Malica

Markets and agriculture linkages for cities in Asia

Food markets and agricultural development in Vietnam

Editors:
Paule Moustier, Dao The Anh, Muriel Figuié

November 2003

Markets and Agricultural Linkages for Cities in Asia (MALICA)

The MALICA consortium brings French and Vietnamese research institutes together. These include the CIRAD, the IOS – the Institute of Sociology of the National Centre of Social Sciences and Humanities, the RIFAV – the Research Institute on Fruits and Vegetables, the VASI – the Vietnam Agricultural Science Institute, as well as the Hanoi Agricultural and Forestry University and the Agricultural and Forestry University of Ho Chi Minh City. Its main objective is to reinforce the capacity of researchers, students, administrators as well as private groups in analysing food markets and city/country relations. These methods are applied to projects which aim at a correlation between local food production and local market demand, in terms of both quantity and quality, such as the regional periurban agricultural project, SUSPER, or the project about food behaviour and risk perception. Stakeholders' information and cooperation mechanisms are taken into consideration as a complement to classical technical and economic efficiency analysis of different stages in the commodity chains. Methods of consumption and commodity chain analysis are applied to two priority research fields: increasing quality in the food sector; and the comparative advantages of periurban and rural flows. The main activities over the past year have focused on the application of these methods to the vegetable, pork and wheat commodity chains and the analysis of the wholesale markets.

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Foreword

This document is the fruit of a collective work carried out at the request of the Department of Cultural Cooperation and Action (SCAC) of the French Embassy in Vietnam. The main aim is to demonstrate the new stakes resulting from the growth of the domestic market and to establish development strategies for the agricultural sector. Aware of these stakes, French and Vietnamese researchers from different disciplines and institutes came together to form a research consortium (MALICA). The SCAC wished to encourage this initiative and help us to communicate our initial results to decision-makers, both in Vietnam and for international aid, by means of this publication and its presentation during the seminar taking place on 11th December 2003 in Hanoi. We present our sincere thanks to Serge Snrech, Deputy Advisor for Cooperation, for his support and shrewd advice.

This document is the product of more than a year's collaboration within the MALICA consortium. Although not all of the research partners participated directly in this document with their own writings, they contributed by means of their work and their participation in the ideas debated within the group. We give special thanks to Dr Jean-François Lecoq, Dr Isabelle Vagneron (CIRAD) and Ms Bui Thi Thai (VASI). We hope that this debate will be pursued even more intensively after the appraisal of the initial stage of cooperation represented by this document.

We would particularly like to thank the directors of the partner institutes and the MALICA advisory committee headed by Dr Nguyen Van Bo, Director of the Department of Science and Technology at the Ministry of Agriculture and Rural Development; Dr Tran Van Lai and Dr Vu Manh Hai, Director and Deputy Director respectively of the RIFAV; Dr Trinh Duy Luan, Director of the Institute of Sociology at the National Centre for Social Sciences and Humanities; Dr Le Quoc Doanh, Vice-President of the VASI; Dr Dang Kim Son, Director of the Information Centre on Agriculture and Rural Development; Dr Gilles Mandret, representative of the CIRAD in Vietnam. We would also like to thank the university partners of the MALICA consortium: the Faculty of Economics and Rural Development at the Hanoi Agricultural University, its Dean, Dr Pham Van Dinh, and Vice-Dean, Dr Ngo Thi Thuan; the Faculty of Economics at the University of Nong Lam in Ho Chi Minh City, its Dean, Dr Pham Thanh Binh, and Vice-Dean, Dr Phan Thi Giac Tam.

The document is also the result of the participation of the referees who shared with us their comments regarding our work and who, most helpfully and with great indulgence, highlighted its shortcomings: François Geay, technical assistant at the Ministry of Foreign Affairs; Jean-Marie Cour, consultant with "Urban Forum" in Vietnam; Dr Nigel Poole, economist at Imperial College at Wye in the United Kingdom. Although not all of their comments could be taken into account in this document and certain gaps remain, it is more often than not because many of the necessary improvements require additional research. These comments are most important to us in orienting future work.

The results of our research have been made more attractive and accessible by the patient editing of Corinne Cohen and the translation from French to English by John Baker and Mair Hyman. We believe that, at least in part thanks to improved circulation of information between those involved, the Vietnamese food sector will rise to the challenge and seize the opportunities offered by the domestic market.

As editors, we therefore hope that, as a result of these different contributions, and despite certain dark areas and some rather broad views, we have succeeded in painting a picture which will help to orient both research works and the choices of decision-makers alike.

The editors:
Dr Paule Moustier, Dr Dao The Anh,
Dr Muriel Figuié

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Summary

Paule Moustier *(CIRAD),* ***Dao The Anh*** *(VASI),* ***Muriel Figuié*** *(CIRAD)*

The main objective of this document is to present the evolution of trends of the domestic market for agricultural products in Vietnam and to determine the opportunities and constraints that these changes represent for local agriculture. Indeed, the integration of Vietnam into the regional and international economy is generally seen as the main motor for transforming the economy, which explains that state policies take higher account of agricultural exports than of the domestic market. However, this difference in treatment is not based on an evaluation of the comparative significance of these sectors to meeting the economic and social objectives of the Vietnamese government.

This document highlights the changes over the last ten years (1991 to 2000) in food consumption (strongly influenced by demographic and economic parameters), crop production and food supply channels. The coordination between supply and demand is considered in the following dimensions: quantity, regularity, quality, prices and costs, distribution of incomes. Finally, particular emphasis is placed on the information flows and coordination mechanisms between private players in the food sector, who are at the very heart of adjustments between supply and demand.

The weight of the domestic market

Despite the exports boom between 1990 and 1997, Vietnamese agriculture is still mainly oriented towards the domestic market, which absorbs 90% of production. In value, the domestic food market represents twice that of agricultural exports, i.e. 5 billion dollars in 1998 (and more than 7 billion dollars in 2002 by extrapolation).

In terms of products, regions, production structures, quality and price characteristics, there are differences between the domestic market and exports, but there also exist overlaps: some channels are oriented towards both the domestic market and exports (rice, aquatic products), while others are mainly aimed at exports (coffee, rubber), and others still are marginally exported (fruit and vegetables, meat). Whereas for aquatic products the nature of the companies and the quality demands differ for the two types of outlet, they are similar for rice and pork.

Finally, the domestic market can be led to weigh on the trade balance if food imports – limited to less than 10% of food consumption in 2001 – develop with new trade agreements. Moreover, fertiliser imports, which presently weigh more in value than the imports of agricultural products, develop rapidly.

The growth of the domestic market

The domestic food market has experienced considerable growth: it increased in value by 46% between 1993 and 1998. From 1991 to 2000, the increase was particularly strong for meat (7% per year), vegetables (6% per year) and imported food products such as wheat (8% per year) and oils (6% per year).

The growth of the Vietnamese market is linked to the following three main factors: demographic growth, urbanisation and the increase in incomes (with a link between these last two phenomena).

With a population of 76.3 million inhabitants according to the 1999 census and almost 80 million in 2002, Vietnam is the most densely populated country in the region after Singapore. Annual demographic growth is estimated at 1.7% per year. The rate of urbanisation - 25% in 2002 - is relatively low compared to the average for South-East Asia (36%), but it will rise, with a demographic growth rate in the cities estimated at 3.8% per year for the period 1998-2020 compared to 0.1% in rural areas (Cour, 2001).

Although they only concentrate 23% of the population in 1998 (and 25% in 2002), the cities represent 40% of the domestic market in value (1998), due to the differences in incomes between rural and urban areas (the cities account for 70% of the GDP) and the lower share of self-consumption (5% in urban areas compared to 35% in rural areas). The rise in incomes has been a continuous phenomenon since the 1990s, with a growth rate of the economy of 7% per year in recent years, much higher than neighbouring countries (4% for Thailand, for example).

Diversification of consumption and quality demands

The range of food products is diversifying in favour of meat, fruit and vegetables and street restaurants. The demand for products of specific quality, like flavoured rice or lean pork, is increasing. However, urban consumers express increasing concerns with regard to the health quality of food products (especially for vegetables and pork).

The few quality signals provided to reassure consumers, for example for clean vegetables, have encountered little success due to their low credibility and the absence of reliable controls.

A satisfactory response of production in quantity…

Local crop production has shown its capacity to meet increasing local demand. This response has, for the most part, been supported by the political context (allocation of land to peasants, withdrawal from commercialisation by the state). During the past ten years, pork production has increased by 5.8% per year, corn by 11.2% and vegetables by 7% per year. Rice production has increased by an average of 5.6% per year, 80% of which is attributed to the increase in crop intensity and yields, and 20% to the increase in area; this trend may continue as there is still a potential for growth of these two parameters in many regions. However, rice production provides poor incomes for producers who, for about a decade, have combined the process of intensification of rice-farming with diversification, although the process of diversification is slow: rice still occupies more than 60% of farmed lands (this figure was 70% in 1991).

…yet unsatisfactory in regularity and quality

However, this quantitative appraisal masks problems of coordination between supply and demand. On the one hand, production does not always succeed in supplying the market in regular fashion all throughout the year. Thus, the supply of temperate vegetables and corn experiences shortages for five months in the year, leading to costly imports from China. On the other hand, production does not totally satisfy demand in terms of quality.

Low and unequal creation of wealth

Agriculture accounts for more than 60% of workers over the age of 15, but this percentage is tending to fall. The contribution of agriculture to the GDP (23% in 2001) is lower than that of industry and services. In rural area, it is nevertheless at the 70% level.

Finally, agricultural growth is reflected in the increasing gaps in incomes, explained for the most part by differential access to factors of production and commercial services, and transport. The size ratio between the smallest and largest farms is 2 in the Centre and 10 in the South. On average, the farms are characterised by their small size (9,000 m^2, i.e. less than one hectare, per household).

Low level of interaction of agriculture with the other economic sectors

At present in Vietnam, it is in the agricultural and food processing sectors that the rural population finds employment, rather than in non-agricultural jobs whose contribution to rural incomes has stagnated at less than 20% since 1990. This is due in particular to certain areas being physically cut off thus damaging the profitability of rural companies, as well as to problems of economic access to outlets. In the Red River delta, labour is under-employed in rural areas at a level of more than 20% of working time, but it cannot be re-deployed in the industrial sector which is capital-intensive and labour non-intensive.

Agriculture is less and less productive compared with the other sectors. The ratio between non-agricultural and agricultural productivity increased from 4.4 in 1986 to 7.3 in 1998 (Cour, 2001). The food processing sector is still little developed: it represented 6% of the GDP in 1996, much less than primary production. However, research conducted in other countries shows that industrialisation, highlighted as a priority by the Vietnamese government, relies on the increase in agricultural productivity, notably through the development of agri-business, like in Taiwan.

It is very important to increase agricultural productivity, by linking it to the development of non-agricultural activities in rural areas, in order to absorb the labour force, notably in food processing.

Imperfect market mechanisms

The process of economic reform has improved access to the market for both producers and consumers, in rural and urban areas alike, causing a reduction in the rate of self-consumption. The ratio of the non-agricultural population to the agricultural population rose from 0.39 in 1986 to 0.47 in 1998 and should reach 0.96 in 2020 (ie, a farmer must feed him/herself plus one non-farmer).

Market system organisation depends greatly on the type of product and the location of the production zones in relation to the destination market. In the case of perishable goods, such as leafy vegetables, they mainly come from peri-urban zones (less than 50 km from the cities) and the markets or shop retailers are supplied directly by producers or collectors (who are also often producers) bringing small quantities (a few hundred kilos per day) using two-wheeled transport.

In the case of other products (onions, fruit, meat, etc.), there is an additional link in the person of the wholesaler who buys from the collectors. Food marketing in Vietnam is characterised as disorganised by many authors, but it nevertheless satisfies the supply function at very low costs (15% commercial margin for rice, 20% for pork, 45-50% for vegetables). These levels can be linked to the low opportunity cost of labour, which is unskilled and highly available, the short market chains, competitive trade and the minimal character of services added to the products.

Moreover, the organisation of the marketing channels into networks satisfies the dispersed characteristics of production and the transport constraints (limited access to motor-driven vehicles and refrigeration). However, the marketing channels are still not capable of translating demands for quality into income-generating opportunities for produ-cers, even when the latter have the technical capacity to do so: this would require multiplying the producer associations capable of indicating and communicating improved quality procedures, establishing internal and external quality controls together with the public authorities and defining, together with the traders, differentiated price strategies according to quality.

Agricultural production must adapt to the evolution of distribution structures, which is tending towards higher levels of concentration. In both Hanoi and Ho Chi Minh City, the municipalities have planned a network of wholesale markets, with a view to eliminating informal markets and travelling vendors. Furthermore, large volume distribution is developing. At present, there are only 3 hypermarkets in Vietnam, located in Ho Chi Minh City. This is compared to 78 hypermarkets in Thailand. However, the number of supermarkets in Hanoi and Ho Chi Minh City has now reached 70, whereas ten years ago there were none. The impact of the changes in distribution in

terms of employment and end costs needs to be better quantified. At present, the large volume distribution system targets only a well-off clientele due to the higher sale prices and the requirement for more complex means of transport than for local distribution. In European or Latin American countries, the evolution of more concentrated distribution systems has caused an increase in the margin between production and consumption and a reduction in employment in the food trade sector, partially compensated for by the development of the transformation sector. The indirect costs of food in terms of energy for transport and transformation have also increased considerably in developed countries. These phenomena have important implications for developing countries such as Vietnam.

Peri-urban agriculture under threat

Due to their proximity to the market, peri-urban zones (less than 50 kilometres from the urban centre) play a very important role in supplying numerous perishable goods (vegetables, meat, eggs, milk). Moreover, these zones fulfil many non-economic functions: social insertion of low-skilled populations without employment in the cities (30% of the population of the province of Hanoi is employed in agriculture); increased green areas in the cities; protection against floods. However, peri-urban production is under serious threat from the expansion of construction areas. (This is expected to lead to a 25% reduction in agricultural area in the coming ten years for the province of Hanoi). Furthermore, agriculture must demonstrate its non-polluting character and the safety of its products in order to be allowed to remain close to the cities; as over-consumption of chemical inputs and the use of polluted water have been attested, various national and international programmes are currently combating these problems.

The levers of change

This appraisal has allowed us to highlight the key variables which will determine the future evolution of the domestic markets: (i) demographic growth; (ii) demographic imbalances between regions (deltas/uplands, town/country); (iii) the standard of living of households; (iv) health crises; (v) competition from the international market; (vi) access to land; (v) the capacity of organisation of the trade and the consumers ; (vi) the involvement of the state in supporting the private sector (quality controls, credit, transport, training, concerted planning of the markets). On the basis of hypotheses regarding these variables, the future trends of the domestic markets could be simulated, as well as their impact on employment and incomes in the different sectors. New policies could then be defined and implemented, with the support of research.

Introduction

Paule Moustier *(CIRAD)*

Objectives

Since the beginning of the Doi Moi policies in 1986, the Vietnamese government has wanted to maintain a steady rate of economic growth while at the same time controlling the development of inequalities and poverty (Socialist Republic of Vietnam, 2000). To achieve this objective, Vietnam should strengthen the competitiveness of the different economic sectors in the regional and international markets and accelerate industrialisation.

When these strategies integrate the agricultural sector, the latter is above all considered as an exporter (coffee, rubber, fruit and vegetables, tea, etc.), with a concern for competitiveness on the regional and international markets. As for strategies for fighting against poverty, they are centred on support for target populations in rural and urban zones and for programmes to improve infrastructures and services (education, credit, etc.). They are designed as "corrections" of the problems posed by economic growth and are rarely linked to policies of market development [1].

Despite undeniable past success, policies oriented towards exports and industrialisation are, at present, limited. The coffee sector illustrates the fragility of export strategies due to the price instability on the international markets. Between 1999 and 2003, the price of coffee fell from 1,400 to 340 dollars per tonne, causing losses of more than 400,000 dollars per year to the planters of the Dac Lac province (Thuy Phuong, 2003). The fragility of exports also results from the socio-political troubles which the countries of destination might experience at any time. Thus, until the outbreak of war, the major customer for tea exports was Iraq (Vietnam Investment Review, 2003).

While the entire attention of policies, the media and social science analysts is turned towards agriculture for exportation, the domestic markets are undergoing profound changes, due to three parallel trends: urbanisation; the rise and differentiation in living standards; cultural changes as regards food habits. These evolutions provide tremendous opportunities for the agricultural sectors which are capable of satisfying local demand. The experience of other developing countries demonstrates that taking into account both domestic and export markets, avoiding the extremes of only inward- or outward-oriented strategies, has proved efficient [2]. The volatility of international markets, like new demands with regard to the reduction of environmental and food risks, should encourage the best-possible exploitation of local potentialities, be it in terms of production or markets.

Although domestic markets have not been sufficiently taken into account to date, it is partly due to the difficulty in collecting data as the commodity channels of the domestic market are more diffuse and varied than the export channels, and sometimes qualified as informal and insufficiently structured. There is also the difficulty in interpreting the very quickly changing tendencies, such as those of food consumption. One of the objectives of this document is to begin to fill in the gaps, taking account of the specificities of the food markets, which mean that the approach must be centred on the dynamics and interactions between players.

[1] There nevertheless exist certain macro-economic works demonstrating the link between the development of the market (for exports) and the reduction of poverty (Winters, 2002).

[2] Regarding the dangers of strategies oriented towards foreign markets, see: Witton, Browett, Gertzel, Leaver, 1988, for the case of Indonesia; for Brazil: Hollist, Tullis, 1987; for Central America: Conroy, Murray, 1996; for the beneficial interactions between the domestic market and the export market in Taiwan, Tin-Yin Liu, 1999.

The main objective is to evaluate the opportunities and constraints presented by the domestic food product markets in order to fulfil the objectives of creation of wealth and improvement of health in the different regions and sectors of the country:

- What is the economic weight of domestic food markets? What place do they occupy in relation to the export markets?
- What is the demand of the domestic food markets in terms of quantity, quality and diversity of products? Are agricultural production, marketing channels and processing sectors capable of satisfying the evolutions of food demand in terms of quantity, quality, cost and creation of stable incomes?
- How can the policies influence the changes in progress to achieve the different economic and social objectives? What is the place of research and development in orienting the actions of policies and private operators?

Plan of the document

What do the domestic and export markets cover in terms of products, regions, type of company? What is the weight of these two types of market for the different products? This is the object of the first part.

The second part is devoted to demographic trends: population growth, urbanisation, population distribution between the regions, the impact of policies. Indeed, these trends have direct repercussions on food demand, the division of labour between producers and non-producers and thus on the possibilities of incomes for the agricultural sector. The socio-economic characteristics of the Vietnamese population will also be presented.

What are the consequences of these demographic and economic evolutions on food consumption and thus the outlets for agricultural commodities? The third part presents the evolution of demand in quantity and value, the various trends according to the type of product and the socio-economic profile of the households, as well as the share of local and imported products in consumption. The qualitative changes in urban demand are then analysed, in particular requirements with regard to health quality.

How can production (fourth section) and marketing (fifth section) respond to these evolutions? A favourable political context has facilitated the growth of food crop production. The quantities are specified by product and by region of the country, as well as the structural characteristics of Vietnamese agriculture which will be decisive for the future evolution of food supply: access to land, labour, services. The changes in production in terms of quality are described. Finally, the translation of these changes in terms of incomes for the farmers and the ratchet effects on the other sectors of the economy are presented.

The commodity channels – all of the economic players between the producer and the consumer – are the subject of the fifth section. Are they capable of transmitting and adjusting the change in supply and demand? Their organisation and efficiency in terms of quantity, quality and price are illustrated through the examples of the vegetable, pork and rice sectors. Two evolutions essential to the development of the sectors are then presented: wholesale and retail market planning and the rise of large volume distribution.

The sixth part is devoted to the evolution of local food supply, using the case of peri-urban agriculture, and the consequences of these changes on the different roles of this multi-functional agriculture.

Finally, the key-variables for trends are presented. We conclude by showing how policies and research can accompany these trends.

Box 1. Sources used and reliability of data

As data do not exist for all the years in the reference period of this study (1991-2000), it is occasionally necessary to extrapolate. The sources used are as follows:

- for demography, the censuses of 1979, 1989 and 1999;
- for consumption, the GSO survey of household living standards GSO (1993 and 1998); the NIN survey (2002); the FAO food appraisals (2001);
- for production and prices, GSO data for the different years;
- for production, imports and exports in value, the FAO data, which stop in 1999;
- for production, imports and exports in quantity, we used the data from the Ministry of Agriculture and Rural Development, Food Balance Sheets, 2001. These are different from the data published on Internet by the FAO (FAOSTAT), as they incorporate varied data sources, both official and unofficial.
- for consumption, the research works carried out by the CIRAD and the IOS in 2002, on the vegetable sectors, the CIRAD-RIFAV-VASI programme; on the pork and rice sectors, the works of the VASI in collaboration with the CIRAD (1997–2002). The IFPRI also conducted works on the supply and demand of these three products in 1999-2000.

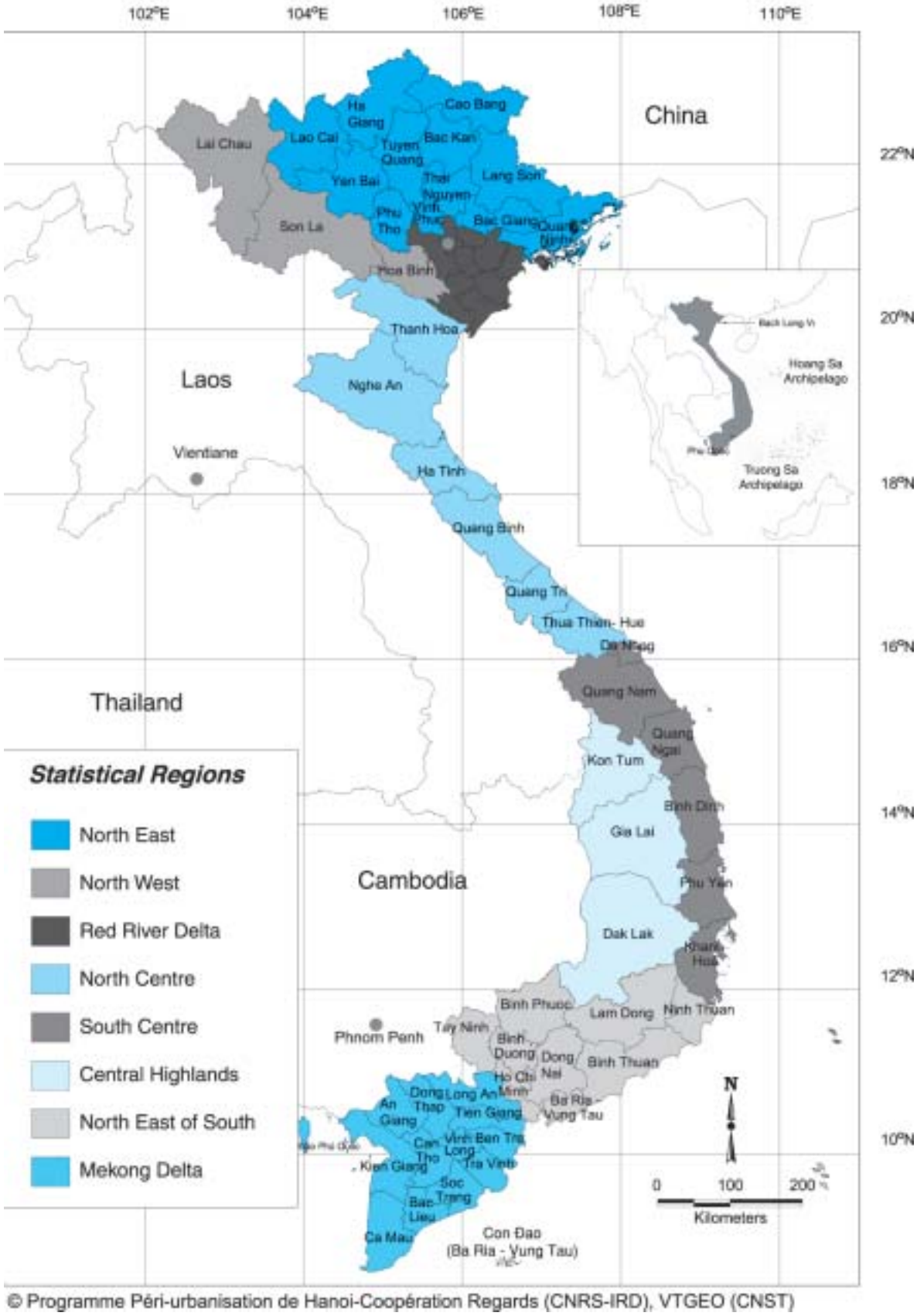
The document is limited to a presentation of past and present trends. It could act as a basis for a future workshop which would test the different trends of evolution based on a series of hypotheses concerning the key parameters which influence consumption, the commodity channels and production.

The statistical data should be used with caution. Indeed trade, notably with China, is underestimated. Comparison of data from different sources highlights the considerable disparities, for example between the GSO, the NIN and the FAO with regard to consumption; or between the GSO and our own surveys on the price of vegetables. As far as possible, it is thus indispensable to cross-check different data sources and to specify the data collection method. It is also necessary to establish trusting relations with the agents of statistical institutions and the operators in the commodity channels. Certain data are not available, for example regarding food processing companies, without it being easy to establish whether the data have not been collected or whether they exist – for example at the Ministry of Industry – but are yet to be located. We indicate the data which is unavailable, for which it would be necessary to set up relevant observation systems.

Exchange rate

1 American dollar = 15,000 dongs (2000)
11,500 dongs (1992)

Map 1. Administrative regions of Vietnam



Domestic market and foreign market

Paule Moustier *(CIRAD)*

What do the export markets and local demand represent in terms of product, relative importance and quality and price requirements? The products can be classified according to the following typology: dual market products (rice, maritime products, etc.); export products (coffee, tea, rubber, etc.); and little-exported products (fruits and vegetables, meat, etc.). The localisation and nature of the companies according to the outlets are outlined.
Comparing markets, in terms of value and tonnage, places the importance of exports into context with regard to the domestic market: agricultural exports represent about 10% of total production and half as much as the domestic market in value. After 1990, agricultural exports increased considerably, but since 1997, slowing growth has been followed by a fall. The share of rice is falling whereas that of maritime products is rising (each product represents about 30% of exports). The volatility of international markets is illustrated by the evolution of rice and pork exports.
At the same time, imports are experiencing an increase which could result from the freedom of trade in the ASEAN framework. The opportunities for domestic and foreign markets are finally compared in terms of quality and price demands for both rice and pork. The domestic markets can constitute a pre-exportation test, even if the quality demands are not always similar.

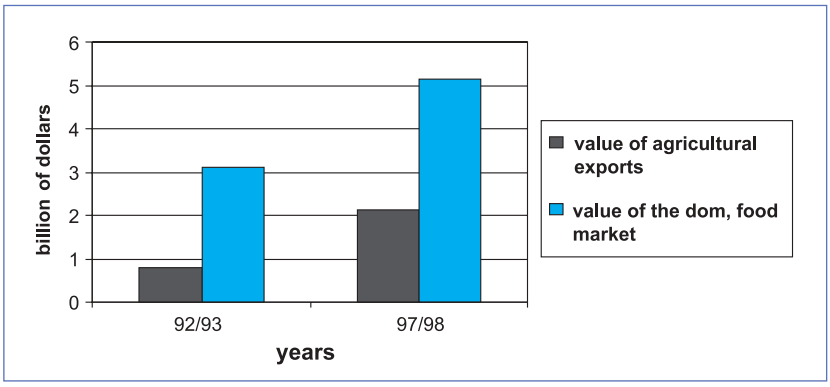
Which food products are destined for exportation? Or for the domestic market? In what quantity and for what value? How are these two markets inter-related? What proportion do imports, exports and local production represent? This is the object of this chapter.

