchasing rate of foodstuffs (%)	in 1993	in 1998	in 2002
Vietnam	68.1	75.2	78.2
North East	50.1	56.8	56.8
North West			48.4
Red River Delta	59.3	71.1	73.3
North Central Coast	60.3	64.1	65.3
South Central Coast	75.3	77.5	82.2
Central Highlands	68.9	73.1	74.4
South East	89.2	90.8	95.3
Mekong Delta	70.2	76.3	83.7

The increasing value of food consumption and the decreasing self-consumption rate, combined with an increasing population, contribute to a significant growth of domestic food market (see table 10).

Table 10. Value of food market between 1993 and 2002, at constant prices (2002) and annual growth (%)

	Food market				Annual growth rate	
	unit	1993	1998	2002	1993-1998	1998-2002
Value of food market without outdoor consumption	<i>billion dong</i>	53,120	78,900	91,713	11.0 %	5.1 %
	<i>billion dollars</i>	3.5	5.1	6.0		
Value of food market including outdoor consumption	<i>billion dong</i>	<i>not available</i>	91,918	110,629	<i>not available</i>	6.4%
	<i>billion dollars</i>		6,0	7.2		

Nevertheless the growth of this market is slowing down: the annual growth of domestic food market was around 11% between 1993 and 1998, it is now around 5 to 6.5 % between 1998 and 2002 (table 10).

The part of outside home consumption is increasing in this market (nearly 13% in 1998, 17% in 2002).

Urban market, with an increasing population (23% of the population in urban area in 1998, 25% in 2002), higher incomes and higher purchasing rate, is taking more and more importance (40% of the total market in 1998, 47% in 2002).

This overview suggests some remarks:

- Food poverty is declining. But to promote an harmonious development of the country, policies should be set up, aiming at reducing the increasing disparities between urban and rural area in food consumption.
- There is a necessity to consider food market, and outside home consumption as a growing sector, who should benefit the attention of policies, and research.
- To anticipate further trends there is a need for deeper and more detailed analysis (by type of vegetables, fruits, animal meat,...) on the quantities consumed: some trends are difficult to interpret and suggest to make comparison with other sources of data (e.g. Nutrition Survey or Food balance sheets).
- The recent increase of prices (7.7% during the first seven months of 2004, 2.8 and 1.8 the two previous years, *Courier du Vietnam*, 23 August 2004) suggests to assess the impact on the consumption of the different products.
- Avian flu is told to have contributed to the increase of food prices in 2004. Impact of avian flu on demand (in particularly for chicken, pork, beef, fish but also probably tofu) should be examined more carefully.
- Regions little integrated to market such as the North East Mountains have a diet much more diversified than regions more integrated such as the South Central Coast. This suggests to look more deeply at the relationship between the quality of the diet and the integration to market.
- In the context of a country in a situation of epidemiological transition, the decrease of fruits and vegetables consumption, if it is confirmed, should be considered very carefully.

Some recent works (Bridier, 2000; Figuié and Bricas, 2003) show the distrust of Hanoian consumers in the sanitary quality of fruits and above all vegetables (linked to the fear of chemical residues). Answers has to be given to consumers (e.g more numerous sanitary control and sanctions, reliable quality signs,...) so that this distrust does not contribute to a decreased consumption of fruits and vegetables.

- The change of consumption behaviour regarding the quality of foodstuff didn't reflect in the survey, but this phenomena is an important factor for consumption growth which need supplementary research.

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ANNEX

Map 1. Administrative regions of Vietnam