1. The importance of the domestic market

Be it in tonnage or value, the agricultural domestic market is much more important than exports. In tonnage, exports only represent 10% of the total food production - food production accounting for more than 80% of agricultural production (see table 2). According to calculations made by Nicolas Bricas and Muriel Figuié, the value of agricultural exports is half the value of the domestic food market (see figure 1).

Besides, comparing the pork sector, oriented towards the domestic market, and coffee sector, destined for exportation, shows that the former releases a value added of more than twice the latter (table 1). As regards the rice sector, end domestic consumption represents twice the exports (Nielsen, 1996).

Figure 1. Domestic food market (not including out-door consumption) and agricultural exports



Source: estimation by Nicolas Bricas and Muriel Figuié, from GSO data (VLSS) and FAO data (FAOSTAT, category "agricultural products, total export value"), in current prices.

Table 1. Value added in the different sectors (in billion of dongs)

	Rice	Pork	Coffee	Fresh maritime products	Transformed maritime products	Fruits, vegetables, nuts, tea, jute
Local end consumption	36,567	11,612	529	8,438	1,079	17,014
Intermediate consumption	5,315	679	483	7,999	2,608	10,580
Exports	12,693	1,028	5,848	3,656	9,518	119,620
Value added	32,692	7,023	3,077	12,014	3,150	9,856

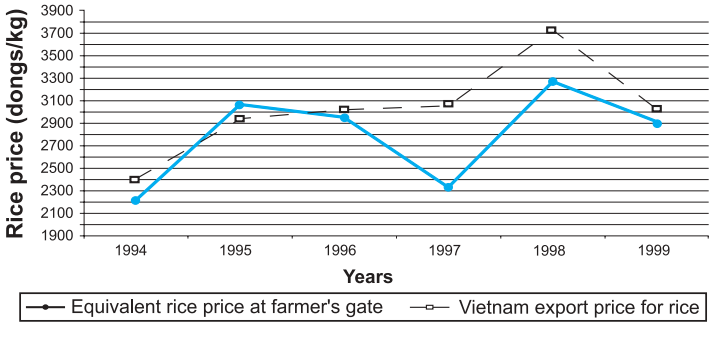
Source: Nielsen (1996).

Box 2. Are exports more remunerative for farmers?

The – few - elements available suggest that the foreign markets are not always more remunerative than the domestic markets. Thus, in the Red River delta, the prices received by the producers on the local market are, for certain years, only very slightly lower than the price on the international market (see figure A, Jesus, F., Dao The Tuan, Le Thi Chau Dung, Le Thi Nham, Dao Kim Mien, 2000). On the other hand, flavoured rice, the price of which is 50% higher than ordinary rice, offers better possibilities to improve incomes (see the fifth chapter).

In the case of the pork sector, the farm gate price in Vietnam is far lower than that of other countries, such as Australia, Taiwan or Japan. However, the price of lean meat is 1.3 to 1.6 times higher than the Chicago price (Tran Cong Thang, 2003). In Vietnam, the cost of food is twice as high as in the United States, which limits the scope for manoeuvre to improve the quality in the sector. Another example, in 2001, the price of corn was 115 US$ per tonne, whereas it was 84 US$ per tonne on the world market (Dao Duc Huan, Vu Trong Binh, Dao The Anh, Lecoq J.-F., 2003).

Figure A. Evolution of farm gate price for the local market in the Red River Delta and world price, 1994-1999 (dongs/kg)



Source: CIRAD/VASI-Ecopol.

2. Specific and common features of outlets

2.1. In terms of products

According to the type of market, three types of sectors or products may be distinguished (see table 2 and figure 2):

- the sectors oriented towards both exports and the domestic market (dual-market products) – the proportion exported represents between 10 and 40% of production in tonnage –: rice, fish and seafood, groundnuts, cassava;
- the sectors mainly oriented towards exportation (export products) – the proportion exported represents more than 60% of production –: coffee, rubber, tea, treenuts, spices;
- the sectors mainly oriented towards the domestic market – the proportion exported represents less than 6% of production –: fruits and vegetables, meat, dairy products, corn.

Table 2. Domestic and foreign outlets by type of food product in 2001 (tonnes)

	Production	Exports	Local use	Exports/production
Dual-market products				
Paddy rice	20,620,715	3,729,458	16,891,257	18.09
Fish and seafood	1,761,700	235,845	1,525,855	13.39
Groundnuts	2,625,500	78,163	184,337	29.78
Cassava	2,806,400	1,218,182	1,588,218	43.41
Export products				
Coffee/tea	1,218,800	999,415	219,385	82.00
Treenuts	70,200	43,672	26,528	62.21
Spices, incl. Pepper	47,308	40,182	7,126	84,00
Little-exported products				
Fruits	4,286,400	133,884	4,152,516	3.12
Vegetables	6,997,100	1,500	6,995,600	0.02
Pork	1,415,500	73,000	1,342,500	5.16
Meats (excl. Pork)	502,375	0	502,375	0.00
Oil-producing plants (excl. peanuts & palm oil)	1,299,647	0	1,299,647	0.00
Sweeteners	1,396,132	78,669	1,317,463	5.63
Eggs	200,500	0	200,500	0.00
Pulses	70,200	290	69,910	0.41
Corn	2,122,800	0	2,122,800	0.00
Potatoes and sweet potatoes	1,970,950	0	1,970,950	0.00
Animal fats	78,362	0	78,362	0.00
Dairy products	408,946	0	408,946	0.00
Total	**61,833,735**	**6,594,160**	**5 ,239,575**	**10.66**

Sources: Food Balance Sheets 1997-2001 (Ministry of Agriculture and Rural Development – 2002) - The data concerning the export of fruits have been completed by estimating exports of fruits to China (RIFAV-CIRAD, 2002) using data from customs posts. The data do not include palm oil, which is completely imported (171,000 tonnes) and of which a proportion (44,500 tonnes) is re-exported, or sugar, for which it is difficult to discover the proportion of exports in local production as it is produced locally as well as being imported and exported. The data for fish and seafood would seem not to include transformed products (for which there is no data available in 2001), a fact which would add 40% to total exports (a total of 392,483 tonnes in 2000, instead of 250,548 tonnes for non-transformed products).
The data for the export of fruits and vegetables only refer to fresh exports. In 2001, the quantity of fruits transformed amounted to 190,000 tonnes and that of vegetables to 129,700 tonnes. Considering that 80% of transformed products are exported, we obtain an export rate of 5% for fruits and 2% for vegetables.

2.2. In terms of regions

Most products for exportation are localised in the south of the country (rubber, coffee, tea, rice, fish), whereas products for the domestic market are cultivated in all regions. In the Red River delta, the horticultural and pig sectors are oriented towards both the domestic market and exports.

2.3. In terms of companies

The companies oriented towards exportation are generally more specialised and larger. There is a marked difference for the fish sector: we find large-scale private companies which dominate the export market whereas, for the local market, the production and commercialisation companies are numerous and small-scale. The difference is much less striking in the case of the fruit, vegetable and flower sectors: here we often find the same producers who sell in the regional and domestic markets (China, Japan, Russia), with networks of different collectors.

2.4. In terms of demand for quality

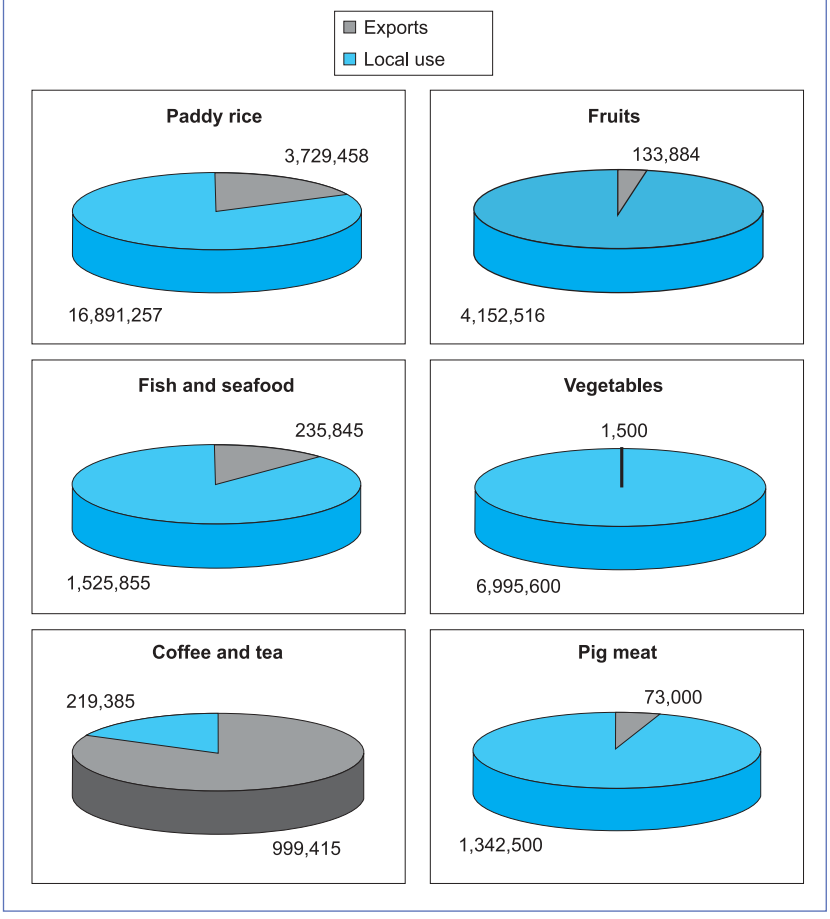
For certain authors, foreign markets exercise pressure to improve the quality of products on the domestic markets; and the domestic markets can represent a good test before exportation.

These remarks should be qualified. The quality requirements on the export market and the domestic market are not always identical; for example, Vietnamese consumers like fruits with stones which have been harvested unripe, which cannot be exported in this form. As another example, while concerns regarding the health quality of fish destined for exportation are centred on antibiotic residues, local consumers express a high demand for fish containing no formalin preservatives. On the other hand, for the pork sector, export demand, as in the Vietnamese towns, is oriented towards lean pork. The rate of lean meat from Vietnamese pigs is 34%, whereas it is at an average of 55% for the world (Tran Cong Thang, 2003).

Whatever the outlet, gaining shares of the market and increasing incomes relies on satisfying quality requirements. It is also necessary for the suppliers to ensure a regular supply and to honour the contracts.

The efforts made on one market can be useful for the development of the other. Thus, the domestic markets can serve as a test before beginning the process of exportation, especially to the more demanding markets in terms of regularity and quality (supermarkets, restaurants). Moreover, experiments in the normalisation and organisation of quality controls implemented for the export can inspire similar measures for the domestic markets.

Figure 2. Proportion of domestic and foreign outlets for major products (in tonnes, 2001)



Sources: see table 2.

Figure 3. Agricultural exports, excl. maritime products in 2001 (in value)

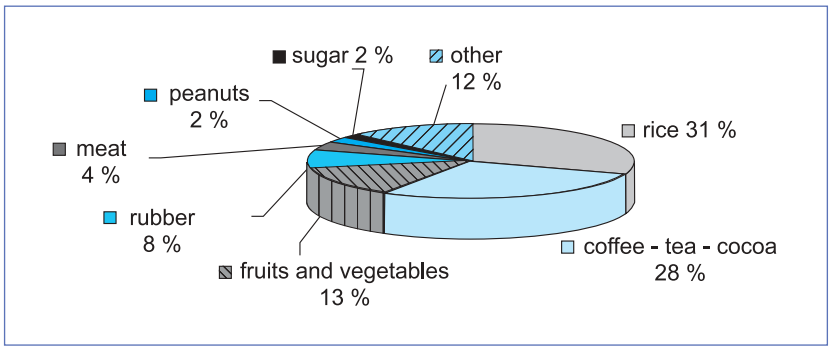


Figure 4. Agricultural exports, incl. maritime products, in 1999 (in value)

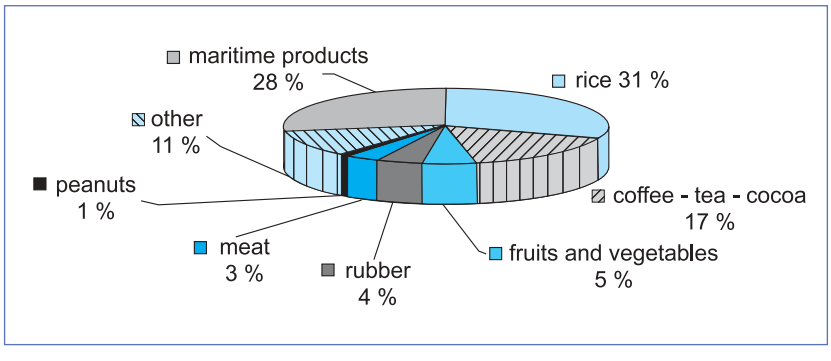


Figure 5. Evolution of agricultural exports, excl. maritime products (billion dollars - 1999 to 2001)

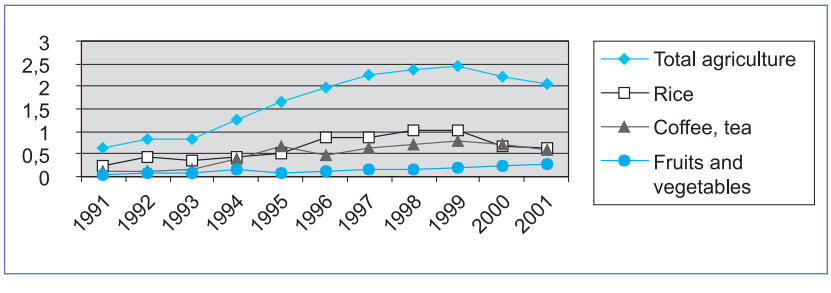
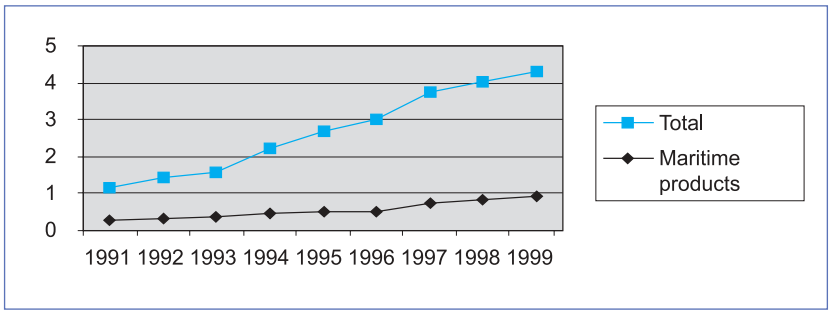


Figure 6. Evolution of agricultural exports, incl. maritime products (billion dollars - 1991 to 1999)



Source: FAOSTAT.

3. Dynamism and fragility of exports

3.1. Four products dominating exports

In 2001, agricultural exports were dominated by rice (31% of the total value); coffee, tea and cocoa (28%); fruit and vegetables (13%); and rubber (8%), (see figure 3).

The data for 1999, including exports of maritime products, show that rice and maritime products represented an equivalent share (30% of the total value), (see figure 4).

3.2. Declining trend after rapid growth

After having doubled in value from 1993 to 1997 – from less than 1 billion dollars in 1993 to more than two billion in 1997 – the growth of agricultural exports has slowed. Since 1997, exports have fluctuated between 2 and 2.5 billion dollars (see figure 5).

For maritime products (not included in the figure above), the FAO data stop in 1999 and show a rapid progression of exports up to this date (see figure 6).

In 2000, exports of maritime products, valuing 1.5 billion dollars, surpassed exports of rice, evaluated at 668 million dollars according to the General Statistical Office (GSO, 2001).

According to ICARD (Nguyen Ngoc Que, 2002), the average rate of growth of agricultural exports from 1990 to 2000 was 14.7%, achieving a total sum of 4.3 billion USD in 2000, representing 30% of the total value of Vietnamese exports – these figures are respectively 5 and 33% in 2001 (see table 3).

3.3. Instability of international markets

Exports of rice and pork illustrate the dynamism, but also the fragility, of these sectors when confronted by the volatility of exports.

Box 3. The food sector and the international market

At present, the food sector is little concerned by trade barriers, unlike the industrial sector. Rice is subject to export quotas that the Vietnamese government grants each year to licensed companies and to the provinces, but the export figures have always exceeded the quotas. However, the quotas system leads to constraints: the companies designated by the Vietnamese government do not always have an adequate export capacity and the authorised export periods are restrictive. The abolition of this system facilitates rice exports (Institute of Economics, 2001).

As for import restrictions, they are designed to protect developing sectors or to balance the trade balance. They include sugar and vegetable oil.

Table 3. Total value of Vietnamese exports, 1990-2000 (in billion of USD)

Year	1990	1995	2000	2001	1991-1995	1996-2000
Total value of exports for the country	2,404	5,449	14,483	15,027	19,560	51,649
Value of agricultural exports (including forestry, fish and seafood)	1,149	2,521	4,198	5,027	9,427	17,712
Percentage of agricultural exports (including forestry, fish and seafood)	47.8	46.2	29.0	33.4	48.2	34.2

Source: Ministry of Planning and Investment, quoted in Nguyen Ngoc Que, 2002.

The case of rice

Nguyen Ngoc Que *(ICARD)*

Thanks to a stable and rapid growth of rice production, Vietnam can not only satisfy its own domestic needs, it can also export. In 2001, it was the second largest exporter of rice in the world, behind Thailand. During the period 1989-2000, Vietnam exported more than 30 million tonnes of rice to more than thirty countries, mainly in Asia, realising a turnover of more than 7 billion dollars. This represents an average annual growth of 13%.

As the main import market for Vietnamese rice, Asia accounts for more than half of the Vietnamese exports. The major customers are Indonesia, Singapore, Malaysia and Hong Kong. Some Middle-Eastern countries, such as Iran and Iraq, are also important customers of Vietnam: in 2000, these markets imported about 30% of the total volume of Vietnamese exports.

Rice represented over 12% of the total value of exports of the country for the period 1996-2000. In 1999, the quantity of rice exported reached its highest level: 4.5 million tonnes, for a turnover exceeding 1 billion dollars. Nevertheless, in 2000, following a fall in the price of rice on the world markets, Vietnamese exports fell to 3.5 million tonnes for a turnover of 600 million dollars. This fall is damaging to producers, exporters and national interests alike.

The floods in the Mekong delta at the end of 2001 seriously affected rice production. Vietnamese exporters made every effort to fulfil the agreed contracts – some even had to buy rice from rival companies in Thailand – and did not dare sign new contracts.

During the period 1995-2000, Vietnam was one of the countries with the lowest production costs in the world, according to estimations by the International Food Policy Research Institute. This gave it a great advantage for integrating the world market. However, the competitiveness index in price of Vietnamese rice has fallen by more than half since 1995, despite a rise in 1998. This reduction can be explained by several phenomena: the reduction in the price of rice throughout the world (increase in competition, fall in demand); the policy of change adopted by the government; the increasing demands of importing countries in terms of quality (rate of unbroken grains, taste, etc.).

The competition exercised by Thailand is stronger and stronger. Thanks to a consistent devaluation of the baht, the purchasing price of Thai rice in dollars has fallen. Before 1998, the wholesale price per tonne of Thai rice was between 40 and 50 dollars more expensive than Vietnamese rice. In 1998, the situation was the opposite: the wholesale price of Thai rice was 50 dollars cheaper than the price for Vietnamese rice. Yet labour is very cheap in Vietnam, about 1.5 dollars per day (the cost is even lower in rural areas), representing 113 dollars per hectare of rice fields, or 24% of the production cost. This cost is twice as high in Thailand (222 dollars) and accounts for up to 62% of the production cost.

The case of pork

Tran Cong Thang *(ICARD)*

For a long time, the Soviet Union was the main export market for Vietnamese pork. The trade agreements and conventions on which these exports were founded masked the competitiveness of Vietnamese pork. After the collapse of the Soviet Union and the Russian embargo on Vietnamese pork imports, exports of pork fell dramatically in Vietnam. In 1996, they represented only 4.6 million tonnes, mainly piglets and medium-weight pigs for export to Hong Kong. In 1997, exports doubled compared to the previous year, following the lifting of the Russian embargo and the health problems in the poultry sector in Hong Kong, which caused an increase in the consumption of pork.

Since 1998, the Vietnamese pig market has been in a crisis, due to the lack of competitiveness of the pork sector destined for export. The pork products of the European Union, China and the United States have penetrated the Russian market, causing a fall in the price of exported pigs from 1,700 US$ per tonne to 900-1,000 US$ per tonne.

After the reintegration of Hong Kong in China, the price of Vietnamese pigs exported to China plummeted from 3,000 US$ per tonne to 1,200 US$ per tonne. Indeed, the sales of pork from continental China to Hong Kong increased considerably. China exercises a policy of high taxation on pork imports in order to conserve its share of the market.

So, the price of Vietnamese meat remains too high. The price of live pigs in the Red River delta is about 750 US$ per tonne and reached 1,000 US$ per tonne in the Mekong delta in 2001. In 1998, it was between 430 and 470 dollars per tonne in the Red River delta. As the sales price was lower than the cost price, the producers reduced their production.

As for the large industrial breeding farms destined for lean pork exports to Hong Kong, their production costs remain high (13,000-14,000 VND per kilo of live weight, or about 900 US$ per tonne). The investment fund for this type of farm is relatively high, the farms are industrial and they receive much support from food processors (like from the CP group) with regard to breeding techniques and veterinary care. Most of these pigs are sold as exports rather than on the domestic market.

In 2001, to encourage exports, the state implemented a policy of support for exporters by granting 900 dongs (0.06 $) bonus for 1 dollar of carcass export turnover and 280 dongs (0.01 $) per 1 dollar of slaughtered piglets exported. Thanks to this policy and to the dynamism of exporters in finding new markets, the country exported 30,000 tonnes of live pigs in 2001, mainly carcasses, to the traditional markets such as Russia (17,000-18,000 tonnes), piglets (10,500 tonnes) to Hong Kong, Taiwan and Malaysia. Nevertheless, towards the end of 2001, the rise in exportation costs for pig carcasses on the Russian market caused a loss of 500 VND per kilo (0.03 $).

4. The threat of imports

According to the FAO, the balance of agricultural trade is largely positive and imports – half of which is wheat (Ministry of Agriculture and Rural Development, 2002) – only represent a very small part of local consumption. According to the estimations of Muriel Figuié and Nicolas Bricas presented in the third chapter, less than 10% of food consumption in terms of value came from imports, in 1998 as in 2001.

Nevertheless, imports have increased considerably: wheat imports doubled between 1997 and 2001. Moreover, imports from China are largely under-estimated. Whereas the FAO eva-

luated total fruit imports at 40,810 tonnes in 2001, imports from China via the Tan Thanh border post (which represented half of the land transport flows) were estimated at 61,000 tonnes (70% of apples and pears) – see box 4. Vegetable imports were estimated at 1,900 tonnes, whereas the border post recorded 47,000 tonnes of vegetables (90% potatoes, shallots, garlic, onions). Moreover, we estimated fresh temperate vegetable imports from China (tomatoes, cabbages, carrots) at about 10,000 tonnes between June and September 2002, the main importation period (Hoang Bang An *et al.*, 2003). In total, imports of fruits and vegetables from China to Vietnam are far higher than Vietnamese exports of these commodities to China.

The lifting of trade barriers within the framework of the AFTA (ASEAN Free Trade Agreement) signed in 1995, which is being implemented gradually, could cause an increase in agricultural imports, in particular fruits from Thailand, as well as transformed food products from Thailand, Singapore and Malaysia.

Finally, imports of agricultural inputs are more important in value than imports of agricultural products: in 2000, imports of fertiliser represented 509 million dollars (Institute of Economics, 2001), i.e. more than the imports of agricultural products estimated by the FAO at 400 million dollars. The fertiliser sector would require a specific socio-economic study in order to evaluate the possibilities for reducing imports.

Box 4. Trade between Vietnam and China: the case of fruit and vegetables
Hoang Bang An, RIFAV

China is the most important Asian country for trade of fruit and vegetables, both for imports and exports (see table 1). Imports in terms of value are distributed relatively evenly between China and Hong Kong, while continental China represents 90% of exports of the territory as a whole.

Table A. Imports and exports of fruit and vegetables by China in 2001

	Imports	Exports
Quantities (thousands of tonnes)	6,166	6,929
Value (thousands dollars)	2,604	4,421

Source : FAOSTAT.

In 2001, China had the largest area of market garden and fruit tree farming in the world, with 16 million hectares, representing 37% of the world land area.

Continental China is a country to which it is relatively easy to export, as the demands on the quality of goods in general, and fruit and vegetables in particular, are not very high. Nevertheless, access is not without risk, particularly with regard to payment and long-term relations with the customer.

As neighbouring countries, Vietnam and China have maintained relations for thousands of years. On both sides, the customers are less demanding than in other markets, notably with regard to quality control. Currently, China remains the major importer of Vietnamese fruit and vegetables in two forms, controlled and informal. In 1999, the value of controlled exports of fruit and vegetables from Vietnam to China was 35.6 million US$ or 34% of Vietnamese exports of fruit and vegetables (source: Vietnamese Ministry of Trade). In 2001, this sum rose to 142.8 million US$ (43%). Uncontrolled trade is effected via the markets of the border provinces, Quang Dong, Quang Tay, Van Nam, and by the border ports such as Mong Cai, Tan Thanh, Lao Cai to reach the markets of southern China which have large needs in terms of fruit and vegetables from Vietnam. The data presented for overland trade are provided by the Tan Thanh border post, which represents about half of cross-border flows.

Table B. Exports of fruit and vegetables from Vietnam to China via the Tan Thanh border in 2001

Product	Quantity (tonnes)
+ Dragon fruit, longan, ramboutan, litchi	49,781.01
+ Longan/dried litchi, dried longan flesh	3,903.68
+ Fresh mango	5,646.75
+ Banana, squash, sapota	5,517.00
+ Jackfruit, dried banana, bitter squash “tea”	91.04
+ Soya, fresh beans	130.00
+ Pimiento	87.59
+ Pancovier	95.00
+ Fermented cucumber	4.20
+ Jackfruit	44.00
+ Lemon	5.00

Source: Report by the vegetable control department of region VII - Department of Plant Protection.

The main exports from Vietnam to China concern fruit (table B): dragon fruit, longan, litchi, banana, ramboutan. From China to Vietnam, trade concerns fruit (apple, pear, mandarin) and vegetables which can be kept for a long time (potatoes, garlic, onion).

Table C. Vietnamese imports of fruit and vegetables from China via the Tan Thanh border in 2001

Product	Quantity (tonnes)
+ Apple and pear	55,614.93
+ Mandarin	14,928.50
+ Taro	2,238.70
+ Potato	14,342.70
+ Shallot, garlic, onion	27,899.56
+ Bamboo shoots	33.44
+ Transformed fruit and vegetables	152.50
+ Dried fruit and vegetables	308.62
+ Cucumber	69.65
+ Fresh litchi	61.00
+ Watermelon	1,876.80

Source: Report by the vegetable control department of region VII - Department of Plant Protection.

In total, the tonnage of trade from China to Vietnam is greater than the tonnage of trade from Vietnam to China (see table D).

Table D. Trade between China and Vietnam via the Tan Thanh border post in 2001 (tonnes)

	Fruit	Vegetables	Total
China to Vietnam	70,542	46,900	117,442
Vietnam to China	64,987	316	65,303

Source: Report by the vegetable control department of region VII - Department of Plant Protection.

Conclusion: differences and synergies

Agricultural production in Vietnam is largely oriented towards local consumption, be it in tonnage or in value. Although specific products are exported (coffee, tea, spices, rubber), some of them are sold both locally and exported (rice, pork, fruit and vegetables) and others are destined exclusively for the local market (corn, chicken, beef, etc.). Most exported products are cultivated in the south (rice, coffee, tea, rubber).

As quality requirements and prices can differ according to each type of market, each one requires specific treatment. However, the links are numerous: similar quality requirements for certain products (rice, pork); pressure for lower production costs of pork. Thus, domestic markets can provide interesting tests before exportation, especially towards large volume distribution, which is very demanding. However, they should in no way be considered as residual or “sub-markets” in relation to export markets. Indeed, they can prove more interesting with regard to price and the size of outlets.

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The third section will allow us to better appraise Vietnamese consumer demand in terms of products, quantity and quality. This demand is strongly influenced by demographic evolutions which we will now present.

Demographic and socio-economic changes

Sylvie Fanchette *(IRD)*

Vietnam is a very densely populated country. The concentrations are particularly high in the deltas (as many as 1,000 inhabitants per km^2 in the Red River delta), in contrast to the mountainous regions (where population density can fall as low as 50 inhabitants per km^2). After a period of birth control implemented by the authorities, the country has entered a phase of demographic transition with a population growth rate of 1.7% per year. The relatively low rate of urbanisation (23.5%) is growing significantly (the urban population is increasing by 3.5% per year). The rural exodus, initially curbed by authoritarian measures, is now tackled by various policies: colonisation (often authoritarian) of the pioneer fronts, in the South and on the Central Highlands; economic diversification, notably through industrial development; urbanisation of the rural areas, with the development of secondary urban centres in the countryside.
Although the socio-economic condition of the population as a whole would seem to have improved – increased revenues, reduction of malnutrition –, inequalities have nevertheless opened up.
The Vietnamese government is currently confronted by two challenges: balancing the geographic occupation of the territory and distributing the fruits of economic growth equitably.

1. An unequally distributed population

With a population of 76.3 million inhabitants in 1999 – estimated at 79.7 million in 2002 – Vietnam is one of the most populated countries of the region, except Singapore. The population is very unequally distributed over an area of 330,900 km^2. Within the two deltas of the Red River and the Mekong, the two rice granaries of the country, 57% of the population occupies 18% of the total area. Thus, in the highland areas there are very low population densities – falling to about 50 inhabitants/km^2 in the case of the Central Highlands –, whereas the population density can reach 400 inhabitants/km^2 in the southern plains (Mekong delta) and more than 1,000 inhabitants/km^2 in the northern plains (Red River delta).

In the North, these marked differences can be explained by past human occupation and by the grouping of the population in the dense habitations with structured socio-political organisations. The systems of production and of supervision of the populations to carry out the large-scale hydraulic works required for the development of the deltas was borrowed from China. In the agricultural sector, this is characterised by a predominance of vegetable production over animal production. Dyking, a characteristic of the development of rural areas by the Chinese the upkeep of which conditions the maintenance of a system threatened by flooding, required a minimum level

of collective discipline. The main technical characteristic is the control of water, essentially by using gravity and submersion. The monoculture of rice and high-performance and labour-intensive agricultural techniques has allowed the development of high rural densities (Lacoste Y., 1988).

The Mekong delta is far less inhabited, due to its recent history and its specific configuration. Progressively occupied by the Kinhs since the 17th century, the pioneer front has advanced over time with the arrival of migrants from the north of the country in the regions least threatened by flooding. This delta has been a land reserve for the over-inhabited plains of the north and centre. The reduced risk of flooding has favoured a more dispersed habitat and villages which are better spaced and more open than those of the northern plains (Langlet-Quach Thanh Tam, 2000, p. 187). These deltas have been progressively occupied by people living in ever more structured political systems, a fact reflected by the homogenisation of the population. In Vietnam, the Kinhs form the majority of the population, that of the plains, and the very foundations of the State. This homogenisation is reflected by a marked demographic and social contrast between the plains and the mountains surrounding them (Lacoste Y., 1988). For example, the populations of the plains have responded to the voluntarist policies of the government concerning birth limitation, whereas the minority populations in the mountainous regions continue to maintain a high level of fertility (see box 8).

The contrast between the plains and the highlands remains the dominant characteristic of territorial occupation in Vietnam, and this despite the efforts of the government to redistribute the population and the spontaneous migrations from the plains to the mountains, from the north to the south and from the east to the west.

2. A country in demographic transition

Since the end of the 80s, the annual rate of demographic growth has slowed considerably: between the censuses of 1979 and 1989, it was at 2.1%, but fell to 1.7% between the last censuses (1989 and 1999).

This situation illustrates the end of the demographic transition, which began at the start of the 50s and is characterised today by a slow natural increase in the population resulting from both a low fecundity rate and a low mortality rate. As a result of the high birth rate in the past, the Vietnamese population is young, but beginning to age (Hoang Xuyen, 2000).

Thus, in 2000, 54% of the Vietnamese were under 25. This results in significant cultural changes. Indeed, as Gubry notes, in 2000, 62% of the population had either not experienced war or had no specific memories of it (they were under 5 in 1975); and 40% had not experienced a totally planned economy or had no specific memory of it (they were under 5 in 1986, the adoption date for the Renovation policy, or *Doi moi*), (Gubry P., 2000).

There are also economic consequences: the active population increases by 3% each year. There are thus 1.4 million young people who enter the labour market each year. It is also an educated labour force (in 2001, 93% of the adult population was literate whereas, in 1945, 90% of the population was illiterate) (CNSSH, 2002).

3. Towards an urbanised population

The recent evolution of the Vietnamese population is marked by the increase in the proportion of the urban population. From 1960 to 1989, the urban population remained at 20% of the total population, due to the strict political control of internal migrations (through residents' permit). From 1989 to 1999, the annual increase in the urban population was 3.6%, whereas that of the rural population only reached 1.2%. In 1999, the urban population represented 23.5% of the total population.

This movement should, according to estimations, accelerate in the future. For the period 1998-2020, the population should increase by 3.8% per year and the rural population by 0.1%. In 2020, the urban population should represent 39.5% of the total population (Cour J.-M., 2001). These rates, however, remain modest compared to those for other countries in the region: an average of 36.4% in South-East Asia, approx. 58% for the Philippines and Malaysia (2000). In 1980, both China and Vietnam had the same rate of urbanisation of 20%; nearly 20 years later, it had risen to 31.6% in China (in 2000) but to only 23.5% in Vietnam (in 1999).

The towns are concentrated in the two deltas and along the central coastal area with, at the head of the administrative hierarchy, Hanoi in the north and Ho Chi Minh City in the south.

The Renovation policy, or *Doi moi*, adopted in 1986, was aimed at facilitating the emergence of a market economy, in a context of an economy which had, until then, been planned. The various reforms undertaken allowed the development of an embryo of a labour market in the major cities while according greater freedom to migrant workers. In Hanoi, the relaxing of controls on residents' permits relaunched demographic growth (4.6% per year between 1989 and 1999). This growth was characterised by a high level of immigration (an average of 22,000 people per year), but remained moderate, demographic transition being more developed (Dang Xuan Duong and Le Hong Ke, 2000). From 1979 to 1990, according to family planning statistics, the rate of natural increase fell considerably from 2.3% to 1.4% per year, due to the fall in marriages and the increasing phenomenon of nuclear families. Since 1990, this rate has levelled out at 1.3% per year and remains the lowest in the country (Regards & VTGEO, 2002, p. 75).

The relatively recent attraction of the major cities, and in particular Ho Chi Minh City, is confirmed by the definitive results of the 1999 population census: 9.3% of the population of the province of Ho Chi Minh City and 8% of that of Hanoi lived in a different province in 1994 (see box 5).

Although the 1999 census demonstrated a significant exodus towards Hanoi and Ho Chi Minh City, the smaller towns and certain industrial areas absorbed a part of this exodus. The strongest demographic increases can be seen in the towns and provinces which represent an economic attraction and are relatively urbanised. Thus, the province of Hanoi experienced an annual population increase of 2.7% between 1989 and 1999. However, it is in particular in the south-eastern provinces that the population has grown the most: 2.3% per year for the population of the province of Ho Chi Minh City (rising from 2.7 to 4.2 million inhabitants in the city itself, representing an average annual rate of 4.5%); 4.3% for the population of the province of Lam Dong (urban population of 38.7%); 4% in Binh Phuoc (urban population only 15.2%); 3.3% in Binh Duong (urban population of 32.6%); 3.1% in Ba Ria-Vung Tau (urban population of 41.6%). The provinces close to the economic capital benefit even more than Ho Chi Minh City from the demographic growth.

Thus, Vietnam is lucky to have a relatively balanced urban population: one third in the two major cities, another third in the medium-sized towns (50 to 400,000 inhabitants), and one third

Box 5. The city, centre of attraction for job searching

Although the policy of Doi moi has allowed a considerable increase in agricultural productivity and farmers' revenues, the proportion of the agricultural, silvicultural and forestry sectors in total employment has fallen from 72.6% in 1991 to 61.3% in 2000.

Whereas the measures aiming to create non-agricultural jobs in the country have encountered little success, the cities represent a veritable centre of attraction.

New jobs (8,421,000 between 1991 and 1999) were mainly created by the private sector, family businesses and small and medium-sized firms in industry and construction (13.6% of jobs in 1991; 16.7% in 2000), as well as in the tertiary sector (13.8% and 22%) (CNSSH, 2002).

Moreover, the average hourly pay in the urban areas is more than double that in rural areas (ratio of 1.7 in 1998; Haughton D., Haughton J. *et al.*, 2001).

The possibilities for employment, as well as better studying conditions, constitute a key factor of attraction for the rural population to the urban centres, as demonstrated by a survey carried out on migrants to Ho Chi Minh City (Gubry P., Vu Thi Hong *et al.*, 2002). The very low level of illiteracy (9% of the population) allows rural people to take non-agricultural jobs, notably in the towns. The same study demonstrates that 75% of immigrants in Ho Chi Minh City are satisfied with their migration. From their point of view, the main disadvantages of life in Ho Chi Minh City concern the quality of the environment, followed by the cost of living.

This attraction to the city is also reflected by daily and seasonal commuter movements. The rural labour force from the Red River delta working in town is estimated at 13% (Dao The Tuan & Le Thi Chau Dung, 2000).

in the smaller towns (fewer than 50,000 inhabitants). This balanced distribution is a formidable advantage, as it allows the towns and country to be well connected and it limits the migratory flows towards the medium and large towns.

4. Political strategies in the face of urbanisation

During the collectivist period, the development of the towns, centres of political power and dissidence, was curbed. In the eyes of the communist Vietnamese authorities, the southern cities had been the fertile basis for American imperialism, and the northern ones the basis of French colonialism.

For 30 years, the expansion of the cities, and of Hanoi in particular, was blocked. The government implemented immigration control measures by imposing residents' cards which were indispensable to obtain supply coupons. Moreover, the massive bombardment of Hanoi undertaken by the American army from 1966 to 1972 forced numerous city dwellers to take refuge in the countryside. In 1971, the urbanisation rate of the North did exceed 10%. In the South, the opposite situation occurred. During the war, the peasants fled the countryside for Saigon – in 1975, the urban population represented 40% of the population of South Vietnam (Le Van Thanh, 2000, pp. 222-223). Since then, the urbanisation rate has fallen – 26% in 1979 (Le Thi Huong, in Gubry P. 2000, p. 268) – due to the departure of the refugees for their home villages, for new economic zones and abroad (*boat people*).

However, the revolutionary powers had adopted a volontarist strategy of local development, based on the creation of 100 or so small and medium-sized towns, supposed to be in symbiosis with local industry and collectivised agriculture. Since 1988, alongside the process of rural de-collectivisation, this policy has been called into question, even abandoned (Nguyen Duc Nhuan, 1997).

Since the 80s, exploiting the high level of agricultural growth created by the new economic policy, the major Vietnamese cities are redeploying in order to attract both domestic and foreign investments. They are now considered as powerful locomotives of industrialisation and accelerated modernisation for the entire country (see box 6).

If, henceforth, urban growth is considered as a driving force of economic development, the process of urban concentration runs the risk of increasing the territorial inequalities between the plains and the highlands, the centres and the periphery and between the towns and the country,

Box 6. The policy of development corridors

Since 1990, the policy of regional development, called "policy of development corridors", has aimed at strengthening the power of the cities linked to the large regional economic area of the Pacific, thanks to their maritime access: in the north, the Hanoi/Quang Ninh/Haiphong triangle; in the south, the Ho Chi Minh City/Bien Hoa/Donghai/Vungtau diamond; and in the centre the Quynhon/Danang/Hué axis. According to government forecasts, the urbanised area should be 7.5 times larger in 2020. The level of urbanisation of the Red River delta should increase from 21% in 1998 to 40% in 2020, and that of the Mekong from 17% to 32%. The development plan of 1998 provides for a large development of the new urban zone of Hanoi in order to welcome between 4.5 to 5 million inhabitants by the year 2020 - in 1999, there were 1.5 million urban inhabitants among the 2.67 million inhabitants of the province of Hanoi (Regards & VTGEO, 2002, p. 257).

The strategy adopted is imposed by the poor state of the infrastructures which have suffered thirty years of uninterrupted war and which, in the northern half of the country, must be entirely rebuilt. "This strategy nevertheless runs the risk of creating disconnected, isolated entities of a regional organisation, social and economic inequalities both within each one as well as vis-à-vis neighbouring regions, destroying ecological and architectural heritage due to too strong a concentration of activities in reduced areas" (Le Bris E. and Taillard C., 1998).

The total sum of foreign investment in the three metropolitan regions, which absorb about 85% of the total, was very high between 1988-1998 and was the cause of an annual economic growth of 8-9% for the northern metropolis and 12% for the southern one, bringing about an annual growth of 7% of the GNP for the country as a whole.

the very things that the communist authorities endeavoured to stop during the 1970s. The concentration of foreign and public capital flows in the major cities has begun to increase the differences between the towns, leaving medium-sized towns out of economic development (Ambassade de France au Vietnam, 2002). In 2020, it is forecast that the metropolitan regions of the two capitals will account for 37% of the urban population, compared to 31% in 1998.

These major cities, which were built on higher ground sheltered from flooding, should expand on their lowered terraces at a high cost of building-up, which can only delay the risk of flooding in the lower parts. In Ho Chi Minh City, the development plans of 1993 and 1998 planned the expansion of the city on the left bank of the River Saigon, on a site which is close to the centre but located in a meander in the river, criss-crossed by arroyos. Thus, these future urban districts are located in zones partially liable to flooding during the high tides which can reach 1.5 m. The building-up of plots of land destined for construction, effected in anarchic fashion, runs the risk of accentuating the level of water in the event of flooding around housing situated in the lower reaches (Asia Urbs project VNM 003).

In response to this policy, certain specialists feel that it would be preferable to encourage the development of a network of about twenty medium-sized towns, well distributed across the national territory. These average-sized towns, administrative centres of the provinces, would be a greater boost to agricultural development and the

Box 7. What role for medium-sized towns?

Certain authors question the weight and role given to the average towns in regional development, while the country has entered a phase of socio-economic transition without the administrative and political structures having, for the moment, being changed (Weissberg D., 1999, p. 67). The legacy of many years of centralised planning has, in effect, reduced the role of towns in the structuring of space and the regional development policy in place runs the risk of not providing them with the means of acting as intermediate development centres and of limiting migrations towards the three “corridors” of development.

Vietnam possesses a network of about fifteen towns with more than 100,000 inhabitants which are potential centres of development. Nevertheless, the urban hierarchical system, favouring the relations that the towns maintain with the authorities to the detriment of relations with the immediate environment, prevents the creation of urban networks based on the complementarity of functions between neighbouring towns (Taillard C., 1995, p. 202). The towns are indeed classified according to a hierarchy of status reflected by the extent of the powers delegated by the state and the nature of supervisory organisms (Ministry of the Interior, province or district). This leads to considerable dependence between the provinces and the central government, at the origin of numerous negotiations, arbitrations and redefinitions of quotas for the redistribution of fiscal resources which are initially managed at national level. Even if the prerogatives at provincial level are significant and we often witness a tug-of-war between the provincial and central levels, notably with regards to taxation, it nevertheless remains that the lower echelons, the districts and even more so the municipalities, play the role of subordinates. Since 1995, the districts have become mere tax collection and spending units for the provincial government with no power to manage their own budget. The municipalities, however, have regained some power. The state has allowed local traditions to be reinvested and has given more power to the local authorities (Porter D. J., 1995).

Creating a veritable hierarchical urban network, with each level being accorded a certain type of complementary prerogative, requires that the towns no longer be under the supervision of the province and that the urbanisation process commanded by Hanoi and Ho Chi Minh City, with its strong migratory impacts, be blocked (Durand F.B. and Le Van Anh, 1996). Thus, by giving them more financial and administrative authority, even if they are ascribed certain prerogatives with regard to urban and economic development, they can play a driving role in the agricultural and industrial development of their hinterland and absorb part of the under-employed labour force of the rural areas.

The *Doi moi* could thus bring about a change in the function of the towns for whom the administrative factor and central role at the heart of a territory, more than the economic factors, currently play a decisive role in urban development (Durand F. B. and Le Van Anh, 1996). In a context of economic liberalisation and openness of markets, we could suggest that a differential stratification of small and medium-sized towns will occur and that these towns will become competitors to benefit from domestic and foreign investments. Moreover, if the process of urbanisation around the city of Hanoi is not effected to the detriment of the secondary towns, it is conceivable that the impact of the latter on the development of rural zones will continue to increase, notably due to the evolution of urban consumer markets and migrations.

modernisation of the surrounding countryside as markets for food products, transformation sites of agricultural products, diffusion centres for agricultural technical innovations, production and exchange of inputs for agriculture. They should absorb the surplus rural labour force in labour industries and the transformation of agricultural materials through the use of suitable modern technologies, requiring less energy and producing less pollution than the small rural industries of the present day. The transfers of rural revenues to these towns and of urban revenues to the countryside is more easily effected. Medium-sized towns provide a context which is favourable to the creation of a group of dynamic entrepreneurs (Nguyen Duc Nhuan, 1992), (see box 7).

5. Attempts at demographic rebalancing

5.1. Strong demographic disparities

The Mekong delta and that of the Red River remain the two most populated regions of the country, with 16.1 million and 14.8 million inhabitants respectively in 1999. The demographic pressure in the deltas is a major concern of current policies. Yet the annual increase in their populations is not very high: 1.1% in the Mekong delta and 1.4% in that of the Red River. These rates, however, reached 2.6% in the North East of the South and 4.9% in the Central Highlands for the period between the last two censuses (1989 and 1999) and were more the result of a high level of fecundity of the ethnic minorities who live there than to large-scale immigration (see box 8).

5.2. Emigration from the overpopulated areas to the pioneer fronts

In 1975, new economic zones (NEZ) were established in the southern provinces, mainly the provinces of the Central Highlands, the hevea plantation zones in the North East of the South and the Mekong River delta (Gendreau F., Do Tien Dung and Pham Do Nhat Tan, 2000, p. 198).

The idea was to transfer the surplus labour from the overpopulated zones of the Red River delta to the under-populated zones with their numerous agricultural and industrial potentialities in order to reduce the disparities in population density. In the Mekong River Delta, it was estimated that between 2 and 2.5 million additional hectares could be cultivated and absorb the excessive labour surplus of the northern plain. Massive migrations towards the south and the NEZ were organised.

Between 1976 and 2000, an estimated 5 million people were displaced towards the new economic zones. According to the Department of Migration and the Edification of the NEZs, from 1976 to 1997, 726,000 people left the Red River Delta, which could count some 14 million inhabitants at the end of the 1990s. The provinces of Thai Binh, Ha Nam and Ninh Binh were affected the most (Gendreau F., Do Tien Dung and Pham Do Nhat Tan, 2000).

These migrations were poorly organised with few means and poor infrastructures in the new zones. Thus, a very large proportion (between 20 and 50%, depending on the estimation source) of the migrants left them, either moving to the towns of the south or returning in secret to their original abodes.

Box 8. The various demographic situations of the provinces

Several types of province can be distinguished with regard to their demographic situation:

- the highest demographic growth can be observed in the provinces where fecundity is highest and where there is much immigration. This is the case of the Central Highlands. In 1997, the synthetic index of fecundity (the highest in the country) was at 4.3 children per women.
- the provinces where the level of fecundity is low and there is less immigration than above. This is the case for the plains of the North East of the South. The synthetic index of fecundity is the lowest in the country: an average of 1.9 children per women.
- the provinces where fecundity is high and immigration low. This is the case for the Northern Uplands. The synthetic index of fecundity was at 3.1 children per woman in 1997 .

Source : According to a paper written by Scornet C., Professor at the University of Aix-en-Provence (France), in the context of a CORUS tender entitled "The development of the network of intermediate towns and the emergence of rural economic centres in the densely populated areas of the Red River Delta in the Vietnamese context of Renovation (Doi moi), of metropolisation and regional integration".

Moreover, such movements contributed to deforestation and increased the threats to the ecological balance of the immigration zones - more than one million hectares were used for cultivation (Gubry P., 2000, p. 445).

5.3. Industrialisation, diversification and urbanisation of the rural milieu

Since the *Doi moi*, the mobility of people, the liberalisation of trade and the re-launch of private local crafts have reactivated relations between the towns and the rural area. This is demonstrated by the high level of monetary revenues acquired outside the municipality of residence, significant of the widening sphere of action of rural households in a densely populated region. Town-country relations have, thus, been intensified.

However, although two-thirds of the investment in rural companies have an urban origin, sales of the products of these companies is mostly local due to the lack of means of transport. Indeed, the consumer basins are localised and fragmented and the urban markets will not be able to develop if the majority of the surrounding settlements are not connected by road networks which are accessible during the rainy season (Porter D. J., 1995). Thus, the ability to procure incomes outside the villages is not available to all. In certain cases, the proximity of towns and communication lines affects the economic and agricultural diversification of the village farms in the context of economic liberalisation and the emergence of consumer markets for fresh and diversified products.

Private commerce has mainly developed close to the most used roads: this is reflected by a delocalisation from households close to the centre of the village towards the roads. There is a more and more marked process of linear urbanisation along the roads leading to the large towns.

We could hypothesise that the relatively dense network of villages will become even more dense as these spatial entities are the most active sites of socio-economic transformations occurring as a result of the openness of the markets (social stratification, division of labour, development of secondary and tertiary sectors, etc.). It is to these villages that the surrounding countryside comes for its supplies and that the local inhabitants come to sell their products.

The proximity of transport networks and labour and consumer markets is not the only determinant of the importance of the exchanges. According to Gironde C., (2001, p. 372) analysis of the networks can be a framework to understand the complexity of the evolution of systems of activity and their spatial distribution since Renovation. From opportunities for trade cultures to the proletarianisation of the towns, the specialities and trades of each person are linked to their networks or reflect, where applicable, the absence of networks. This author demonstrates to what extent belonging to a migration network towards the Northern Uplands in the north of Vietnam can favour cross-border trade with China, or belonging to political or professional networks for former members of cooperative can favour agricultural and economic diversification leading to outlets. “The activity of the networks has intensified with the dismantling of the cooperative and state-controlled structures whose former customers now deal directly with the former villages” (Gironde C., 2001, p. 371).

The most common extra-agricultural activities in the Red River Delta are craftwork, food transformation and trade, notably with China or the border provinces. Traditional crafts, formerly repressed, are reappearing and spreading according to the networks of villages and intermarriage in the 500 craft villages in the Red River delta. The “craft trade villages” make better use of local workers, who sometimes has many generations’ of expertise in the domain. However, many craftsmen have to limit their production due to the narrow scope of the market (Dao The Tuan, Molle F., 2000).

In the absence of political and economic power, the local communities encounter numerous obstacles to the development of their industry, or at least of their crafts. Thus local executives, agents of the central state, are more preoccupied by their recognition at the next administrative level than by the promotion of local development. Only by granting new prerogatives to the basic administrative levels in a context of decentralisation can this tendency be reversed. Tax reform, according the municipalities and districts the power to administrate the majority of the taxes they collect, would represent a direct incentive for local economic development and thus for widening the base on which these taxes rest (Bergeret P., 2002).

Conclusion: less poor, but more unequal

The policy of *Doi moi* has allowed the socio-economic situation of the Vietnamese to improve considerably. Annual incomes are twice as high now as in the mid 1980s, rising to between 265 and 400 $ per inhabitant per year, depending on the sources (GSO, 2002; CNSSH, 2000). Poverty has diminished, the rate [2] falling from 75% in the mid 1980s to 58% in 1993 and to 37% in 1998 (CNSSH, op. cit). The malnutrition rate for children under five (calculated using the size/age ratio) fell from 56.5% in 1990 to 36.5% in 2000 (NIN, 2003).

These improvements should not, however, mask some weaknesses. Vietnam remains a very poor country (114th position in terms of GDP/inhabitant and 104th position in terms of the HDI out of 162 pays in 1999 compared to 150th and 116th position out of 173 pays in 1992, CNSSH, op.cit, p. 45). Not only do inequalities remain, notably between the rural and urban zones, with 45% poor in rural areas compared to 9% in urban areas in 1998 (GSO, 2000), they even increase. Although, according to the report on human development in Vietnam (CNSSH, 2002), the population as a whole would seem to have benefited from the fruits of growth, distribution remains unequal and an increase in inequalities is in fact to be noted: in 1994, the average income per inhabitant of the wealthiest 20% of the population of the richest province was 25 times higher than that of the poorest 20% of the poorest province. The ratio in 1999 was 50/1 (CNSSH, op. cit.). Finally, recent improvements seem to be slowing down: after falling between 1991 and 1996, urban unemployment rose again to nearly 7% of the active population in 1999 (CNSSH, op.cit, p. 35). Similarly, the rise in the standard of living has slowed: an increase in the standard of living of 8.8% from 1996 to 1999 and only 6% from 2000 to the first semester of 2002.

Some figures show that the situation of certain households has fallen recently: this is the case for inhabitants of the Central Highlands, who saw their purchasing power fall by 22% between 1999 and the first semester of 2002 after the fall in the price of coffee. Similarly, for the same period in the deprived provinces of Ninh Thuan and Binh Thuan, the purchasing power of the inhabitants fell by 7.2% (Courrier du Vietnam, 14/01/03). These evolutions may be due to the economic situation, but they invite caution with regard to the sustainability of the global changes recorded.

The improvement in production conditions in the country is a major concern for the durability of agricultural holdings, notably in the areas of high demographic pressure, and for the reduction of town-country inequalities. It occurs through the diversification of agricultural activities, the structured intensification of farming systems and the extension of the farmed areas in these zones. The current growth of the domestic consumer market is a potential motor which requires the intensification of the integration in the market by adapting to the changes in the demands in terms of quantity and quality. This point will be developed later in this document.

[2] Households considered as "poor" are those households under a poverty line defined as the minimum level of consumer expenditure (food and non-food) sufficient to cover both spending on the purchase of food satisfying minimum caloric needs and basic spending on non-food purchases (health, education, etc.). This poverty line was estimated at a little less than 1,700,000 dongs/person/year in 1998, i.e. about 110 dollars (GSO, 2000).

The evolution of food consumption

Muriel Figuié and Nicolas Bricas *(CIRAD)*

Over the past ten years, the value of the Vietnamese food market has doubled. This growth is the result of three factors: the increase in the population; the increase in the quantities consumed per person; and the reduction in self-consumption of households, especially rural households. The Vietnamese food market, evaluated at 7.2 billion dollars in 2002.

National consumption for all food products has grown, except for root vegetables and tubers (cassava, sweet potato, etc.). Consumption of rice per person is falling. Differences are appearing depending on the region or zone, urban or rural. The income level also leads to differences. The richest do not only eat more, they eat differently. As their incomes increase, households consume more rice to the detriment of tubers; they then reduce their rice consumption in favour of other cereals such as wheat.

This increase in consumption is in part satisfied by recourse to imports (the case of wheat, milk and, to a lesser extent, oils and fats). The transformations of the Vietnamese agricultural and food processing sectors in order to satisfy this demand are eyed with suspicion by the consumers, shaken by regular revelations in the press of cases of food poisoning.

The evolutions in consumption have contributed to reducing malnutrition. However, so-called “diseases of excess” are appearing (obesity, cardiovascular diseases, etc.) and urban consumers associate certain products, such as animal fats or meat, to a negative dietetic image.

Finally, new food behaviours are appearing in urban areas: the development of supermarkets and, in particular, of street food and restaurants, which represents an important factor from both an economic and nutritional point of view.

1. Strong growth of food consumption

1.1. Growth linked to multiple factors

The Vietnamese food market is a market experiencing strong growth: in 1992-93, it represented 51,500 billion dongs (3.4 billion dollars). Ten years later, it is estimated that this market has doubled, reaching almost 110,000 billion dongs (7.2 billion dollars) (table 4). This market relies only to a small extent on imports, representing about 6% of the value of the market, i.e. 0.44 billion dollars in 2001 (source: FAOSTAT, 2001[1]).

This growth is linked to that of population and the increase in individual spending. Actually, the quantities of food consumed is increasing in both the rural and urban areas; moreover rural inhabitants are turning more and more to the market to provide for their needs.

The importance of the urban market should be noted: in 1998, the value of the food market was shared with 60% for the rural areas and 40% for the urban areas, whereas urban areas only constituted 23% of the population. This situation reflects the persistence of poverty in the countryside, despite its considerable reduction. In the cities, in 1998, 2% of the population was below the food poverty line (food expenditure below the sum necessary to acquire a food ration covering the minimum daily needs of 2,100 kcal per person, i.e. a little less than 1.3 million dongs – 86 dollars per person per year). In the rural zones, almost 18% of the population was below this level (compared to 7 and 27% in 1993 (Haughton, Haughton *et al.* 2001, from GSO data).

1.2. The development of food consumption outside the home

Particular attention should be paid to consumption outside the home, a point often neglected in economic or nutritional assessments.

Before the policy of *Doi moi*, the population experienced a period of food rationing during which street food and restaurants were inexistent. The data for this consumption outside the home for the

Table 4. Rural and urban food market (not including consumption outside the home)[2]

	1992/1993	1997/1998	2002
Population (millions of inhabitants)	70.28	76.11	79.70
Urban population (millions of inhabitants)	14.06	17.51	19.90
Rural population (millions of inhabitants)	56.22	58.60	59.80
% of urban population	20%	23%	25%
Value of food consumption in urban area (1,000 dongs/cap/year)	1,455	1,830	*2,302*
Value of food consumption in rural area (1,000 dongs/cap/year)	1,006	1,236	*1,519*
% of purchases in urban food consumption	95.2%	95.3%	*95.4%*
% of purchases in rural food consumption	56.8%	63.6%	*71.5%*
Food expenditure in urban area (1,000 dongs/cap/year)	1,384	1,743	*2,196*
Food expenditure in rural area (1,000 dongs/cap/year)	571	786	*1,086*
Share of food expenditure in total urban consumption expenditure	48.3%	39.1%	*29.9%*
Share of food expenditure in total rural consumption expenditure	60.3%	52.6%	*44.9%*
Urban food market (billions of dongs)	19,458	30,513	*43,703*
Rural food market (billions of dongs)	32,114	46,089	*64,948*
Domestic food market (billions of dongs)	51,572	76,602	*108,650*
Domestic food market (billions of dollars)	3.40	5.00	*7.20*
Urban food market/domestic food market (%)	37.7%	39.8%	*40.2%*

Source: data from the VLSS 92/93 and 97/98 surveys (GSO, 1994 and 2000) and our own calculations and estimations, at constant prices 1998.

[1] FAOSTAT, http://apps.fao.org, Agriculture and Food, Vietnam, Food excluding fish, importation value at base year price: 442,133 millions dollars.

[2] The population data for 2002 rely on the data supplied by the GSO. The remaining figures, in italics, are estimations. The changes between 1997 and 2002 are assumed to be identical to those noted between 1992 and 1997.

years 1992-93 (date of the first major survey of the living standard of households, "Vietnam living standard survey, VLSS I") are not available, but it can be assumed that this consumption was still very low at the time. Since then, it has developed considerably, notably in urban areas, thus increasing the share of the urban market in the national food market. In 1997-98, food consumption outside the home represented 20% of urban food expenditure and only 5% of rural expenditure (VLSS II, 1997/98). In 1998, rural and urban annual food consumption expenditure totalled respectively 848 and 2,171 thousand dongs per person, including consumption outside the home.

Thus, in 1998, food consumption outside the home represented a market of nearly 11,000 billion dongs, 67% of which was concentrated in urban areas, in a total food market of 87,600 billion dongs (0.7 and 5.7 billion dollars).

1.3. Marked regional differences

The differences between the regions are significant (table 5): value of household food consumption, share of purchases in food consumption, market shares of different regions. Thus for example, the North East of South alone, which accounts for 13% of the population, represented 26% of the market.

2. A quantitative evolution varying according to the products

2.1. On a national scale

The growth of the food market corresponds to an increase in the volume of consumption of all the main products, with the exception of tubers, consumption of which dropped by 30% between 1991 and 2000 (FAO food balance sheets, figure 7).

This increase was particularly high for the following products: sweeteners and milk, consumption of which increased 2.6 times and 2.8 times respectively from 1991-2000; wheat, consumption of which doubled during the same period; meat (x 1.8); vegetables, oil and fats (x 1.7). Rice, the main product consumed by volume followed by vegetables and fruit, also increased (x 1.3) following the population increase.

Moreover, independent of the regions or the household incomes, household consumption also diversified, in particular with regard to fruits and vegetables, a greater diversity of which is now consumed (IFPRI, 2002).

2.2. On an individual scale

Consumer surveys (survey by the National Institute of Nutrition, NIN, and "Vietnam Living Standard Surveys" by the General Statistical

Table 5. The food market in the regions of Vietnam, including food consumption outside the home, 1997-1998

Region	Northern Uplands	Red River Delta	North Centre	South Centre	Central Highlands	North East of South	Mekong Delta	Vietnam
Population (million)	13.6	14.9	10.5	8.2	2.8	9.7	16.4	**76.1**
% of the national population	18%	20	14	11	4	13	22	**100**
Value of food consumption, 1,000 dongs/cap/year	1,230	1,578	1,217	1,420	1,202	2,515	1,478	**1,519**
Share of food from own-production%	43%	29%	36%	22%	27%	9%	24%	**25%**
Food expenditure 1,000 dongs/cap/year	698	1,122	780	1,101	879	2,283	1,128	**1,143**
% urban population	16%	19%	12%	26%	26%	50%	17%	**23%**
Value of regional food market, billion dongs	9,507	16,750	8,213	9,000	2,455	22,154	18,453	**86,532**
% of national food market	11%	19%	9%	10%	3%	26%	21%	**100%**

Source: data from the VLSS 97-98 survey, GSO, Vietnam.

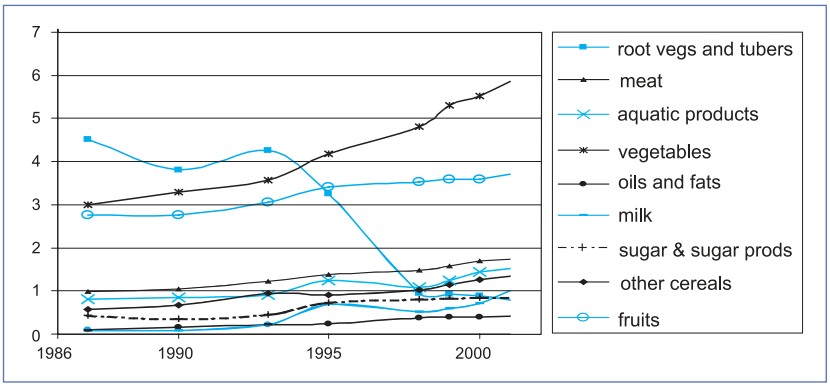
Office, GSO) provide a more precise appraisal of the change in consumption per inhabitant.

Comparisons of different data sources is not always easy due to the different methodologies adopted and the categories of foodstuffs used. They nevertheless reveal very clear tendencies (table 6).

The first thing to note is that the increase in total volumes consumed corresponds to an increase in consumption per inhabitant of the different products cited, except for rice (a fall not highlighted by the FAO food balance sheets, but on which the NIN and the GSO, more precise in their estimations, agree). These consumer surveys also confirm a significant reduction in the consumption of tubers from 31 to 15 kg per person per year, between 1987 and 2000 (NIN, 1991 and 2002). The comparison of these data to those from the FAO food balance sheets indicates that this probably refers to cassava and sweet potato. The reduction in the consumption of rice, from 165 kg per person per year in 1987 to 145 kg in 2000 (NIN) is concomitant with an increase in the consumption of other cereals (probably wheat, according to FAO data). Moreover, individual consumption of aquatic products has stagnated for several years (between 13.5 and 19 kg per person per year, according to sources) and is now equal to meat consumption.

The figures relating to fruit consumption provide results which differ greatly according to the source, making any interpretation dubious.

Figure 7. Change in the quantities of foodstuffs consumed, 1987-2001 (million tons/year)



Sources: FAO database, Food balance sheets, Vietnam.

Table 6. The change in quantities of foodstuffs consumed per inhabitant, according to sources,1987-2000 (kg/capita/year)

Source	NIN 1987	NIN 2000	VLSS 1992-93	VLSS 1997-98	FAO 1987	FAO 1993	FAO 1998	FAO 2000
Rice	164.83	145.01	153.26	150.36	150.5	161.3	170.4	174.3
Staples other than rice			14.5	9.72				
Other cereals	2.27	5.84			9.4	13.4	13.6	16.4
ROOTS AND TUBERS	30.71	14.78			73.0	60.5	12.5	11.4
tuber	13.72	3.25			35.7	28.4	1.8	1.8
vegetable-tubers	16.98	11.53			37.3	32.1	10.7	9.6
Leafy vegetables	45.55	53.66			48.4	50.8	63.9	71.2
Vegetables and dried beans			28.63	37.44				
Beans and pules	1.02	2.19			2.1	2.4	2.8	3.0
Fruits	1.49	22.76	22.55	17.76	44.6	43.4	46.8	46.3
Meats	8.91	18.63	9.61	14.04	16.0	17.3	19.5	21.9
Fish, seafood	18.23	19.20	13.41	13.56	13.0	12.9	14.4	18.5
Oils and fats	1.10	2.47	1.36	3.96	1.6	2.9	5.1	5.0
EGGS AND MILK	1.07	3.75			2.7	4.6	8.4	11.2
milk			0.41	0.6	1.3	3.2	6.7	9.1
eggs					1.4	1.4	1.7	2.1
Eggs (number)			14.48	28.2				
Tofu	2.48	4.88	3.02	4.8				
Sugar, sweeteners			2.66	4.2	7.0	6.3	10.6	11.0
Sugar			0.29	2.9				

Sources: NIN 1991 and 2002; GSO 1994 and 2000; FAOSTAT.

3. Differences in household consumption

These average consumption figures hide significant differences between households, revealed by a more detailed examination of the data according to the zones, urban or rural, according to the regions or according to household incomes.

3.1. Differences between urban and rural households

The urban consumer differs from the rural consumer in the high proportion of animal products in the value of its food consumption and a lower proportion of rice and other starch staples (table 7).

This concerns the value of consumption, i.e. what is bought and what is self-consumed by the household. Knowing the rate of self-consumption – it is only partially known – would facilitate the evaluation of the value of the urban market and the rural market for each of its products. Moreover, it is also important to evaluate the impact of the recent changes in the production systems on food safety of agricultural households. The studies carried out in Mong Phu (Nguyen Duc Truyen, 2003, see box 9) show that the farmers remain attached to producing their own stocks of basic food stuffs necessary to their food survival (rice, fermented vegetables). The incomes resulting from the development of animal breeding allow certain products to be acquired which are the subject of new or more consumption: sugar, biscuits, instant noodles, glutamate, condensed or powdered milk, fruits, etc.

Table 7. Distribution of the food consumption value per product group, 1998

Value of consumption%	Urban	Rural
Rice and other staple foods	27.1	41.6
Animal products	41.4	31.6
Fats and oils	2.6	2.7
Fruits and vegetables	11.7	8.3
Others	17.2	15.8
TOTAL	100.0	100.0

Source: from the VLSS 97-98 data, GSO, not including consumption outside the home.

3.2. According to income

With respect to the place of habitation (rural or urban), the income level is a major factor which explains the consumer differences between households.

A simple calculation of the consumption of different products compared to the total spending of households provides an approximation of the elasticity of consumption in relation to income[3] (figures 8 and 9).

It thus appears that the quantities of consumption of the different products increases with household income, except the group “cereals other than rice and staples”.

More precisely, figure 8 demonstrates, up to the fourth quintile group of total expenditure (i.e. 80%

Box 9. Self-consumption in rural areas

The share of self-consumption fell in rural areas between 1993 and 1998 (from 43 to 36%, table 5). However, self-consumption as a value remained relatively stable. A study effected in Mong Phu (40 km from Hanoi) by Nguyen DucTruyen (2003) demonstrates that self-consumed products have changed very little: rice, vegetables and in particular fermented mustard, constituting the basic foodstuffs which continue to be produced and consumed in the farms and which guarantee food security. The increase in the consumption of eggs is founded on self-consumption. On the other hand pork, production and consumption of which are increasing, is still bought as the farms cannot conserve the meat of a slaughtered pig. Finally, the fact that the consumption of certain products is falling does not necessarily mean that their production is also falling, as in the case of tubers, more and more destined for animal consumption.

[3] The VLSS surveys divide households into five equally-sized groups (or quintiles, representing 20% of the sample) corresponding to five total expenditure brackets. Thus, the first quintile corresponds to the lowest 20% of the households with an average annual expenditure of 1.148 million dongs per person per year. The fifth quintile corresponds to the richest 20% of the households with an average annual expenditure 6.325 million dongs per person per year. We used here the average consumption of the members of the households of the different quintiles.

of the population), a very large increase in the consumption of vegetables and, to a lesser extent, of fruit, fish and seafood and meat (products which can be qualified as "superior"). Finally, tofu, sugar products, fats and oils are also sensitive to household income, but to a lesser extent.

The consumer differences between the fourth and fifth group of expenditure reveals a slowing in the growth of consumption for the majority of products with a clear "saturation" of fish and seafood consumption.

Rice, tubers and other cereals are a case apart. Consumption of rice (figure 9) increases in the lower expenditure quintiles and then falls again. Inversely, the quantity of root vegetables, tubers and other cereals falls and then climbs again gradually (figure 8). Comparison with other data sources (quantitative and qualitative: FAO and Krowolsi N., 1993) allows us to form the hypothesis of a reduction in the consumption of root vegetables and tubers, initially to the benefit of rice and then a reduction in rice consumption to the benefit of other cereals, such as wheat.

3.3. According to regions

The differences in the consumption structure between the regions is also significant (table 8), in particular with regard to the consumption of rice and other staples and consumption outside the home. These differences probably reflect the differences in living standards and the rate of

Figure 8. Food consumption total household expenditure

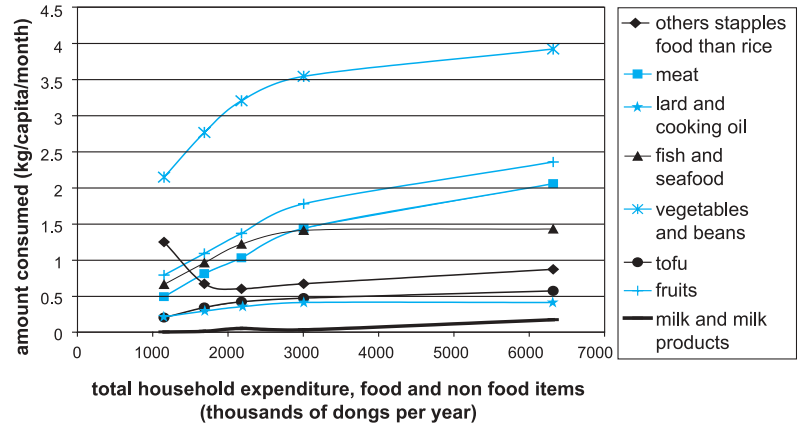
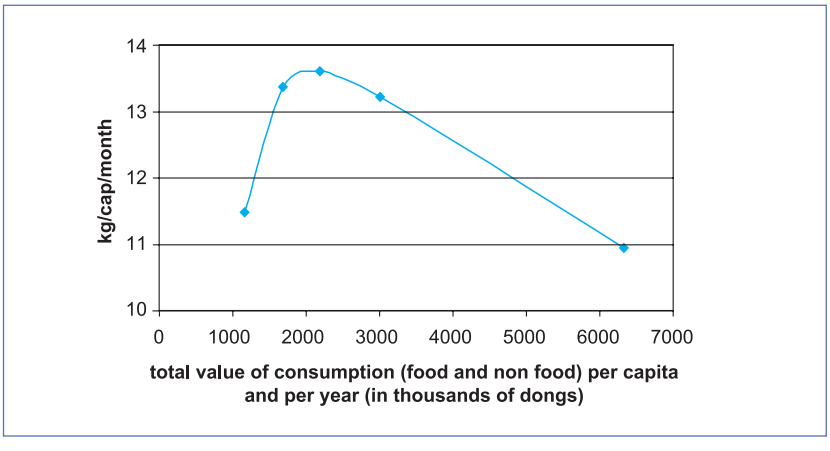


Figure 9. Consumption of rice and total household expenditure



Source: from the VLSS survey data 1997/1998, GSO.

Table 8. Distribution of the food consumption value per product group in the different regions, 1998

Regions	North East of South	Red River Delta	Mekong Delta	South Central	Northen Uplands	North Central	Central Hinglands
Rice and other staple foods	22.7%	31.9%	33.2%	33.1%	44.8%	39.3%	40.3%
Meat	30.9%	31.6%	33.4%	29.4%	29.0%	29.5%	31.1%
Fat and oil	2.0%	2.3%	2.3%	2.6%	2.8%	2.7%	2.8%
Fruits and vegetables	9.1%	8.2%	9.1%	9.2%	6.4%	7.3%	7.3%
Others	14.3%	16.1%	12.6%	13.4%	15.0%	16.4%	13.2%
Food away from home	20.9%	10.0%	9.5%	12.4%	2.0%	4.9%	5.3%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Value of food consumption 1,000 dongs/cap/year	2,515	1,578	1,478	1,420	1,230	1,217	1,202

Source: from the VLSS 1997/1998, GSO.

urbanisation already mentioned above. However, at this level of analysis, it is not possible to identify regional models of consumption.

With regard to fruit and vegetables, the works of the IFPRI (2002) show that consumption models tend to become harmonised between the regions and to assume regional production characteristics.

4. A low, but increasing, level of imports

Food imports (excl. aquatic products) totalled approx. 0.4-0.5 billion dollars per year for the period 1995-2000 (FAOSTAT), a figure which should be compared to the domestic food market, which reached 5.7 billion dollars in 1998 (incl. consumption outside the home).

Comparing consumption volumes and quantities imported per capita (figures 10) allows food products to be classified into two categories: those which do not depend, or only to a very small extent, on imports - eggs, fruits, vegetables, meat and aquatic products, tubers and rice – and those which are heavily dependent on imports – milk, wheat, vegetable oils.

With regard to fruits, it would seem that imports (apples, grapes, lemons, etc.) account for a growing share, if still modest, of the supply, in particular those coming from China which, for the most part, escape official statistics.

As for milk and oils, the government has implemented ambitious programmes to increase production (National dairy programme; oil subsidies, in 2003, to double production by 2010).

5. A challenge: the quality of food

5.1. Health problems

As well as the increase in the quantity of food consumption, demand is also changing with regard to quality, notably due to new health and nutritional problems.

Although the increase in food consumption allowed a reduction in the malnutrition of children under five from 56.5% to 36% during the 90s (NIN, 2003), new problems now exist in the field of public health: the rate of obesity is increasing; 9% of women in urban areas are currently affected (Ha Huy Khoi, 2002).

Moreover, the response to increased demand has been an intensification of agricultural production based on increased, and often poorly understood, use of pesticides (Ha Minh Trung, 1999) and by the development of a food processing industry making considerable use of food additives (colourings, preservatives, etc.). For several years, the press has often revealed cases of food poisoning (for example, 351 workers in a company in Dong Nai suffered food poisoning in their canteen in March 2002, *Courrier du Vietnam*, 17th March 2002) or practices dangerous to consumers: use of illegal pesticides (Monitor, Wofatox, etc.); frequency and powdered quantities above the norms; excess pesticide residues, mainly on vegetables, fruits and tea; large antibiotic residues in animal products; the use of toxic preservation products (such as formalin in *pho*, the traditional Vietnamese soup, urea in cooked meats, borax in cooked meats and fish, etc.); illegal colourings (in 90% of sausages and tomato sauces); the presence of heavy metals in food wrappings, etc.

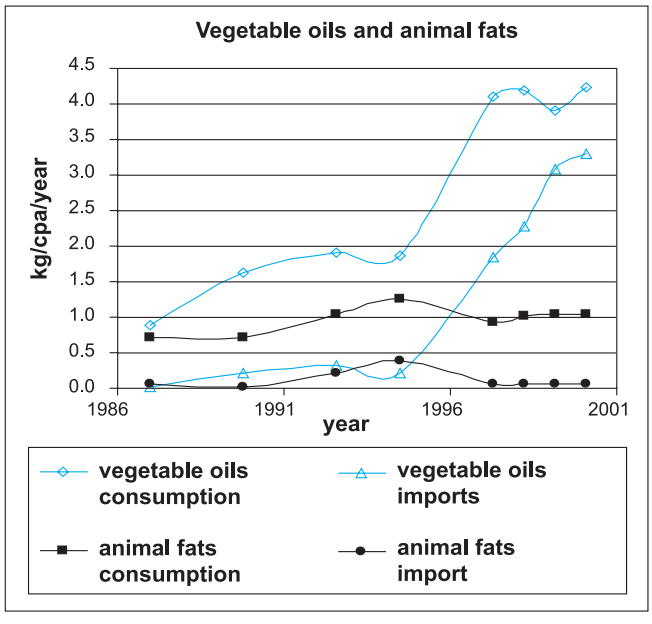
Bacteriological quality is also described as catastrophic, in particular that of transformed products: *nem chua, nem bao*, pork tripe, etc. (Nguyen Dinh Quang, 1999).

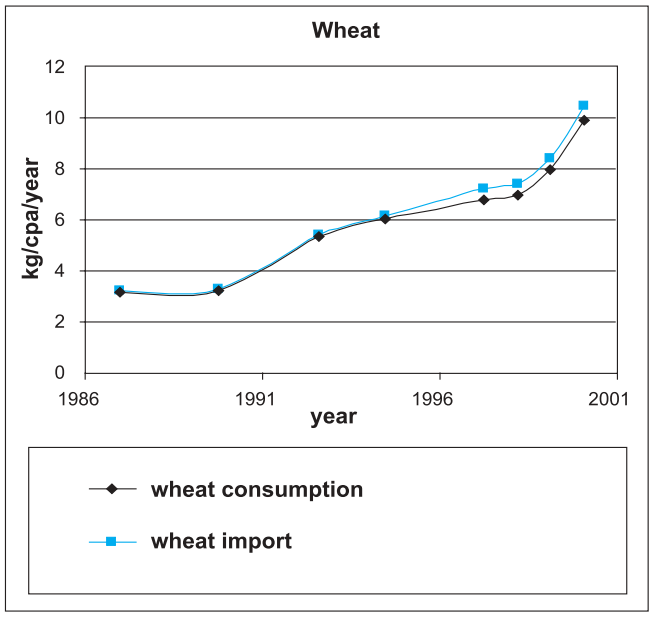
The Ministry of Health thus noted 3,814 victims of food poisoning in 2001, of which 63 died, a very low figure (compared to 700 deaths per year in France for a population of about two-thirds of that of Vietnam). This figure is very probably a severe under-estimation; other non-official sources count 15,000 victims.

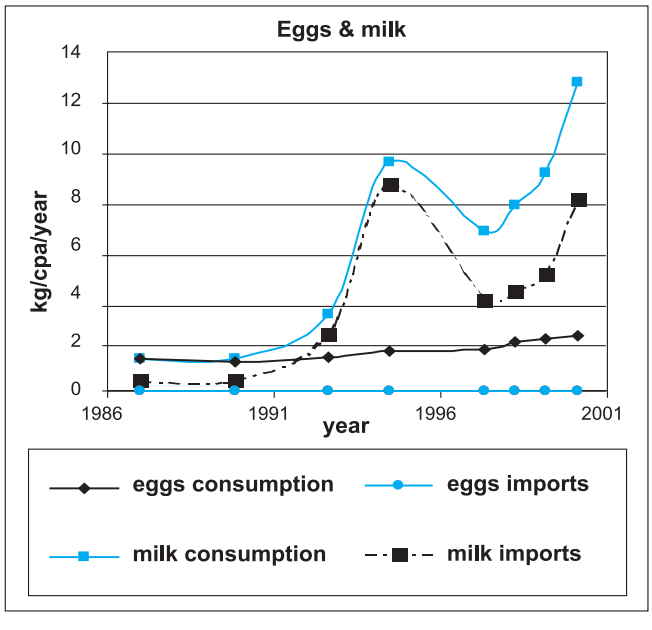
The government has demonstrated a marked desire to deal with this problem, even if the concrete effects for the consumer are still limited. Thus, since 1998, a month of action on food quality, hygiene and safety (from 15th April to 15th May) is organised each year, involving information campaigns, fairs, conferences and increased controls at points of sale or consumption. In 1999, a directive from the Prime Minister announced the decision to reinforce the activities of food safety (Dir 08/1999/CT TTg). It meant the creation of a Food Administration on food hygiene and safety, under the auspices of the Ministry of Health.

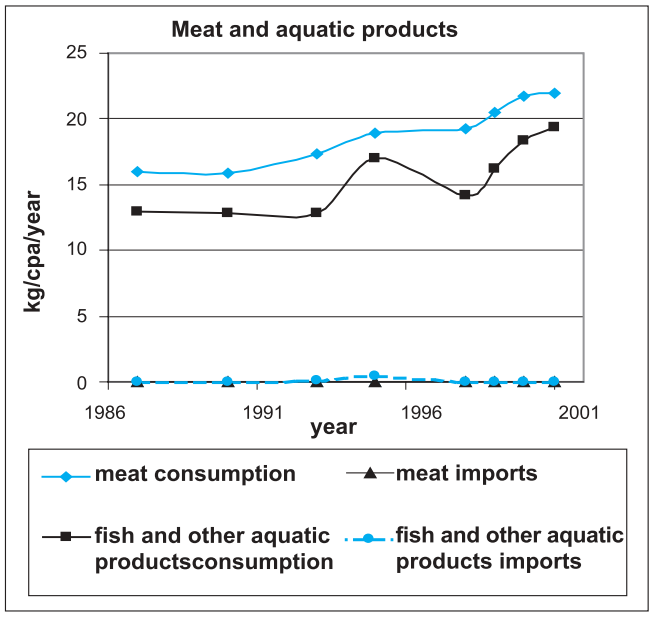
However, health controls of food remain a complex affair. According to the nature of the

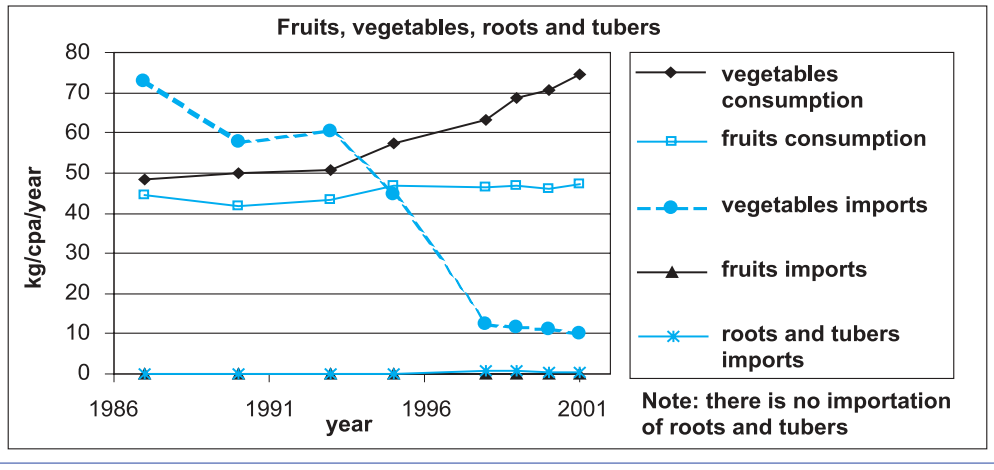
Figures 10. Consumption and importation of the main food products per inhabitant











Source:
FAO database, Food balance sheets, Vietnam.

products (fresh, transformed, imported, etc.) and the place of the controls (places of production, transformation, sales, consumption, transport), the controls involve a wide range of institutions (linked to the Ministries of Health, Trade, Agriculture and Rural Development, Fisheries, Science and Technology, etc.). The means are limited and the controls are concentrated on two periods: the Tet (festival celebrating the new lunar year, during which household consumption increases considerably) and the month of action mentioned above.

5.2. Concerned consumers

Confronted by these problems and following sensitisation campaigns, certain studies reveal new concerns of urban consumers with regard to the quality of products (Bridier B., 2000; Ginhoux V., 2001; Figuié M., 2003).

Table 9. Change in the quality of meals and commercialised food products according to consumers in Hanoi, 2002 (%)

Change in quality	Quality of meals	Quality of food products
Has improved	93.5	35.5
Remained the same	5.0	6.0
Has fallen	1.0	56.0
Do not know, no answer	0.5	2.5
Total	100.0	100.0

Source: CIRAD-IOS survey, 2002.

Questions posed to 200 interviewees:

(1) Do you think that the quality of your meals has improved, remained the same or fallen over the last ten years?

(2) Do you think that the quality of the commercialised food products has improved, remained the same or fallen over the last ten years?

According to the survey, carried out in Hanoi (CIRAD-IOS, 2002, table 9), urban consumers believe that the quality of their meals has increased over the last ten years (foodstuffs are seen to be more plentiful and more varied, providing the consumer with choice). However, more than half of them feel that the quality of food products has fallen. To such an extent that, for 65% of consumers, food products today represent a health risk.

With regard to health quality, it is in particular vegetables, then meat and finally fruit and aquatic products which present the greatest danger in the eyes of the consumers (figure 11). In the case of vegetables, it is the probable presence of pesticide residues which is called into question. With fruits, there is the added problem of the use of preservative products in which the fruit are apparently soaked after harvesting (a practice essentially associated with fruits imported from China). As for meat, the criticisms are more varied, but mainly concern the use of "stimulants" (a relatively vague term in the dialogue of the consumers but which would seem to correspond to the growth activators used in animal food). With regard to fish and other seafood (prawns, crabs, etc.), it is the use of preservative products (urea, formalin, borax, etc.) which is criticised.

Suspicion, then, can be seen on a massive scale with regard to the increasing use of chemical products in the food processing sector: pesticides – the use of pesticides increased by 75% from 1991 to 1997 (Ha Minh Trung, 1999) –, growth activators, preservatives. The nature of the products (products which are sometimes illegal) are called into question, as well as the treatment dates (too close to the harvest) and the quantities used.

Box 10. The* pho *crisis

Pho is a culinary speciality from Hanoi. It is a soup, eaten at all hours by the inhabitants of Hanoi, containing rice noodles. In 1999, after exposure by an employee in a production unit of *pho* noodles, controls were carried out in various street restaurants, revealing the presence of formalin in 7 samples out of 10 (Nhan Dan, 6th January 2000). Formalin is used to improve the consistency of the noodles and to prolong the conservation of the soup. The publication of these results brought about what is called the "*pho* crisis". The consumers were shaken by what the press called a serious crime against the national gastronomic culture. In the days that followed, the consumption of *pho* plummeted by almost 80%. Then the consumers fell back into their old habits without any real measures having been taken. Recently, 172 school children at a primary school in Ho Chi Minh City had to be hospitalised after eating *pho* in their school canteen (Courrier du Vietnam, 17th March 2003).

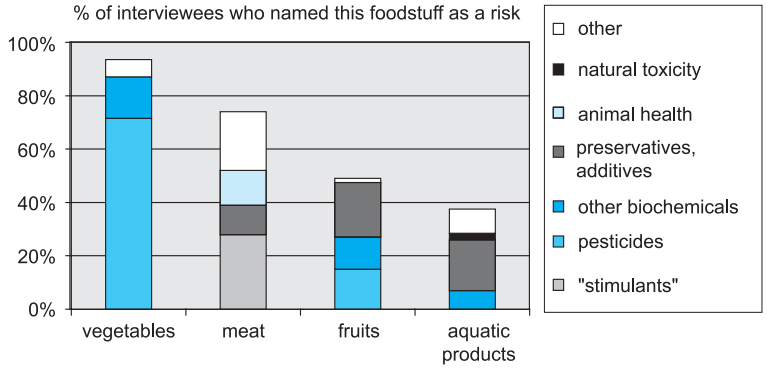
Implementing so-called "clean" agricultural product sectors (vegetables, chicken, etc.) which observe specifications aimed at reasoned use of inputs has, however, encountered limited success. The reasons for this are numerous: the quality signs are confused, poorly defined, poorly displayed – this confusion is probably deliberately maintained (as is the case of vegetables commercialised in supermarkets) – and the controls are insufficient in the eyes of the consumers. This results in a lack of confidence, all the more significant as this quality costs the consumer: "clean" vegetables cost between 1.2 and 2 times more than classic vegetables. These surcharges are not always justified. Studies on production costs of clean and classic vegetables provide often contradictory results, depending on whether they come from procedures aimed at diffusing IPM techniques (integrated pest management) to producers, or procedures for promoting quality to consumers.

For the consumption of pork, other works (Ginhoux V., 2001) have shown the lack of confidence of the consumer vis-à-vis the presence of a veterinary service stamp on the meat, resulting from frequent cases of fraud.

With the lengthening of the commodity chains and their industrialisation, the consumer finds it more and more difficult to evaluate the characteristics of the products he or she consumes and must trust a third party (the state, a brand, a salesperson, a label, etc.). Thus, the examples cited above reveal that this confidence often does not exist. There is therefore the question of creating credible quality signs, in a context where the consumer's quality demands are expressed more firmly and, beyond this, the question of the real adaptation of supply to this demand. Indeed, we might ask ourselves, as do the consumers, if the "clean" products really are clean.

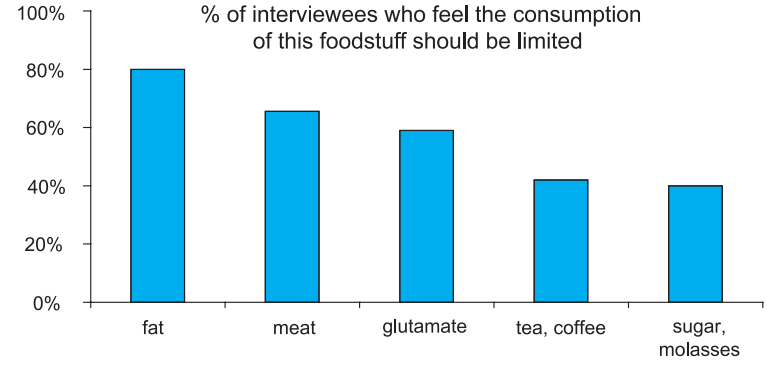
The concerns of urban consumers also relate to the nutritional quality of their food. The image of certain foodstuffs is clearly negative from this point of view (CIRAD-IOS survey, 2002, figure 12). This is the case for animal fats and, to a lesser extent, meat, the consumption of which is associated with the emergence of overweightness, obesity, cholesterol and high blood pressure. Fears of so-called "excess" diseases are appearing, marking the end of a period of shortage (at least in Hanoi, the location of the survey quoted). These fears, added to the facility of use, explain the increase in consumption of vegetable oil to the detriment of lard. They could also contribute to curbing the progression of meat consumption. Glutamate, defined as a carcinogenic chemical product, is also feared; this is also true for tea and coffee, considered as stimulants harmful to the nervous system, and finally sugar, for the risk of obesity and diabetes.

Figure 11. Food products deemed a health risk by consumers and the perceived origins of these risks



Question asked to 200 interviewees: "Name the three types of foodstuff which, in your opinion, represent the greatest health risk to consumers today"

Figure 12. The food products which present problems of nutritional quality in the eyes of the consumers of Hanoi



Question asked to 200 interviewees: "Consumption of which foodstuffs should be limited to be in good health?"

Source: CIRAD/IOS survey, 2002.

6. New consumer behaviours

These transformations are also accompanied by changes in consumer practices. The most striking are without doubt those relating to supply methods and meal-taking.

The quality demands are expressed in a context of plenty marked by the abolition of ration tickets since 1989, whereas points of sale, and in particular small supermarkets in urban zones, are proliferating. These supermarkets are essentially frequented at the weekend by customers living nearby.

With regard to meal-taking, the most striking fact is the development of food consumption outside the home. The economic importance of this type of consumption was mentioned earlier. From a nutritional point of view, it represented, in 1997, 30% of the caloric consumption of urban consumers in Hanoi (Le Danh Tuyen, Bricas N. *et al.*, 2000).

According to Pham Kim Anh (1997), the meals taken outside the home are essentially breakfast, to a lesser extent lunch and, more rare, dinners. They are mainly meals taken during the week, in small street restaurants (57%) or purchased from itinerant vendors (37%). Customers can eat dishes which generally take a long time to cook or are costly to prepare in small quantities. Thus we witness the development (Krowolski N., 1993) of “one-dish meals” (the meal is composed of a single dish), such as *pho* or *bun cha*, and "snacking" (consumption between fixed meals).

Another change, probably important from an economic and social point of view, concerns the increasing consumption of transformed products (canned foods, take-away food, etc.). This remains to be quantified.

Conclusions: answers to the changes in food production

This brief look at recent food changes in Vietnam demonstrates the opportunity represented by this market for the agricultural and food-processing sector. An opportunity but a challenge as well as it means being capable of measuring these changes - in both their quantitative and qualitative dimensions. It also means following the tempo which, as we have seen, is very quick. At present, this dynamic is still only partially known. What is the share of self-consumption of these different products? How are the behaviours of young people changing compared to their elders? What differences exist between the different regions? These are so many questions the answers to which will allow a better evaluation of the locomotive potential of food consumption for economic growth in Vietnam.

The importance is also to satisfy this demand in a responsible manner, including not only economic objectives but also objectives of public health or social and cultural concerns. Consumption models are evolving, especially in urban areas, causing new problems of public health. With the industrialisation of agricultural production and food transformation, new quality problems are arising. This requires that we go beyond the sector-based approach to include other stakeholders, in particular those in the health sector, and to encourage communication with the public.

These food changes also have social and cultural consequences. The spectacular development of food consumption outside the home in the towns leads to fears of the destructuring of meals and, at a higher level, family relations and cohesion. Increasing disparities are already emerging in the access to food and in the food models between rural and urban areas, between rich and poor and between regions. Finally, the rapid opening to international trade and the resulting increase in food imports raise the question of the capacity of the Vietnamese food system to maintain its food culture while remaining competitive.

An operational and responsible approach to food thus requires that this theme be tackled in all its complexities, i.e. as a nutritional, social, economic and cultural act. And this in order to satisfy the economic stakes for the producers, as well as those of food security and safety.

Changes in food production

Dao The Anh, Vu Trong Binh, Le Duc Thinh *(VASI)*

Since the reform of 1988 and the allocation of land to the rural households, the agricultural production of Vietnam has experienced remarkable success, with a growth rate of 4.2% per year. Between 1991 and 2000, production of rice increased by 5.6% per year, of corn by 10.2%, of vegetables by 7% and of pigs by 5%. This growth satisfied the needs for both food consumption and exportation.
However, the structural transformations of the rural economy are slow, especially in the larger deltas of the North and South. In each region, the diversification of agriculture is real, although rice still covers 60% of the areas and production is continuing to progress rapidly. After aiming at self-sufficiency (before 1993), agricultural farms have become more and more oriented towards the market, even in the mountain areas. Nevertheless, due to a lack of sufficient infrastructures and of a suitable legal framework, the market economy has only developed gradually.
Rural households today operate in an unfavourable economic and social context. In many places, public services are limited or non-existent (credit, extension, commercial information). The new collective private services are having difficulty in becoming established. These constraints curb the diversification of agriculture.
Already practiced by rural households, non-agricultural activities can be a motor of structural change to diversify the economic activities of the rural households in a context of limited agricultural land. By transforming agricultural products and by providing the services to sell them, they allow agricultural activities to be diversified. They provide financial resources which can be invested in agriculture. The State has an important role to play, acting as a catalyst for local initiatives by according suitable support. Agricultural development oriented towards the domestic market has a diversified request, which can bring about structural transformations with the agricultural and non-agricultural diversification.

At first we see how the agricultural production has evolved during the last ten years, thanks to a favourable political context (see box 11). We present the problems of access to factors of production factors and to the different agricultural services (credit, extension, trade), which may limit the agricultural growth. We insist on the growing economic differentiation between the different regions and inside the regions. The relationship between agriculture and the other sectors of the economy, in terms of reciprocal ratchet effects, are exposed in a last part.

Box 11. The agricultural policies from 1998 to 2001

April 1988

Recognition of family-based agricultural farms as autonomous agricultural units; allocation of agricultural land to family farms for a duration of up to fifteen years; orientation of agricultural cooperatives towards the service to farmers (supply of inputs and sale of products); increase of transfers to the agricultural sector: 6 ‰ of national GDP before 1988, these rose to 8 ‰ in 1988, reaching 10 ‰ in 1995 (Resolution no. 10).

May 1989

Price liberalisation; abolition of subsidies for consumption and ration cards (Decision 150-CT).

June 1991

First credits destined for family farms (Directive 202).

March 1993

Credit policy for family farms (Directive 14-CP).

Implementation of a state system of agricultural extension (Directive 13-CP).

Creation of regulation funds to stabilise the prices of rice and sugar.

June 1993

New series of reforms to improve the socio-economic environment of agricultural exploitations.

Land law: liberalisation of the land market (Decree 64/CP, 27/09/1993); allocation of agricultural land to family farms for between twenty and fifty years depending on the land, although the land remains the property of the State; as well as the right of use, creation of new rights: transfer, sale and rental of user rights, mortgage, inheritance, compensation in the event of requisition.

Continued reform of the agricultural credit system: increase in the Agricultural Bank budget; creation of a "Pauper's" Bank to facilitate access to credit for the least well-off peasants.

Promotion of average and large-sized farms.

March 1996

Strengthening of cooperatives in the different economic sectors; new cooperative model: commercial "cooperative financial shares", the shares of which must be financed by membership fees.

March 1997

Liberalisation of the domestic circulation of rice: abolition of controls and transport licences; increase in export quotas to 3.5 million tonnes (Decree 140/TTg of the government); export taxes of 1% for quality rice and 0% for rice with more than 25% fragments from 1998 (CIE, 1998) - for the year 1997, the taxes vary from 1% to 3% depending on the quality of the rice.

May 1997

Decentralisation to heads of provincial committees (local administrative authorities) of responsibility for monitoring and controlling the granting of loans for rice purchases for exportation.

January 1998

Measures to encourage the private sector to export rice: increase in export quotas (4 million tonnes), (Decision 12/TTg).

Start of the liberalisation of the fertiliser market: authorisation to import for private companies with quotas.

November 1998

Government subsidise loans to buy stock rice for exportation.

December 1998

Establishment of minimum price for rice (50/1998/QD-TTg).

Use of price regulation funds to subsidise interests for the purchase of 1 million tonnes of rice when prices are low to create an export stock over two months.

Export quota increased to 4.5 million tonnes.

March 1999

Purchase of temporary stock increased from 1.5 to 1.8 million tonnes of rice over four months instead of 2 (Letter 275/CP-KT KH).

September 1999

Creation of export support fund (Decision of Prime Minister 195/1999/QD-TTg).

December 1999

Fertiliser import quotas lifted (Decision 242/1999/QD-TTg); commercialisation primarily undertaken by private traders.

Allocations of rice export quotas to non-state-controlled companies: five private companies and four joint ventures (Decision 273/1999/QD-TTg); authorisation for foreign export companies to buy rice from the peasants directly.

Authorisation for loan of up to 10 million dongs of short-term credit, with the land deed as a guarantee (Decision of the Prime Minister).

2000

Development of the market and improvement in the quality and competitiveness of agricultural products by decisions and decrees concerning land, credit and products other than rice (Resolution of the Party).

March 2001

Total liberalisation of rice exports: export quotas and taxes rescinded (Decision 223/QD-TTg).

May 2001

Total liberalisation of input imports: abolition of all fertiliser import quotas and control of management of importing companies.

Figure 13. Change in average foodstuff production per inhabitant, 1990-2001 (kg per inhabitant)

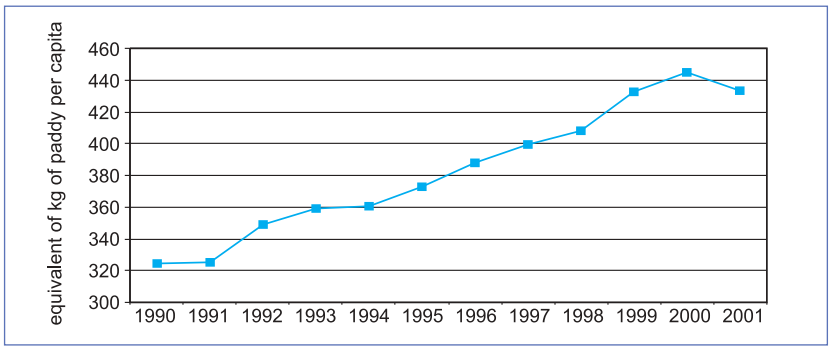


Figure 14. Change in rice-farming areas in the different regions of Vietnam

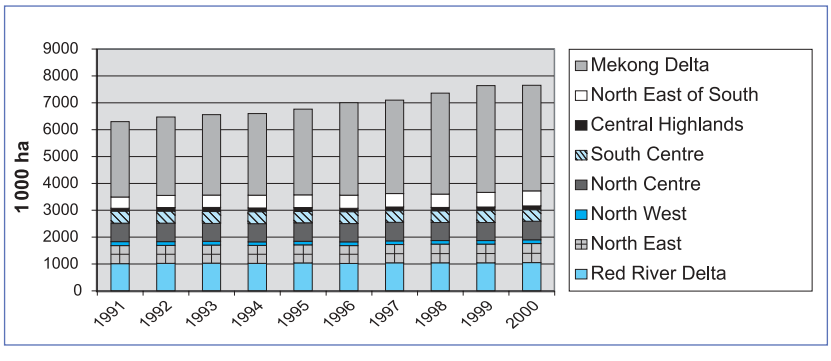


Figure 15. Change in rice production in the different regions of Vietnam

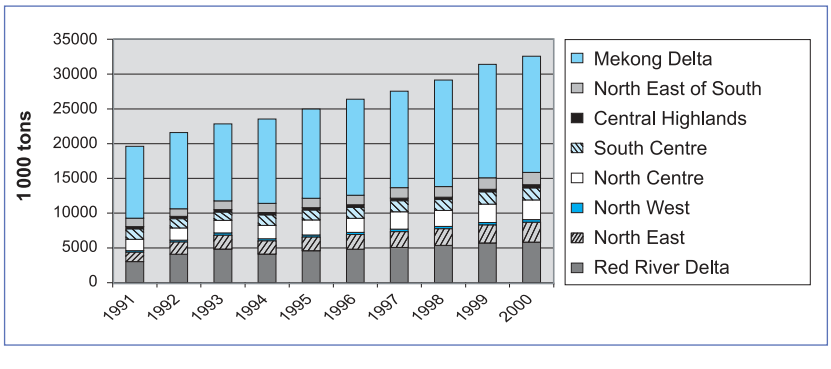
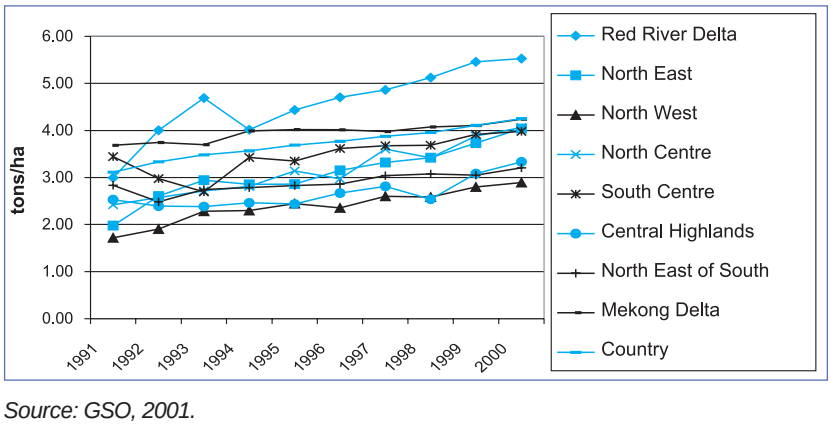


Figure 16. Change in rice yields in the different regions of Vietnam



Source: GSO, 2001.

1. Globally dynamic production

After the reform years, the intensification of rice farming allowed the food safety of the country to be consolidated. Rural households thus abandoned low-valued food crops, such as corn, sweet potatoes and cassava, in favour of the more abundant rice. During the last decade, the average quantity of foodstuffs in rice equivalent per inhabitant was multiplied by 1.34. The threshold of 350 kg of foodstuffs per capita, considered as the self-sufficiency threshold, was exceeded in 1993. However, not all regions benefit from the same level of food safety.

1.1. Rice

The main crop in Vietnam, rice, covered 7.7 million hectares in 2000, an area which has increased by a regular 2.4% per year for a decade.

Vietnam is divided into eight agro-ecological areas according to the official classification: Red River Delta, North East, North West, North Centre, South Centre, Central Highlands, North East of South, Mekong Delta. Below, we present the evolution of rice production in the different regions.

It is the Mekong Delta, a rice-farming region par excellence, which contributed most massively to the growth of production, by clearing and quicker crop rotation. Some areas have two or three crops per year. In the other regions, the area remains stable and even falls, but yields increase. The Red River Delta has experienced the highest yields and with continual growth, whereas the Central Highlands and the North West, where the agro-ecological conditions are unfavourable, have the lowest yields.

During the last decade, rice production experienced an annual growth of 5.6% per year, more rapid than the growth of farmed areas. It was thus possible to satisfy consumption needs, increasing by 2.7% per year, and to export.

This increase results from the increase in crop intensities and yields, especially by the development of irrigation and drainage systems, for 80%, and from the increase of the cultivated lands (scenarios on the supply and demand of rice realized by IRRI/ICARD) for 20%. The surplus for exportation has grown from 3 million tonnes in

1995 to 7 million tonnes in 2002, with a level of domestic consumption of 147 kg of rice per capita and per year (Chu Thai Hoanh, 2002).

In numerous regions there is still potential for increased growth by increasing the yield and the number of crop rotations. In 2000, the government estimated that Vietnam needed four million hectares to guarantee its food safety for the next years - 4.26 million hectares were farmed with rice. By devoting 250,000 ha to the diversification of agricultural production, in a context of limited increasing land areas, rice production should increase by 1.1% per year until 2010, especially by the increasing the yields (Chu Tai Hoanh, 2002), which should be sufficient to feed the population. Indeed, if the demographic and standard of living trends continue, demand should increase by 0.5% until 2020.

However, rice production provides poor remuneration for the producers. For about ten years, the latter have combined the intensification of rice farming with diversification in order to maintain their income levels. In the Mekong Delta, the peasants diversified their farming to types of flavoured rice to increase the selling price. In the Red River Delta, the tendency is to replace common rice by dry crops of high value-added like agricultural corn and also market gardening. However these tendencies encounter many difficulties with respect to marketing. Indeed, the evolution is slow.

1.2. Sweet potatoes

The areas farmed with sweet potatoes fell sharply during the last decade, especially in the regions of agricultural diversification such as the Red River Delta and the North Centre. Indeed, the sweet potato was substituted by rice as human food and by compound foodstuffs for pig food, in particular in the Red River Delta.

Despite the fall in areas, the volumes produced have tended to stabilise in recent years. The two regions where the crops are most intensive remain the deltas of the Red River and the Mekong.

1.3. Corn

Corn production has experienced a significant change during the past years, changing the status of Vietnam from one of an exporter to that of an importer.

Figure 17. Change in sweet potato areas in the different regions of Vietnam

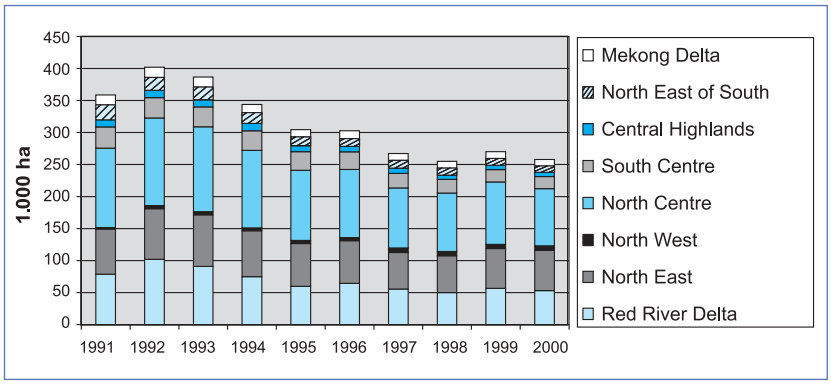


Figure 18. Change in sweet potato production in the different regions of Vietnam

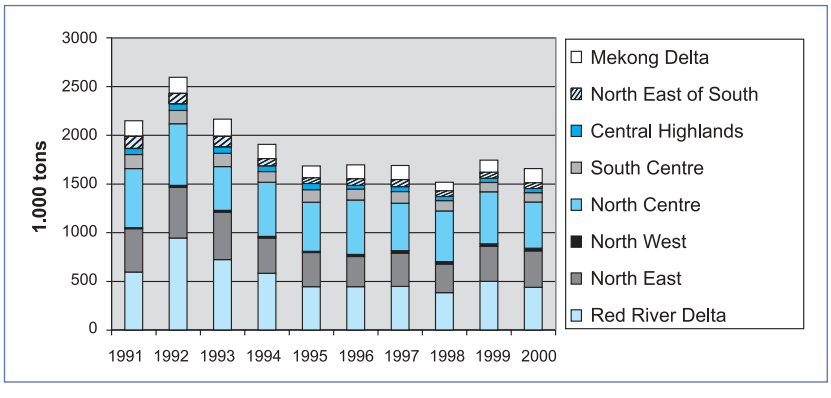
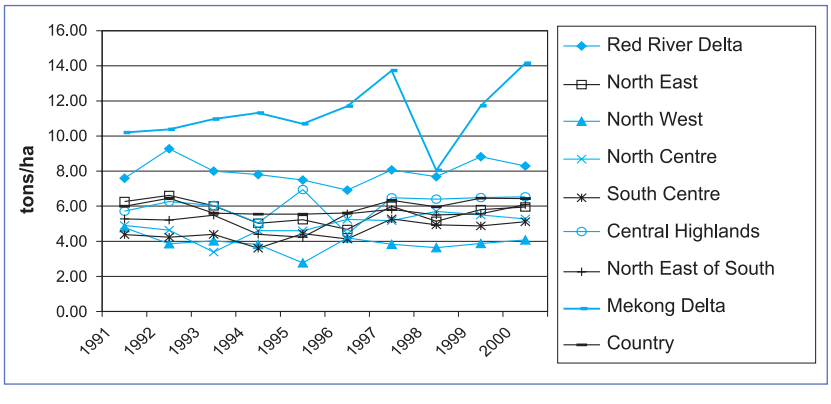


Figure 19. Change in sweet potato yields in the different regions of Vietnam



Source: GSO, 2001.

Figure 20. Change in corn areas in the different areas of Vietnam

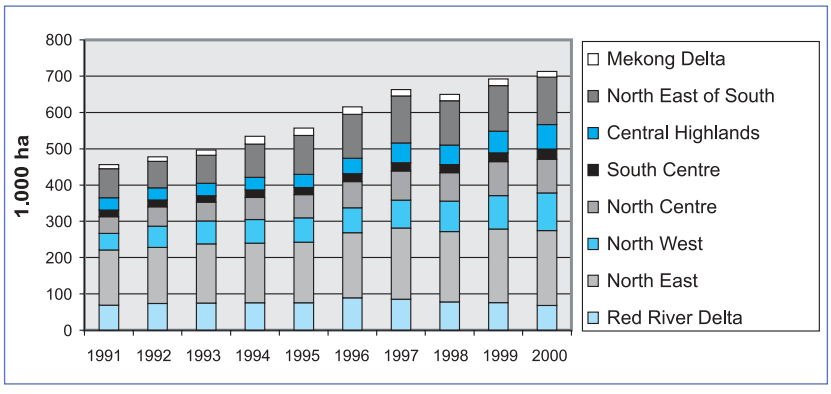


Figure 21. Change in corn production in the different regions of Vietnam

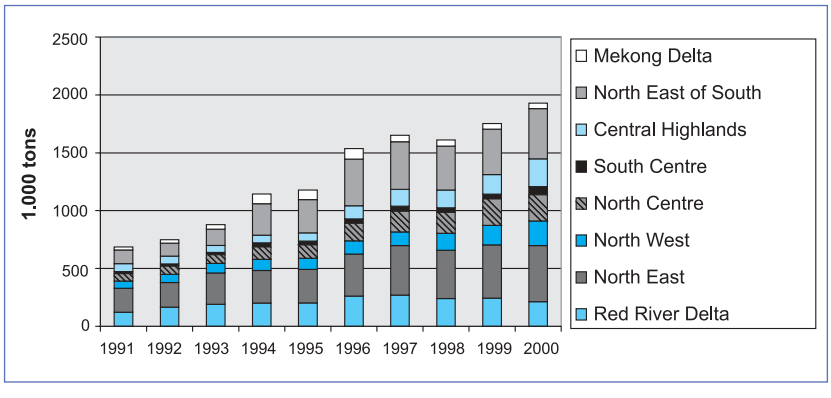
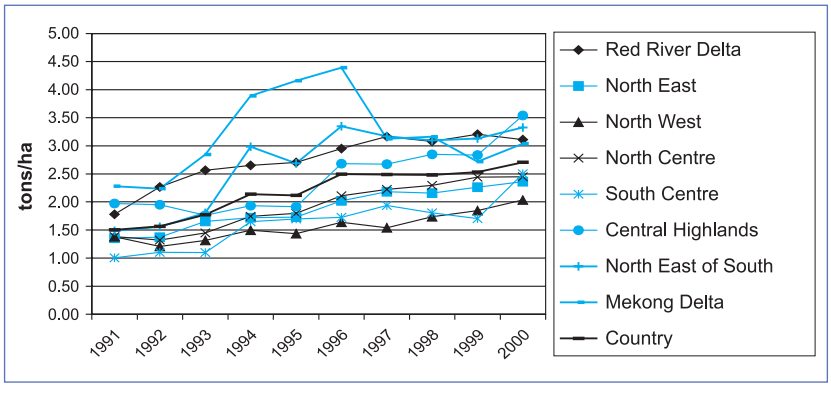


Figure 22. Change in corn yields in the different regions of Vietnam



Source: GSO, 2001.

At the start of the 1990s, corn was used as a complementary food crop to rice and as pig food. Domestic production was sufficient and Vietnam also exported. Since 1995, pig breeders have begun to use more and more compound elements, in part made up of corn. Demand is rising by an average of 12.7% per year – 28% for animal food (FAOSTAT). As a response, corn is farmed in larger areas and its production has been intensified. Yields are increasing in all regions, except in the Mekong Delta, which has experienced considerable reductions since 1996 due to the recent diversification to the market gardening.

However, production, which only grows at 10.9% per year, is not sufficient to satisfy the demand. It is thus necessary to resort to imports which are, moreover, less costly than local corn.

Thanks to the increased use of hybrid varieties, certain regions have become important production areas: the North East and the North East of the South for highly dynamic pig breeding; the North West to supply other regions, in particular the Red River Delta.

1.4. Vegetables

During the 90s, vegetable production increased in tonnage by 7% per year between 1991 and 1998, and consumption by 6% from 1991 to 2000; the surplus were exported. The quantity is sufficient for consumption but the quality is poorly adapted to demand. Moreover, the supply is very seasonal (see the fifth part). The farmed areas, which increased on average by 5% per year, remain very modest and only cover 6% of annual crops

The production of vegetables varies according to the agro-ecological regions and the possibilities for commercialisation offered by the level of urbanisation. With a tropical climate and cold monsoons, the Red River Delta has a markedly cold winter which is favourable to market gardening. In recent years, this region has diversified its crops and produced vegetables destined for the local market and for the south of the country. The yields here are the highest in Vietnam. However, intensification goes hand in hand with increased use of chemical products, which poses health problems for consumers and producers alike.

The Mekong Delta has also seen its vegetable production rise, but for a range of diversified tropical vegetables and for production seasons different from those of the Red River Delta. The Red River Delta, which has the advantage of a winter season, can produce temperate vegetables for all the country from November to April (the cabbage, for example). The region of Dalat (in the North East of South) which beneficiate of a temperate climate, produce temperate vegetables throughout the year for all the regions of Vietnam, and also for exportation to neighbouring countries.

1.5. Fruits

For ten years, fruit production has experienced significant changes, which have allowed it to respond to the new needs of the domestic market.

In the Red River Delta, fruit trees, previously confined to family gardens, are planted in orchards. This change is, however, limited by the policies of maintenance and control of rice-farming areas with a view to guaranteeing food safety. In the north of the country, the programmes of restoring graded slopes have often led to fruit plantations. In the Mekong Delta, the diversification strategies have, in particular, been oriented towards fruit production in large areas. In the 1990s, this accounted for half of the area of fruit tree plantations of the entire country and now for more than a third.

On the other hand, in the central coastal regions, the sandy soil and climatic conditions are unfavourable to fruit production and on the Central Highlands, coffee farming leaves little space for the development of fruit tree farming.

Among the fruit trees, the litchi and the longan have experienced a spectacular growth rate since 1993: an average of 37% per year. At present, these two species alone occupy 26% of fruit tree land.

Figure 23. Change in vegetable areas in the different regions of Vietnam

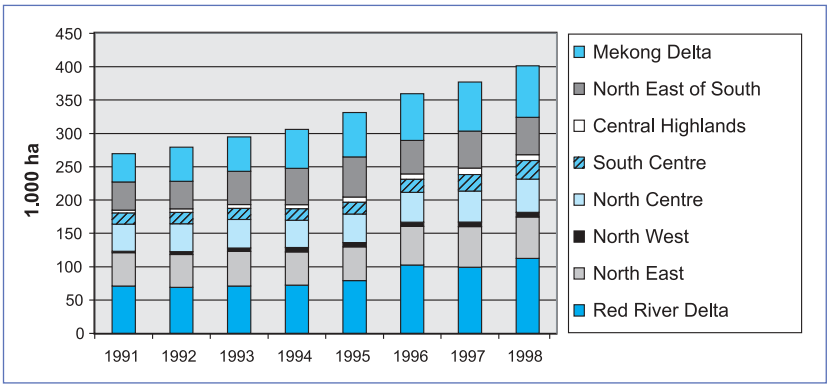


Figure 24. Change in vegetable production in the different regions of Vietnam

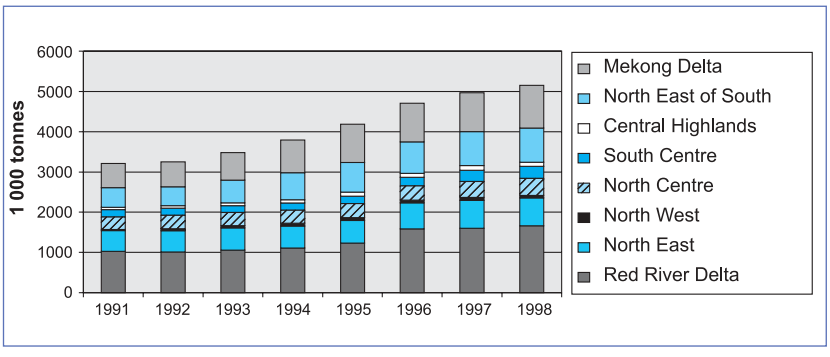
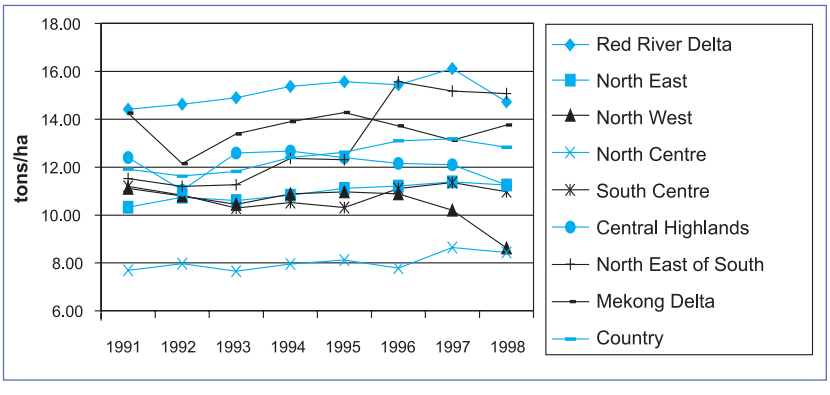


Figure 25. Change in vegetable yield in the different regions of Vietnam



Source: GSO, 2001.

Figure 26. Change in fruit areas in the different regions of Vietnam

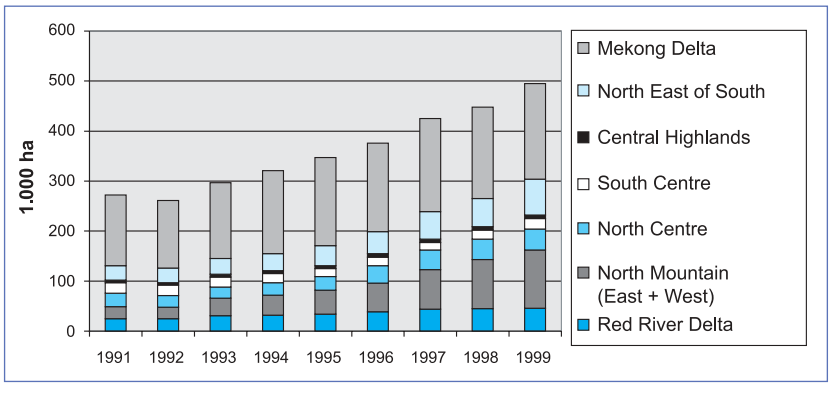


Figure 27. Change in value of fruit production in the different regions of Vietnam

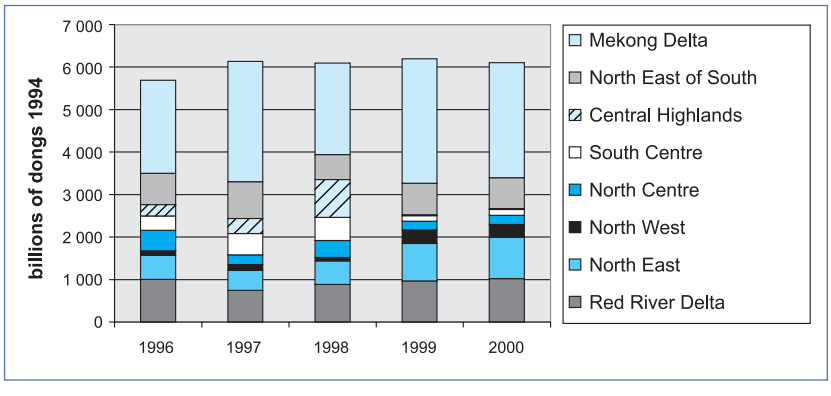
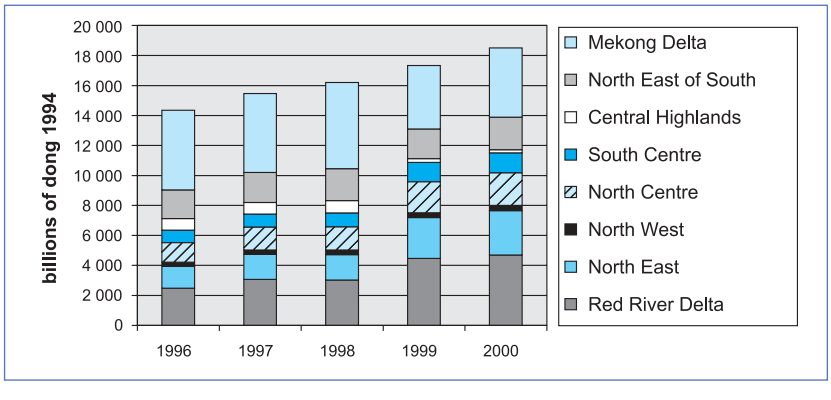


Figure 28. Change in value of animal production in the different regions of Vietnam



Source: GSO, 2001.

1.6. Meat

Livestock activities have also seen a continual increase, notably with regard to pig and poultry breeding. From 1991 to 2000, the number of pigs increased by 5% per year and of poultry by 5.7%. This growth mainly concerns the large deltas and, to a lesser extent, the North-East and North-East of the South. The change is also qualitative: the breeding of exotic lean pigs is developing in order to satisfy the demand of local urban markets, especially in the region of the Red River.

1.7. Dairy production

Recently introduced to Vietnam, dairy production cannot yet satisfy the growing needs of the population. In 2000, 90% of the milk consumed was imported.

Initially, this production essentially developed in the peri-urban zones, as a response to the demand of the urban population. Currently, two factors tend to lead to a spatial redistribution of this activity: on the one hand, increasing land pressure in the peri-urban zones and, on the other hand, the intensification of this activity on the basis of imported breeds sensitive to heat and more demanding with regard to forage. Thus, the development of milk basins, further from the towns but in zones with more favourable climatic conditions and more space for the cultivation of forage, is envisaged (such as in Ba Vi and Moc Chau, in the north of the country).

1.8. Aquatic production

Over a period of ten years, aquatic production doubled, reaching 1.88 million tons in 2000. Pisciculture is a significant element of this. The freshwater areas devoted to this farming cover 50,000 km^2. Although the Mekong Delta produces 50% of the value of national aquatic production, the Red River Delta is currently demonstrating a remarkable dynamism, with the development of intensive systems.

1.9. Differences in production according to the regions

All the regions have witnessed growth in agricultural production, but with different products: vegetables and pulses in the Red River Delta, the North East and the North East of the South (see table 12); annual industrial crops in the North West and the South Centre; livestock in the Red River Delta and the North East (although it is falling in the Mekong Delta); aquaculture in the Central Coastal regions of the country.

Figure 29. Change in value of poultry production in the different regions of Vietnam

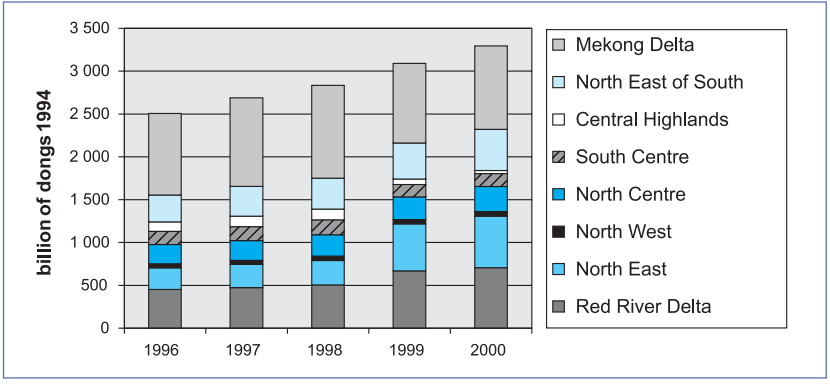
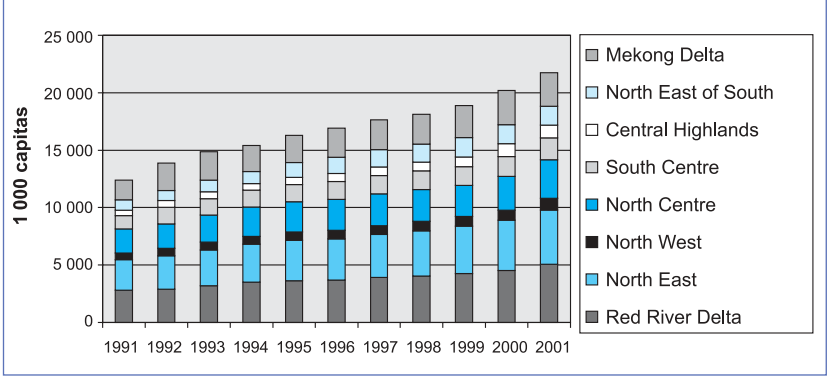


Figure 30. Change in number of pigs in the different regions of Vietnam



Source : GSO, 2001.

Table 10. Growth in animal production, in live weight, between 1990-2000 in Vietnam

	Live weight (1,000 tons) in 2000	Growth rate (%)		
		1990-1995	1996-2000	1990-2000
Pigs	1,409	7.0	7.0	7.0
Poultry	286.5	5.4	7.8	6.6
Cattle	92.2	4.0	7.4	5.5
Buffalo	48.1	4.7	-2.7	1.4

Source: GSO, 2001.

Table 11. Production and importation of milk

	1990	1995	2000
Number of dairy cattle	5,100	18,700	32,000
Milk demand (1,000 tons)	70.8	533	847
Imported milk (fresh milk equivalent in 1,000 tons)	65	512	800
Milk production (1,000 tons)	5.8	21	50
Proportion of domestic production in consumption (%)	8.1	3.9	5.9

Source: GSO, 2001.

Table 12. Rate of growth of agricultural, forestry and aquacultural production between 1996 and 2000 in Vietnam (%)

Agro-ecological zones	Agriculture - forestry-aquaculture	Agriculture (crops and livestock)	Food crops	Vegetables and pulses	Annual industrial crops	Perennial industrial crops	Fruits	Other crops	Pigs, cattle	Poultry	Other livestock	Agricultural services	Fishing	Pisciculture	Forestry
Vietnam	6.79	6.70	5.43	5.62	2.81	26.23	1.79	1.61	6.40	7.08	6.69	2.17	3.52	6.02	1.18
Red River Delta	5.01	4.81	6.45	14.95	-19.54	-59.18	0.50	9.00	16.89	11.86	22.90	-43.07	3.52	13.73	-9.49
North East	6.17	6.47	6.36	13.38	-6.48	-15.03	14.21	-18.73	21.02	24.10	8.40	-50.43	0.29	16.22	3.56
North West	7.07	7.11	8.27	-9.52	19.56	-23.55	30.55	-22.66	10.72	3.39	-8.23	-48.88	-19.62	0.16	7.65
North Centre	6.88	7.33	10.60	-2.80	11.32	-7.63	-17.98	-26.68	15.02	6.87	15.22	-5.25	7.62	19.31	-0.20
South Centre	6.10	4.41	4.72	7.08	17.82	-11.08	-20.47	-16.36	17.66	-0.54	-1.78	-15.14	7.88	12.90	-4.87
Central Highlands	18.87	20.65	-7.29	5.66	-3.87	125.78	-45.07	-3.22	-25.33	-23.62	-35.32	-19.13	-0.42	3.50	-5.67
North East of South	7.76	8.48	-9.98	15.90	16.05	69.35	-0.40	1.73	4.27	11.09	-10.50	-9.68	3.02	4.73	-0.93
Mekong Delta	5.90	5.11	8.40	-7.84	1.96	-15.75	5.47	15.57	-7.09	0.60	5.60	32.07	2.21	3.53	4.83

Source: GSO, 2001.

The diversification of crops is very different according to the region. The Red River Delta and the Central Highlands are the two regions which have the lowest rate of diversification. In recent years, the North-East of the South has seen a strong diversification (see table 13).

Specialised in rice production with its falling prices, the Mekong Delta has begun to diversify its production for the domestic market. This process is already well underway in the Red River Delta, although curbed by the absence of structured market institutions. The North East is still at a low level of integration in the market and is suffering the consequences of the degradation of its natural resources. As for the Central Highlands, it is specialised in coffee farming for exportation.

Figure 31. Change in the value of aquatic production in the different regions of Vietnam

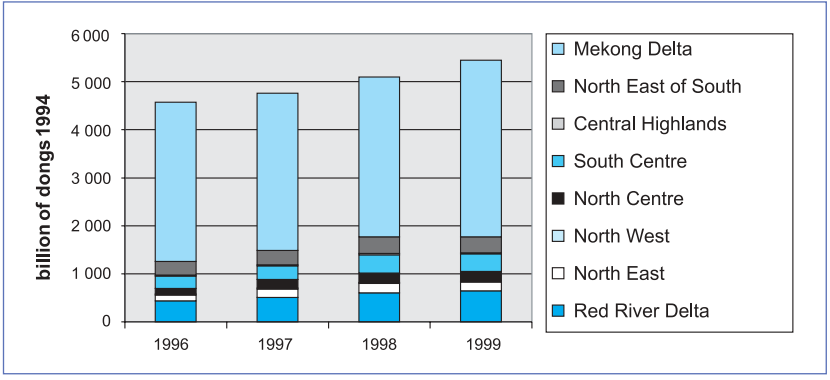
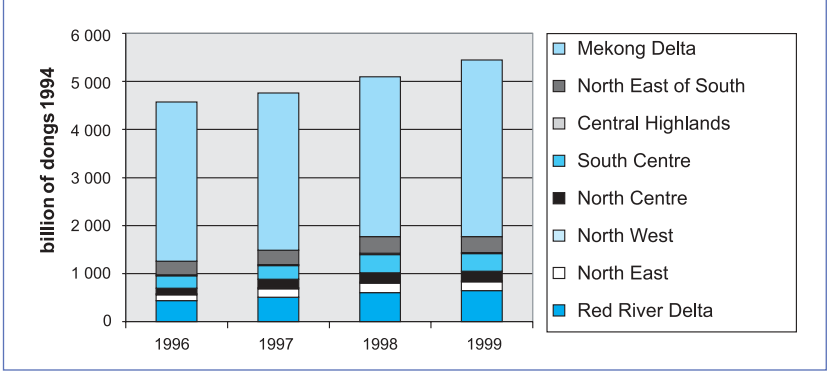


Figure 32. Change in the value of pisciculture production in the different regions of Vietnam



Source : GSO, 2001.

Table 13. Agricultural diversification in the different regions of Vietnam, 1996-2000 [1]

Agro-ecological zones	Average diversification coefficient			Growth rate of the diversification coefficient		
	Crops	Agriculture (crops and livestock)	Agriculture - forestry- aquaculture	Crops	Crops and livestock	Agriculture-forestry-aquaculture
Vietnam	0.57	0.71	0.84	1.44	0.64	-0.02
Red River Delta	0.51	0.68	0.77	-6.54	-1.65	-0.21
North East	0.56	0.72	0.86	-2.07	-0.53	0.25
North West	0.58	0.71	0.91	-0.66	-1.40	-0.51
North Centre	0.53	0.69	0.84	-6.02	-2.26	-1.36
South Centre	0.56	0.71	0.92	-2.43	-0.92	-0.70
Central Highlands	0.52	0.62	0.68	-9.18	-11.55	-11.74
North East of South	0.62	0.73	0.85	6.25	2.66	0.60
Mekong Delta	0.50	0.65	0.83	-4.99	-2.89	-1.88

Source: calculated by Dao The Tuan and Dao The Anh from GSO data, 2001.

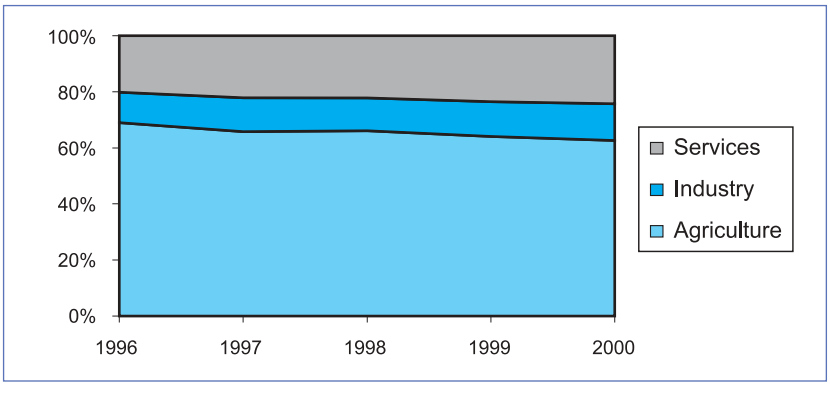
[1] The diversification coefficient used here is the one by Simpson. It varies from 0 to 1. 1 is the situation of extreme specialisation, 0 of diversification.

Table 14. Change in farming areas in the different regions (1000 ha)

Regions	1990	1995	2000
Total for country	**6,993**	**7,357**	**9,343**
Northern Uplands (North East and North West)	1,226	1,156	1,421
Red River Delta	801	689	739
North Centre	711	672	725
South Centre	540	536	546
Central Highlands	445	581	993
North East of the South	805	1,013	1,949
Mekong Delta	2,464	2,709	2,970

Source: GSO, 2001.

Figure 33. Change in employment sectors in Vietnam



Source: GSO, 2001.

Table 15. Share of agricultural labour according to the regions of Vietnam and evolution between 1996 and 2000 (%)

Agro-ecological zones	Proportion of agricultural labour (average 1996-2000)	Rate of reduction in agricultural labour
Vietnam	65.51	-2.38
Red River Delta	66.24	-3.91
North East	81.99	-1.06
North West	88.93	-1.06
North Centre	75.15	-2.59
South Centre	63.71	-2.70
Central Highlands	78.29	-0.47
North East of South	36.90	-3.21
Mekong Delta	63.51	-1.59

Source: GSO, 2001.

2. Limiting structures and environment

To what extent has access to factors of production (land, work, inputs and credit) and the environment of production (extension, trade) favoured the increase in production and its diversification? What are the prospects for the future?

2.1. Unequal land availability

During the last ten years, farming areas have increased considerably, notably in the North East of the South, in the Central Highlands and, to a lesser extent, in the North and the Mekong Delta. On the other hand, they are stagnating in the Red River Delta and the Centre.

These changes are linked to regional differences in terms of land availability, population density and economic development. In the northern regions, there is virtually no virgin land and farming land is diminishing, mainly due to the expansion of urban and industrial areas. On the other hand, in the southern regions, population density is still low and virgin land has been cleared since the 1990s. The new lands are occupied, either formally in the framework of state development projects, or informally by spontaneous migrations (see *infra* Fanchette S.). However, organized state migration had met some difficulties due to conflicts between the locals and the migrants; some environmental problems have appeared following the excessive intensification of the sloping plots.

2.2. An abundant and educated labour-force

Although agriculture remains the main sector of employment (in 2000, it accounted for 62.5% of workers over the age of 15), this figure is tending to fall. Moreover, although all rural adults have access to work, they are under-employed: in 2001, the rural labour-force was only employed for an average of 75% of the time throughout the year (GSO, 2001).

Vietnamese labour is characterised by a high level of mobility. The North East of the South welcomes numerous migrants, mainly for the rapidly developing industrial sector. Before 1994, the Central Highlands constituted a destination due to its land reserves; but today these are almost exhausted by the development of coffee

farming. The migrants come mainly from the North Centre and the Mekong Delta. Despite a high population density, the Red River Delta witnesses a limited and falling level of emigration thanks to the diversification of its activities which has created new employment.

Another important characteristic is that the Vietnamese have a high level of schooling, both in rural and urban areas. It is in the Red River Delta that this level of education is highest. However, in the Mekong Delta, the level of education is low, which could hamper future agricultural dynamics. In the mountains of the North Western Uplands and in the Central Highlands, the low level of education compared to the other regions is the result of isolation.

Technical training of labour is increasing: 13% of the labour force had received technical training in 1997, 15.5% in 2000. However, in the agricultural domain, this training is still rare, curbing the modernisation and professionalisation of agriculture.

2.3. Access to credit still insufficient

Before 1991, state credit was reserved for the state cooperatives, farms and companies. The only means open to farmers were the mutual aid networks or usurer credit. After tests in 1991, a credit policy was implemented for family farms. From 1991 to 1995, the number of families affected increased, officially reaching more than 50% of farms in 1995. Each household received an average of 1,600,000 dongs. In 1999, authorisation for loans was increased to 10 million dongs of short-term credit, with the property deeds as a guarantee. Nevertheless, despite these measures, peasants' access to credit has not improved a great deal.

The Agricultural Bank plays an essential role in rural credit: more than 60% of producers who have taken out a loan did so with this bank; the other public credit organisms reach 14% of producers, the remainder being undertaken by private people.

According to studies carried out by the IFPRI and the MARD (2002), in most regions (except the Central Highlands), credit is for the most part used to buy livestock feeds and raw materials (36 to 66% of credits). According to a studied carried out in Hai Duong (Hoang Vu Quang, 1997), small credits are used to: purchase fertiliser (45%), construct a house (15%), effect small trade (9%), cover daily family expenditure (7%). In the poorest families, credit is used more to support family consumption and less for production. In poor families, larger credits are used mainly for the construction or restoration of houses and family spending, but never for production. However, well-off families use them to invest in agricultural or extra-agricultural production.

Table 16. Level of education of Vietnamese labour, 1999 (%)

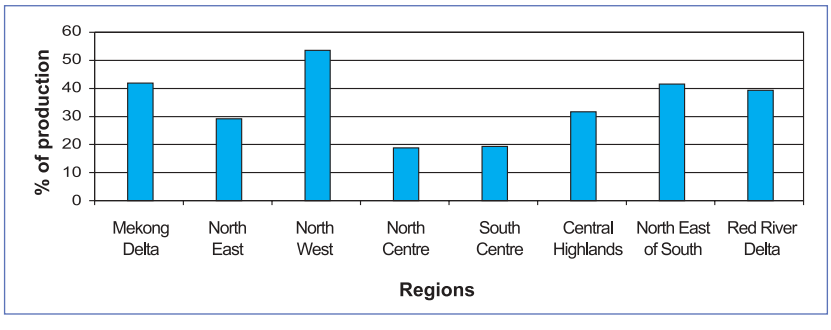
	Level of education					
	Total	No schooling	Primary educational uncompleted	Primary	Secondary	Upper secondary
Country	100.00	4.89	20.11	30.65	33.09	11.26
Urban	100.00	1.43	10.51	22.73	27.91	37.42
Rural	100.00	4.89	20.11	30.65	33.09	11.26
Red River Delta	100.00	0.90	6.99	21.69	54.49	15.93
North East	100.00	6.05	13.61	28.90	39.40	12.04
North West	100.00	17.41	28.03	30.76	20.30	3.50
North Centre	100.00	1.91	9.92	24.28	46.98	16.81
South Centre	100.00	3.61	25.03	39.21	23.34	8.81
Central Highlands	100.00	15.27	21.29	30.95	23.80	8.69
North East of South	100.00	3.83	26.73	38.86	20.22	10.36
Mekong Delta	100.00	7.06	37.27	37.36	12.60	5.71

Source: GSO, 1999.

The current credit system has many flaws:

- The banks lack availability for long-term credit.
- The peasants have a low capacity for mounting projects.
- The sums that it is possible to borrow are low in light of the investments necessary for farms wishing to specialise.
- As it cannot act independently of the Agricultural Bank, the “Paupers” Bank (renamed the “Policy Bank”) has a very small impact on the least well off, who it is supposed to serve as a priority.
- The modalities for reimbursement are not adapted to agricultural production cycles.

Figure 34. Proportion of farmers with access to credit in the different regions of Vietnam



Source: MARD, 2002.

Between 1993 and 1998, requests for formal credits stagnated. Informal credit concerned more than 55% of the people borrowing in 1998. The difficult access to state credit is less the result of insufficient financial resources than it is of the absence of institutional structure for the distribution and management of credit. A new form of credit had recently developed, via peasant groups who manage the credit together. There is also the practice of the transfer of loans between borrowers; they represent 46% of loans and 48% of the value of informal credit. These figures confirm the weakness of formal credit (Haughton D. and Haughton J., 2001). However, the risks of non-collection are not negligible; they are linked to market risks, for example during the sharp fall in the price of paddy in 1997.

2.4. Highly uncoordinated agricultural extension

Agricultural extension is undertaken by the public system and by various organisations. The official system of extension is very "top-down". The activities, offered to farmers by provincial extension centres, are defined by the national extension service, under the auspices of the Ministry of Agriculture and Rural development (MARD). At present, there is no official extension structure at municipal level. According to the MARD, this official system only covers 15 to 20% of extension, and only 9.5% in the Red River Delta. The main part of extension is carried out by organisations which are not officially extension services: provincial or district agricultural services, veterinary or plant protection services, cooperatives, mass organisations such as the women’s association or the association of young people, research institutes, companies, etc.

This organisation of extension demonstrates many limits. The organisms are poorly coordinated; their technical training does not allow them to tackle socio-economic questions. Official extension activities depend on projects, with no long-term strategy. Extension favours technical innovations to the detriment of organisational innovations (producers’ organisations, organisation of commercialisation) and new technical messages to the detriment of the diffusion of basic techniques to which the most disadvantaged farms still do not have access. Finally, the extension services play only a minor role in the diffusion of information relative to the prices and the state of agricultural markets: they supply less than 2% of the information received in this domain by the producer, who mainly finds information via personal contacts (39%), contacts with traders (35%), or by radio and television (14%).

2.5. Commercial services to be improved

The commercial services are essential to the development of agricultural production. They include upstream services (supply of inputs, for example) and downstream services (commer-

cialisation support). The analysis of the downstream services will be developed in the section dealing with the commodity channels.

The upstream commercial services are undertaken by state-controlled and non-state-controlled actors such as cooperatives and private companies, sometimes of foreign origin, etc. They mainly supply fertiliser, livestock feed, plant material, fattening or breeding animals, production materials, etc.

According to the MARD, in 1999 there were 105 animal feed production factories, with a capacity of 2.8 million tonnes per year: 62% of these were national, non-state-controlled factories, 22% were state-controlled, 12% were developed with foreign capital and 5% were mixed companies with funds from share up.

There are few national poultry or pork industrial selection farms (10 and 12 respectively), and these are small (a few hundred sows or a few thousand hens per farm). At the provincial level the farms, which remain modest, only concern pigs. There are no foreign companies involved in this sector of activity.

With regard to the supply of artificial fertiliser, production and importation (509 million dollars of imported fertiliser in 2000, Institute of Economics, 2001) are primarily managed by state-controlled companies. Retail distribution is essentially in the hands of the private sector.

As for the downstream services, the private sector is responsible for most of the collection and distribution on the domestic market, with state-controlled companies representing only a small proportion. However, the state controls the export markets through many companies.

The major limits of the current support measure for the supply of inputs and the sale of production are linked to many elements. The quality control of inputs supplied to the producers is insufficient. The imports of inputs are the monopoly of state-controlled companies whose practices (system of quotas) contribute to increasing the costs for the producers. The collection network for agricultural products, either for export or for the domestic markets, is entirely in the hands of the private sector, with no state control.

In the districts and provinces, there is no administrative unit responsible for the commercial service vis-à-vis the producers. State interventions are mostly administrative and oriented towards the export channel.

3. Increasing differentiation

3.1. Land, a key factor of differentiation

Despite the agrarian reform of 1993, which aimed at an egalitarian distribution of farming land, land differentiation between the regions, and within the regions, is increasing. Although, in 1998, the average size of farms was 0.9 ha at the national level, it was much larger in the North East of the South (1.4 ha) and in the Central Highlands (1.5 ha) and much smaller in the South Central region (0.55 ha).

The differences are also significant between rural and peri-urban zones. Vietnam can count almost six hundred towns, of varying size, whose population is increasing by 4-8% per year. This process of urbanisation is leading to heavy land speculation on the edges of these towns.

Land differentiation is also significant within the regions. In the Centre, the area of the largest farms is twice that of the smallest. In the South, the ratio is 1 to 10.

These questions are all the more important as land concentration is increasing. In the Mekong Delta and in particular in provinces such as Tra Vinh and Bac Lieu, the proportion of peasants without land is increasing rapidly.

Although the promotion of average and large-sized farms is political will, its implementation remains ambiguous. In official documents, the state encourages the development of average and large-sized farms in order to promote market production and to facilitate land concentration in rural areas, in particular in marginal zones. However, these measures are not very operational for several reasons: land capacity is limited; the commodity channels poorly organised; and the support for sectors downstream of production are still insufficient.

Table 17. Agricultural area per household according to regions (m²)

	Average	Agro-ecological regions						
		Northern Uplands	Red River Delta	North Centre	South Centre	Central Highlands	North East of South	Mekong Delta
Average per household	9,039	9,556	8,531	5 982	5,498	15,109	13,673	10,296
Peri-urban	3,928	3,936	1,567	1 470	1,723	0	2,981	7,608
Rural	9,443	10,027	9 154	6,123	5,903	15,109	14,537	10,587

Source: VLSS 1997-1998.

Table 18. Agricultural area per household according to the living standard of the households (m²)

Household standard of living	Average	Zones						
		Northern Uplands	Red River Delta	North Centre	South Centre	Central Highlands	North East of South	Mekong Delta
1	7,183	8,812	3,111	5,472	8,445	11 5253	3,104	6,827
2	8,187	11,628	3,895	5,929	4,602	15,074	5,783	10,432
3	7,588	9,688	3,127	6,958	5,041	14,192	7,722	10,837
4	13,304	8,242	25,118	6,860	4,124	19,484	14,119	11,067
5	10,044	7,204	2,381	3,196	4,082	26,415	19,434	12,176

The standards of living are evaluated by means of expenditure quintiles, "1" corresponding to the lowest level.
Source: VLSS, 1997-1998.

Table 19. Number of peasants without land in the Mekong Delta

	1994		1998	
Provinces	Number of households	(%)	Number of households	(%)
Long An	769	0.48	1,536	4.66
Tien Giang	957	0.45	2,393	0.88
Ben Tre	570	0.30	11,674	5.05
Soc Trang	3,668	2.62	9,900	6.58
Vinh Long	442	0.34	9,218	5.20
Tra Vinh	770	0.67	16,198	14.00
Dong Thap	168	0.10	15,516	7.16
Can Tho	825	0.44	16,147	5.00
An Giang	1,721	1.14	15,870	5.58
Kien Giang	1,441	0.98	9,376	6.59
Bac Lieu	489	0.63	14,086	13.33
Ca Mau	457	0.50	14,424	8.24
Total for the Mekong Delta	12,250	0.70	136,338	5.69

Source: GSO, 1994 and popular committees of the provinces, 1998.

3.2. Widening inequalities in agricultural income

Numerous works have shown that agricultural growth has been accompanied by increased inequalities in income, depending on access to land, as well as to a commercial network – the first networks were established during the collectivist period (see notably Dao the Anh, 2003). These trends should continue.

New threats hang over the agricultural sector, notably the increase in inequalities between regions according to access to transport and information. The agricultural productivity gap between the richest province (Vinh Long, Mekong) and the poorest (Quang Ninh, North-East) increased from 4.1 to 6 between 1986 and 1998 (Cour J.-M., 2001). There is a relation between the size of holdings and agricultural productivity: thus, total factor productivity of rice farms of less than 0.25 hectares is 2.5 times lower than that of farms of more than 2 hectares (Cour J.M., 2001).

3.3. Differentiated access to extra-agricultural activities

Diversification towards non-agricultural activities allows the households to confront the problem of low incomes linked to reduced farm size.

In recent years, non-agricultural activities have increased by 9 to 10% per year. In rural areas, 11% of households have an activity which is exclusively non-agricultural and more than a quarter exercise a veritable double activity. According to recent surveys, the most common are: crafts, food transformation and trade, the latter two growing the most rapidly. However, the contribution of non-agricultural activities to the income of rural households remains limited: an average of 21% between 1993 and 1998, rising less quickly than that of agricultural incomes.

Furthermore, diversification of activities goes hand in hand with a reduction in the poverty of the regions.

Table 20. The different sources of income of rural households in Vietnam 1993-1998.

	Average household income (1,000 dongs, 1998 prices)		Growth of 5 years	Share in household incomes (%)	
	1993	**1998**		**1993**	**1998**
Agriculture	2,867	4,606	60.6	37.2	46.8
Extra- agricultural activities	1,443	1,884	30.5	18.7	19.2
Salaries	1,687	1,685	-0.1	21.9	17.1
Others	1,710	1,663	-2.8	22.2	16.9
Total	7,707	9,838	27.6	100	100

Source: World Bank, 1999, calculated from VLSS 92-93 and VLSS 97-98.

Table 21. Distribution of employment, poverty and rice yields for workers aged between 15 and 65, 1998

Regions	Distribution of labour in the different branches of activities (%)			Poverty rate of the population (%)	Rice yield (quintals/ha)
	Agriculture	Trade and services	Others		
Northern Uplands	68.4	20.0	11.6	58.6	32.9
Red River Delta	43.0	41.8	15.2	28.7	51.3
North Centre	58.2	26.3	15.4	48.1	34.2
South Centre	36.2	43.0	20.8	35.2	37.0
Central Highlands	77.9	18.6	3.5	52.4	26.3
North East of South	15.9	57.2	27.0	7.6	28.8
Mekong Delta	43.8	44.1	12.2	36.9	40.7
Total population	68.1	19.6	12.2	37.4	39.6

Source: VLSS 97-98.

4. Fluctuating relationships with the other sectors

4.1. Varying contribution of agriculture to the GDP

During the period of major economic reforms, the national GDP experienced changes varying with a fluctuating contribution of agricultural GDP.

Between 1988 and 1992, agricultural growth, although irregular, contributed clearly to the growth of national GDP, industry and services being poorly developed at that time.

From 1993 to 1998, Vietnam experienced a high rate of GDP growth, 8.9% per year, lifting it to fourth place in world rankings (Haughton D. and Haughton J., 2001). The industrial sector developed, reducing the share of agriculture, all the more so as agriculture suffered from larger and larger falls in price.

In 1998, the Asian crisis curbed the growth of industry and services considerably in all the countries of Eastern Asia. In Vietnam, agricultural growth allowed the growth of national GDP to be maintained. The following years were marked by a fall in the price of rice on both the international and domestic markets, affecting the contribution of the agricultural sector to national GDP.

Although the share of the agricultural sector in national GDP is falling, agriculture represents 70% of rural GDP. It is likely that the lack of institutions necessary to the functioning of the market has been a factor limiting the development of private rural companies, as it has been for the development of the agricultural sector. We have seen that the labour force is under-employed in rural areas to a level of more than 25% of working time, but cannot be deployed in the industrial sector which is capital-intensive and labour non-intensive. The food processing sector represented 6% of GDP in 1996, much less than primary production (Nielsen, 1996). Let us recall that, in France, the contribution of the food

Figure 35. Growth rate of general GDP and agricultural GDP

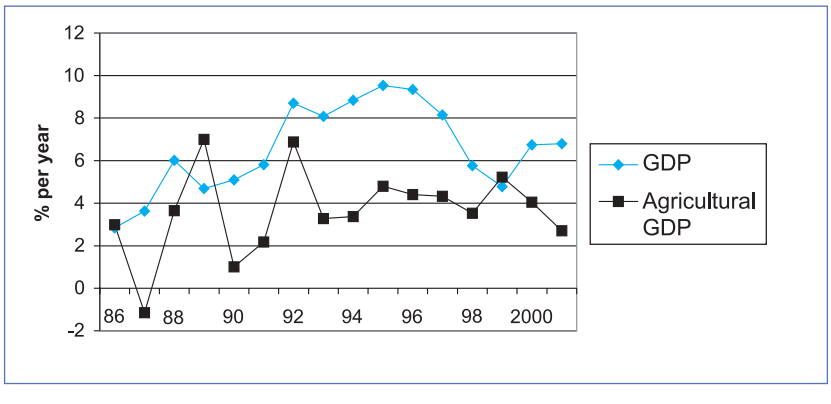
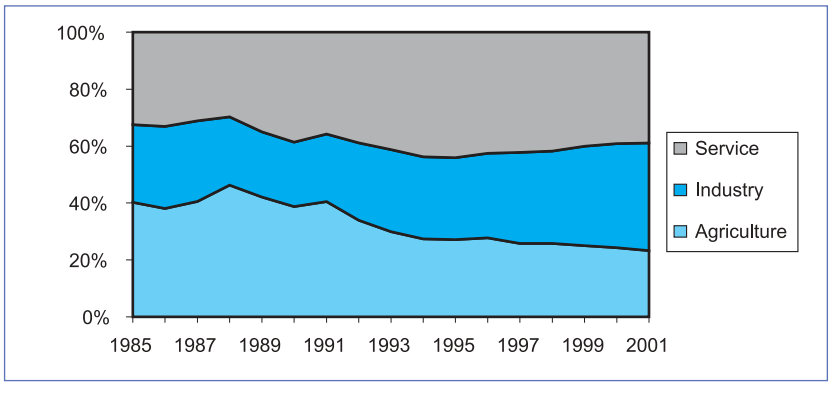


Figure 36. The structure of national GDP per sector



Source: GSO, 2001.

processing sector to the GDP exceeded that of the agricultural sector at the end of the 1980s. Nevertheless, the ratio between agricultural and non-agricultural productivity increased from 4.8 in 1986 to 6.8 in 1998 in Vietnam (Cour J.-M., 2001).

Agriculture in Vietnam thus creates little income, compared to the service and industry sectors, but far more jobs in rural areas (see the section on labour). The state must therefore manage both the increase in agricultural productivity and the non-agricultural job creation support in rural areas, following the model of Taiwan or South Korea.

Finally, comparing the agricultural GDP growth rate with that of agricultural exports shows that, before 1994, agricultural GDP changed in the same direction as agricultural exports. Since then, agricultural growth would seem to be less related to that of exports, a fact confirmed by the growing role of the domestic market.

4.2. The change in the share of agricultural GDP per region

The changes in the economic structure in recent years have affected the regions differently. Although most agricultural regions are the Central Highlands, the Mekong Delta and the North West, those which have experienced the most rapid agricultural growth are the Central Highlands, the North East of South, the North East and the North West. The regions whose agricultural contribution to GDP is falling most quickly are the North East, followed by the Red River Delta.

Figure 37. The structure of rural GDP in Vietnam per sector

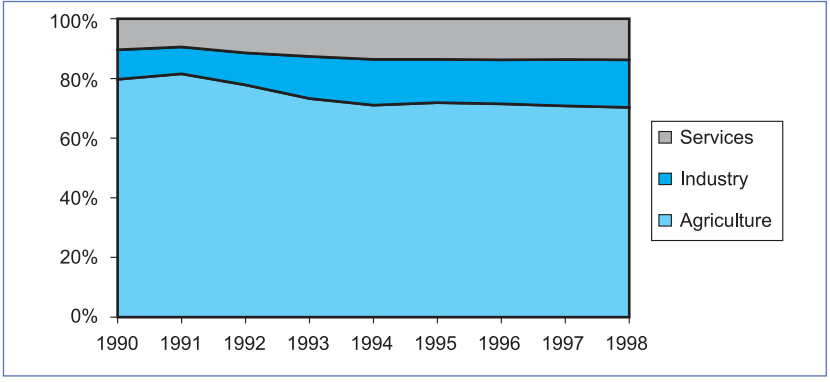
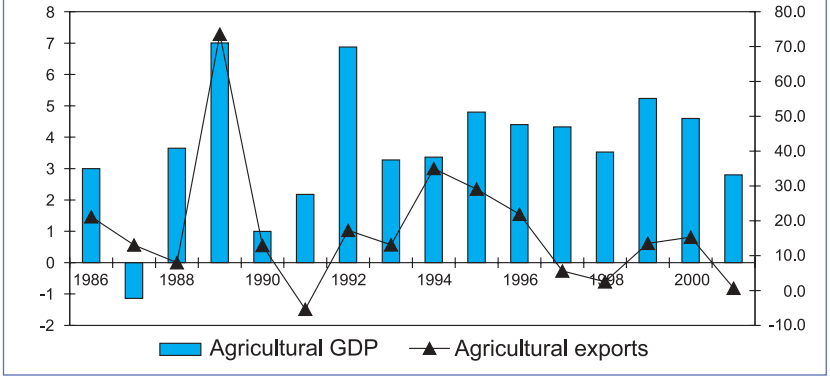


Figure 38. Growth of agricultural GDP and agricultural exports (% annual)



Source : GSO, 2001.

Table 22. Changes in economic structures,1996-2000 (%)

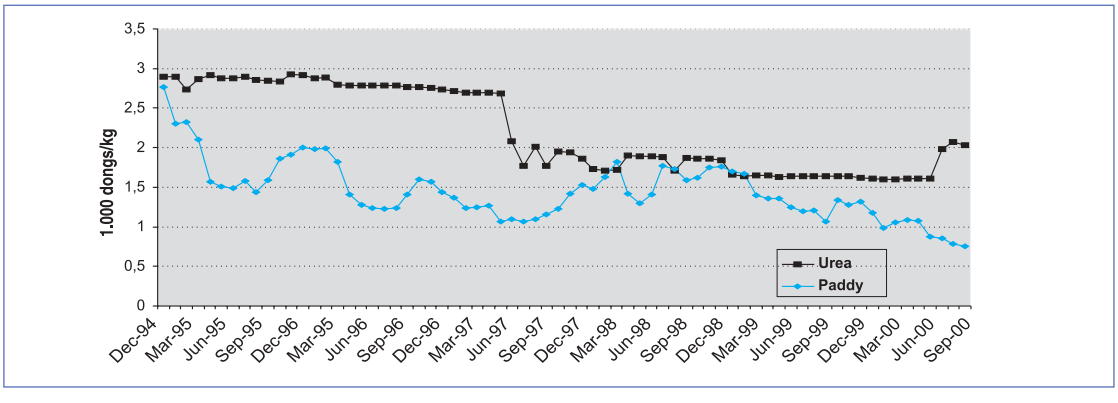
Agro-ecological zones	Share of agriculture in the GDP	Share of industry in the GDP	Rate of fall of the agricultural share	Rate of growth of the industrial share
Vietnam	23.95	35.44	-1.98	3.11
Red River Delta	20.35	32.01	-2.69	2.79
North East	32.72	31.01	-2.76	3.73
North West	45.02	17.39	-1.68	4.24
North Centre	33.24	24.28	-2.06	3.52
South Centre	28.11	29.61	-1.99	4.01
Central Highlands	59.25	14.01	2.27	-1.42
North East of South	8.11	49.70	-1.09	2.83
Mekong Delta	47.23	20.60	-2.16	4.02

Source: GSO, 2001.

4.3. Improved terms of exchange?

The data concerning the terms of exchange between agriculture and the other sectors of the economy are contradictory. On the basis of the VLSS, Haughton D. and Haughton J. (2001) claim that the terms of exchange improved significantly between 1993 and 1998, which would explain the fall in poverty: the price of rice increased by 62%, while that of non-food products increased by 23%. However, monitoring the price of rice in a municipality of the Red River Delta shows that the constant prices of rice are falling, contrary to manufactured products such as urea, for example.

Figure 39. Evolution in average monthly price of paddy and urea in Nam Sach, Hai Duong (constant prices, December 1994)



Source: Dao The Anh, 2003 from GSO, 2001.

Conclusion: overcoming the weaknesses to satisfy domestic demand

Agricultural production has thus been able to satisfy the growth in demand in quantity for the main food products (except for corn, imports of which are increasing).

However, the quantitative appraisal masks problems of adjustment between supply and demand. On the one hand, production does not always succeed in supplying the market regularly throughout the entire year. On the other hand, production does not satisfy market demand well in terms of quality (see following section). Finally, the diversification process is still very slow: rice still occupies more than 60% of farmed land (this figure was 70% in 1991).

The evaluations of agricultural growth in terms of creation of wealth are also divided. The growth of agriculture is reflected by a large contribution to employment and to incomes in rural areas. However, the impact on the economy of the whole country is less significant than that of industry and services. In rural areas, it is important to favour extra-agricultural activities, such as trade and transformation of food products, or crafts which peasant households already exercise and which provide them with liquid assets which can be reinvested in the agricultural sector.

Finally, agricultural growth is reflected in the growing gaps in incomes due, for the most part, to differentiated access to factors of production and commercial services, extension and transport. This situation seems all the more marked in the Red River Delta than in the Mekong Delta where private services are better organised. The State has a key role to play in re-establishing the balance of access to the conditions of production and market outlets.

The structural change in agriculture must be achieved by a differentiated approach for each agro-ecological region because each region is at a different stage of development and has specific advantages in the production of the different commodities.

The response of the market

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The economic reforms have facilitated access to the market for both producers and consumers, leading to a reduction in self-consumption. The proportion of purchases in supplies currently exceeds 65% in rural areas and 95% in urban areas. The commercial commodity systems play an essential role in transmitting the consumption needs to the production units. How are these commodity systems organised – flows in space, stakeholders, types of transport? Their efficiency is evaluated in terms of competition, scale of transactions, price and income formation and quality, using the examples of three commodity systems destined for the domestic market: rice, vegetables, pigs.

The market is characterised by a small-scale and competitive structure as well as by relatively short marketing chains, except in the case of the vegetables commodity system between the north and the south where wholesalers control the information on supply and demand. Contractualisation is rare. Traders have low commercial margins (15% for rice, 20% for pork, 45-50% for vegetables), which is a sign of efficiency, although they do not succeed in controlling the numerous risks which weigh on the market: cheating with regard to quality; production deficits or surpluses; non-payment in the event of sale on credit. Moreover, economies of scale can be achieved by regrouping production and improving transport.

Vietnam is currently experiencing a certain degree of centralisation of its transactions, with the planning of wholesale and retail markets – which will reduce or even eliminate numerous points of sale – and the development of large volume distribution (the number of supermarkets doubled between 1997 and 2001). These evolutions will have negative consequences on employment for unskilled populations and will be unfavourable to producers, traders and consumers who do not have motorised means of transport; compensatory measures could accompany these developments. Finally, these changes reinforce the necessity for producers to draw together; in this way, they could indicate and control the quality of their products and increase their price bargaining power vis-à-vis the buyers.

Although production has been able to satisfy the increase in domestic demand in terms of quantity (see fourth chapter), the response is still limited with regards to quality and regularity of supply, as well as the creation and distribution of incomes. The connection between production and consumption is determined by the organisation of the market, i.e. the organisation of transactions between the stakeholders of production, of the market and of consumption.

Producers and consumers are turning more and more to the market. How does the market transmit the evolutions in demand and supply in terms of quantity and quality? Do the size and organisation of the commercial commodity system (transactions) allow the information to be transmitted between the producers and the consumers to the benefit of all the stakeholders? How is this reflected in terms of income distribution within the commodity systems? What is the impact on the food commodity system of two recent evolutions in food distribution: the development of large volume distribution and the planning of new markets?

1. Increasing recourse to the market

The economic reform has facilitated access to the market for both producers and consumers, and both in rural and urban areas alike, causing a reduction in self-consumption. In rural areas, the proportion of purchases rose from 57% of food consumption in 1992-1993 to 64% in 1997-1998; it was estimated at 71% in 2002. In urban areas, the figure has been at 95% since 1992 [1] . The ratio of the non-agricultural to the agricultural population rose from 0.39 in 1986 to 0.47 in 1998 and should reach 0.96 in 2020 (Cour, 2001). At that time, a farmer should thus feed a farmer plus a non-farmer [2] .

As Gironde (2001) says, “although talking of a market economy is debatable, the role of the market is undeniable, in that a solvent demand and a price system influence the choices of the economic systems”. The growth of commercialised productions is the result of the increase in potential customers and the monetarisation of rural areas. Indeed, the rural populations are confronted by increasing monetary spending – for land, with the system of auctions, to pay taxes and public services in the municipalities. “The market thus designates an economic and social environment which is favourable to transition from an economy driven by supply, where it was difficult to buy, to an economy driven by demand, where people struggle to sell.”

Recourse to the market differs according to regions and products. It is the upland regions, with the most difficult access, which commercialise their productions the least. Thus, in the Central Highlands, the proportion of fruit and vegetables commercialised represents less than 50%, whereas it exceeds 90% in the Mekong Delta. There are strong disparities between pro-ducts at a national level: production of potatoes is only commercialised at a level of 15%, whereas this percentage reaches 80% for tomatoes and 95% for litchis and longans (IFPRI, 2002).

2. Efficient yet too segmented commodity systems

How is the distribution of food products organised between producers and consumers: intermediaries, types of transaction, trading places? How do intermediaries’ strategies and their organisation influence the response of local production to demand in terms of quantity, quality and cost? The answer to these questions is based on the case of three commodity systems: vegetables, rice and pork.

[1] Muriel Figuié, Nicolas Bricas, infra (The evolution of food consumption in Vietnam; from GSO data, Vietnam Living Standard Survey 1992-93 and 1997-98).

[2] Jean-Marie Cour’s calculations result from a demo-economic model which uses population, imports and exports as exogenous variables. Figures on the agricultural and non-agricultural population result from hypotheses on the distribution of the population of agglomerations with varying size in the different sectors. During the writing of the present document, Jean-Marie Cour was involved in the revision of the different model parameters.

2.1. The vegetables commodity systems for the domestic market

Numerous researchers and decision-makers have a rather negative assessment of the functioning of the vegetable markets in Vietnam. "The sales chains used by the producers are disorganised: the wholesale and retail markets emerged spontaneously and are not organised" (Ngo Van Nam, 2002). "The markets are underdeveloped and spontaneous". "The commercialisation system for vegetables in Hanoi has spontaneous characteristics, the intermediaries are new and play a minor role in the circulation of products" (Bui Thi Gia, 2002). Nevertheless, these affirmations are not based on a rigorous assessment of the coordination of transactions, notably the circulation of information and decision-making.

What are the characteristics of the vegetable commodity systems destined for the cities: geographic flows (spatial organisation), relations between the stakeholders (functional and institutional organisation)? How does this organisation allow the adjustment between consumption needs and production potentials? What are its advantages in terms of cost and its limits in terms of scale and circulation of information?

Spatial organisation

The production response to the growth of the market logically comes from the closest areas, especially for the most perishable vegetables. Indeed, these areas benefit from the lowest transport and information access costs. The market is also supplied by distant production basins, which benefit from favourable climatic conditions (see map 2). This is the case for the Dalat region with regard to the supply of Hanoi and Ho Chi Minh City or for the Son La region and the Chinese production areas for the supply of Hanoi. The relative importance of these production zones - close (peri-urban, less than 30 kilometres from the centre), more distant (rural) and foreign - varies according to the nature of the product (level of perishability, adaptation to tropical conditions) and the periods of the year (production of temperate vegetables is more difficult in the north of Vietnam between July and September). The vegetable-producing areas are, in decreasing order, the Red River delta, the Mekong delta, the province of Lam Dong (Dalat).

Thus, in Hanoi, more than three quarters of leafy vegetables, such as water morning glory (rau muong) and lettuce, are produced fewer than 20 kilometres from the urban centre and are available all year round [3]. Temperate vegetables (tomato, cabbage, carrot) come from peri-urban areas when climatic conditions are favourable (November to March) and elsewhere outside of this winter period, for example in August, from China (80% of tomatoes), from Dalat (15% of tomatoes) and from Son La (5% of tomatoes).

Surveys in the markets show that a production district in the peri-urban areas can be linked to each product: this is the case for the districts of Thuong Tin and Hoai Duc in the province of Ha Tay for winter tomatoes (representing a quarter of the flows between them) and of Me Linh in the province of Vinh Phuc for June tomatoes; Gia Lam in the province of Ha Noi for winter cabbages (45% of flows); Gia Lam and Tu Liem for leafy vegetables.

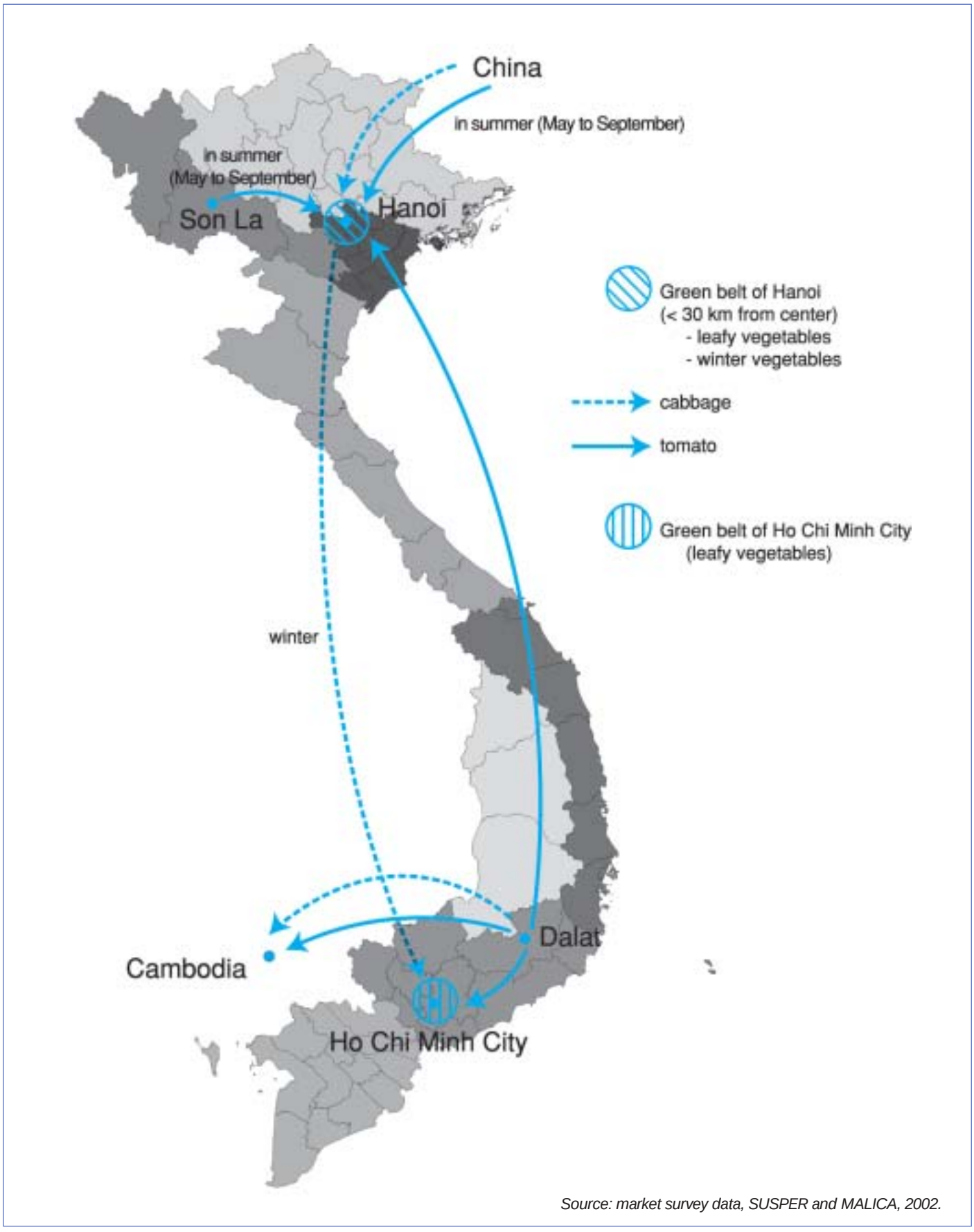
For temperate vegetables, the vegetable production districts in the Red River delta supply the city of Hanoi and other cities, such as Vinh in the central region, and even Ho Chi Minh City. In the region of the Bac Hung Hai, more than 70% of the production of temperate vegetables are destined for the distant markets in the centre and south of the country which do not benefit from favourable production conditions in winter, the remainder being commercialised in Hanoi (Bui Thi Thai, 2000).

Since 1994 and the first market reforms, villages have refined their commercial positioning, linking their advantages – type of vegetable and quality, according to the soil and climatic characteristics and the experience of the region – to the targeted destination market.

In Ho Chi Minh City, vegetables are provided for

[3] Information on the flows of vegetables destined for Hanoi are provided by the AVRDC-CIRAD project on peri-urban agriculture, Hoang Bang An, Isabelle Vagneron *et al.*, 2003, and for Ho Chi Minh City, surveys from CIRAD/Imperial College at Wye/Agriculture and Forestry University of Ho Chi Minh City.

Map 2. Main vegetables flows in Vietnam



Source: market survey data, SUSPER and MALICA, 2002.

by the region of Dalat, its peri-urban zone and the Mekong delta. The province of Lam Dong (Dalat) provided more than 85% of supplies of tomatoes and the different types of lettuce for the traders questioned in the night markets in Ho Chi Minh City (February 2003). The peri-urban zone supplied most of the highly perishable vegetables such as aromatic herbs.

Organisation of the stakeholders

Short and splintered marketing chains for peri-urban agriculture

In Hanoi and Ho Chi Minh City, retailers mainly purchase their supplies at the night-time wholesale markets, except the shops and supermarkets presented below. For the peri-urban agricultural products (temperate leafy vegetables in winter), the commodity systems are generally very short with no intermediary between the retailers and the producers. Certain producers are also collectors for other producers: in Hanoi, more than 40% of wholesalers supplying retailers at the night markets are producers; this percentage can be as high as 65% in March. More than 80% of the sellers use two-wheeled transport to bring their daily quantities, ranging from 100 to 200 kilos of goods, to the markets. This fragmentation of transactions facilitates neither economies of scale for collection costs nor the circulation of information between buyers and sellers.

Short peri-urban vegetable channel (leafy vegetables, temperate winter vegetables)

Farmer → (Collector) → Retailer → Consumer

The wholesaler networks for the north-south channels

In the case of long channels – from Dalat and China to Hanoi, from Dalat or the Red River delta to Ho Chi Minh City and the cities of the centre – there is an intermediate link: specialised wholesalers. In the hot season, 99% of tomatoes sold to the retailers on the wholesale markets in Hanoi are brought by collectors or wholesalers, in 15% of the cases by truck. The same is true for round cabbage, 70% of which commercialisation is undertaken by the producers in the cold season and 100% by the wholesalers in the hot season. The wholesalers – collectors and – distributors who commercialise vegetables between the north and the south of the country can commercialise between 50 and 100 tonnes per day (Bui Thi Thai, 2000).

Long temperate vegetable channel from Dalat, China and the north-south channels

Farmer → Wholesaler - collector →
→ Wholesaler - distributor →
→ Retailer → Consumer

Integrated channels for quality products

The supermarkets, which want supplies of products of a specified quality, make use of more integrated channels than those which supply retailers from stalls. Thus, in Hanoi, supermarkets, shops, schools and restaurants are supplied directly by a small number of cooperatives (three in 2003, representing a total of thirty hectares), with which they maintain relations of customer loyalty. These cooperatives have benefited from the technical support of the "clean vegetables" programmes of the agricultural departments of the province of Hanoi and a certificate awarded by the department of sciences and technologies.

The organic vegetable channel has developed on the initiative of a non-governmental organisation (CIDSE) and currently concerns about thirty families in the provinces of Hanoi (Tu Liem) and Ha Tay (Chung My). The NGO concludes three-month contracts at fixed prices and quantities with the producers and supplies them with organic fertiliser and technical training. As producers have difficulty in finding outlets, the NGO has also become involved in retail commercialisation by opening a shop and delivering to individuals (Hanoi Organics company). The vegetable channel in Dalat has a similar organisation. It is run by the Golden Garden Company, bound by contract to the association of clean vegetable farmers which consists of 35 farmers on 4 hectares (Dini, 2002).

In Ho Chi Minh City, a cash and carry has

concluded supply contracts for 'quality' vegetables with peri-urban producers by the intermediary of a network of thirty five collectors (Cadilhon, Fearne, Moustier and Poole, 2003).

Low marketing margins

As Hanoi is close to the peri-urban zones, the channels are short, favouring low prices for the consumers. Research by the Agricultural University of Hanoi (1998) evaluates the commercial margin at 30% for leafy vegetables, 35% for cabbages and 75% for tomatoes (Bui Thi Gia, 1999). Case studies by the CIRAD-VASI (2002) identified the margins at 45-50% for cabbages. These data should be regarded with caution in view of the large price variations during the year. In long-distance flows, the wholesalers' incomes are more than ten times higher than those of producers, retailers or collectors, but the risks of bankruptcy are also much higher due to the irregularity of production and the lack of arbitration structures in the event of conflict.

Studies carried out on a small sample of stakeholders in the "clean" vegetable channels would suggest that incomes are higher: producers' incomes are 33,000 VND per day (average of 9 producers), whereas they are between 18,000 and 29,000 VND in the ordinary vegetable channels (for 25 producers). In all cases, the incomes of the collectors and retailers (34 in total) are higher than those of the producers (between 30 and 200%). The difference in price between vegetables of an indicated quality and ordinary vegetables is between 50 and 100%. Production surcharges are at 40%, due to the investment required and the lower yield (Ho Thanh Son, Bui Thi Thai, Paule Moustier, 2003).

An irregular supply

For temperate vegetables, such as tomatoes and cabbages, there is a period of unavailability of local production of about four months for the Hanoi region (July to October). At this time, vegetables are imported from China. During this period, prices increase considerably, due to the shortage of local production and the transport costs of imported products. Thus, for tomatoes, the ratio between the maximum price and the minimum price corrected for extreme values (coefficient of variation of the seasonality index) was 2.5 between 1996 and 2001(Hoang Bang An, Vagneron *et al.*, 2003).

Imports essentially respond to the fall in local production due to excess water and humidity and not to the irreversible competition of neighbouring countries, as certain local producers fatalistically claim. Even if they appreciate the appearance of Chinese products, traders prefer local products for their freshness and health quality. The producers in the peri-urban and rural areas (Son La, Dalat) could therefore increase their market share by increasing their off-season production during periods of shortage, by improving the appearance and by promoting the health quality of their products. This assumes a rigorous evaluation of chemical residues in local and imported products.

Problems of quality

Vegetables are the food products which most concern consumers with regard to their health, mainly due to pesticides. They are also concerned by their appearance – freshness, homogeneity – (Moustier, Bridier, Nguyen Thi Tan Loc, 2002; Figuié, 2003). Works have confirmed that producers in the peri-urban zone of Hanoi use excessive quantities of pesticides and fertiliser, that they do not know how to choose the suitable products and that they do not know how to apply them (Tran Khac Thi, 1999; de Bon, 2001).

Nevertheless, the initiatives of producer cooperatives with regard to biological or IPM production encounter problems of outlets, as is shown by interviews with about fifty producers and traders. The prices paid to producers are certainly higher than those of ordinary vegetables by 40% (for safe production) to 100% (for organic vegetables). However, sales of products labelled "clean" or "organic" remain limited, especially as a result of the higher price and the suspiciousness of consumers. Indeed, there is no rigorous control policy nor a clear communication strategy: the origin of the products and the production methods are indicated neither by producers nor the traders (except for direct retail sales by the producers); and the media confuse IPM vegetables and biological vegetables.

Strengths and weaknesses of coordination mechanisms

Short and long marketing chains

The characteristics of the short channels described – low quantities, two-wheeled transport and frequent integration of production, collection and even retail sales – favour neither the large-scale collection of products, nor the circulation of information concerning the needs of the market and the production potential.

On the other hand, in the long channels, networks have for a long time linked wholesaler-receivers, based in the destination cities, to wholesaler-distributors, with information being exchanged regularly, sometimes by telephone (Bui Thi Thai, 2000).

Institutional economics allows the forms of vertical integration and the personalised relations between operators to be identified and interpreted as responses to high transaction costs (Moustier, Vagneron, Bui Thi Thai, 2003).

In the short channels, vertical integration limits the size of transactions and implies that the producer sells at night on the market instead of devoting himself to his farming (but finishes with low prices). In the wholesaler networks, in a situation of oligopoly, market organisation is damaging to the distribution of incomes in the channels as the wholesalers have much higher incomes than those of the producers as a result of their controlling information concerning the final outlets; however, this organisation facilitates more large-scale transactions.

Strengths and weaknesses of contractual forms

The relations between stakeholders are more integrated in the quality goods channels than in the ordinary vegetable channels, integration responding to a strategy to minimise uncertainty concerning health quality. The producers maintain relations of loyalty with distributors: regular orders, delivery to the shops and, in the case of two cooperatives, direct retail sales by the producers on market stands. Moreover, two companies, Hanoi Organics and Golden Garden Company in Dalat, specify in the signed contracts the quantities, the price and the production and control protocols. We could also quote the example of "Metro" cash and carry in Ho Chi Minh City, which has signed contracts with peri-urban producers (see above).

The contracts between producers and traders are still very few. Indeed, the instability of the quantities and prices leads the producers to adopt opportunist behaviours: when prices increase, they prefer to change buyers and, in periods of overproduction, they are reticent to sell fixed quantities. Evidence of this can be seen in the company Hanoi Organics, which has difficulty in drawing up contracts with the producers [4]. Furthermore, only 10% of the traders interviewed in the framework of the IFPRI survey claimed to have contracts with producers (IFPRI, 2002); 85% said that they did not enter into contracts due to price instability. Finally, 70% spoke of disagreements with their suppliers regarding the quality of the products.

Traceability and quality control

Traceability and quality control have become a major concern of consumers. In response, the producers have to organise themselves. They could thus improve the labelling of products (wrapping, labels, information about production and control practices) and implement a credible quality control at their level.

Currently, controls are undertaken by several administrations (Department of Sciences and Technology, Ministry of Agriculture and Rural Development, Ministry of Health) and are not widespread: only 20% of vegetable sellers interviewed in the IFPRI survey (IFPRI, 2002) had been visited by a quality controller. It is henceforth necessary that the system of controls be validated by public bodies.

Lack of trade associations

Producer organisations are also a solution to group the products, with sales delegated to traders who are members of the group of producers, as demonstrated by the success of some clean vegetable cooperatives in Hanoi. In the

[4] Interviews with two producers from Tu Liem, contracting parties of Hanoi Organics and with the officials of the company.

IFPRI study, none of the eighty five fruit and vegetable traders on the domestic market claimed to be a member of an association, whereas one third of exporters admitted to belonging to a trade association. Forty percent of traders believe that associations are useful for coordinating the acts of buying and selling, for insurance programmes against market fluctuations and for favouring trade contacts.

Recommendations

In the case of vegetables, the transaction costs are high due to the instability of supply in terms of quantity and quality. Reducing these costs necessitates an increase in and greater regularity of supply. This implies a concentration of land, larger-scale modes of transport, a supply of suitable inputs and technical support, information of producers concerning market demand and the promotion of producer associations in order to regroup sales.

With regard to the problems of quality, producers and traders must devise a more precise communication policy referring to well specified production and sales practices which are verifiable (in terms of origin and practices) for consumers and control organisms alike.

2.2. The rice channels of the Red River delta

Dao The Anh *(VASI)****, Franck Jésus*** *(CIRAD)* [5]

Spatial organisation

The observations made by the VASI-CIRAD team showed two different cases for the sale of rice. Some provinces, such as Hoai Duc, produce and sell small quantities for consumption within the province. Other zones produce and sell larger quantities, between 60% and 90% of which are destined for other provinces (large markets, including those in the cities).

Organisation of the stakeholders

The producers in the Red River delta sell the rice which they have not consumed themselves nor used as animal food. According to estimations, 50 to 60% of farmers sell rice. They sell 35 to 40% of their total production, using 15 to 25% as pig food and 25 to 35% for human consumption.

Within the provinces, the sale of rice is effected via short channels. The paddy is sold to local collectors *(hang xao)*, who are responsible for husking it (by paying the service of small private huskers) and selling it directly to the local consumers. With regard to inter-provincial trade, the same collectors sell to the local wholesalers, the local wholesalers to larger inter-provincial wholesalers, and the latter to the retailers. The inter-provincial wholesalers commercialise large quantities of rice from all regions of Vietnam.

Short local rice channel (intra-province)

Farmers → Collectors → Local rice consumers

Long local rice channel (inter-province)

Farmers → Collectors → Local wholesalers → Inter-provincial wholesalers → Retailers → Rice

Paddy rice is commercialised by a dense network of actors. On average, one collector collects the paddy of between fifteen and thirty households and a wholesaler buys the rice of between fifteen and thirty collectors. Such a network means that the small quantities sold by a large number of households can be brought together. Most collectors and many local wholesalers are therefore also producers. In this way, trading rice provides households with additional resources.

Low marketing margins

Ordinary rice channel

The margin of ordinary rice traders only represents a small proportion of the price paid to the producer. The consumers in Hanoi pay only 15%

[5] Summary by Dao The Anh of the section devoted to the rice commodity system of the report: Jesus, Dao The Tuan, Le Thi Chau Dung, Le Thi Nham, Dao Kim Mien, 2000.

more than the price paid to the producer. The farmers obtain 87% of the urban retails price - in Indonesia, the wholesale prices are 40% higher than the price paid to the producers (Erwidodo, Prajogo U. Hadi, 1999) and in the United States, farmers obtain only 8% of the retail cereal price (U.S. Department of Agriculture, 1998). This small margin is possible because the local collectors also sell bran and competition is fierce due to the large number of traders.

Flavoured rice channel

Flavoured rice is a high-quality variety *(Tam Xoan)* that most consumers prefer to ordinary rice. The price paid to the producer is 50% higher than that of ordinary rice. For all that, however, the farmer is not interested in cultivating flavoured rice, as the yields are lower and costs higher. Profits are the same as those obtained for ordinary rice (two thirds of the sale price). On the other hand, collectors, wholesalers and retailers make more profit than with ordinary rice. Urban consumers pay 40 % more for flavoured rice than is paid to the producer. Although this is low compared to other countries, this margin is much higher than that of ordinary rice. This can be explained by the low level of competition between buyers of flavoured rice, as supply is still insufficient.

Moreover, profiting from the imbalance between supply and demand, traders have developed a "false flavoured rice" channel with varieties of Chinese rice which have an identical grain to that of *Tam Xoan* rice and the price of which is only slightly higher than that of ordinary rice. At the moment of purchase, the consumers are unable to differentiate the real flavoured rice from the false. These illegal practices discourage producers from cultivating flavoured rice.

Instability of prices, payments and quality

The main problem mentioned by rice traders, all the more detrimental as the average margins per kilo are low, is the instability of prices and the quantities available. Suitable storage could solve this problem. Another problem mentioned is the delay in payments in the chain: from retailers to wholesalers; from certain consumers who buy on credit to the retailers.

As for the physical quality of the rice – cleanliness, colour, percentage of humidity and proportion of broken rice –, it is very heterogeneous and requires sorting which the retailers and wholesalers find difficult to effect due to the different origins.

Strengths and weaknesses of coordination mechanisms

Producers and consumers benefit from the small commercial margins in the ordinary rice channel. Producers would profit from the differences in physical quality being visible and valorised in terms of price. In the flavoured rice channel, the producers from the Tam Xoan region have created an organisation making their label recognised and thus better valorising their production in terms of price. This type of organisation could be extended to other zones.

Conclusion

The ordinary rice channel is globally efficient with regard to commercialisation. For the rice producers, the problems lie at the production level rather than the marketing level: water surpluses or deficits linked to problems of collective management of irrigation infrastructures; pesticides and seeds which are often unsuitable. The desired improvements in commercialisation mostly concern the flavoured rice channel.

2.3. The pork channel in northern Vietnam

Vu Trong Binh *(VASI)* [6]

This section will highlight the similarities and differences between the pork channel and the vegetable and rice channels.

The sale of pigs occupies a varying place in farmers' strategies. For two thirds of producers, who have an average of three pigs, selling is a residual activity, the main part being the supply of manure and savings. For the remaining third, the sale of pigs can represent more than half of

[6] This part was written using: Jesus, Dao The Tuan, Le Thi Chau Dung, Le Thi Nham, Dao Kim Mien, 2000, and Vu Trong Binh, 2002.

their incomes. Whereas rice farmers highlight production problems (access to water, quality of pesticides and seeds), pig farmers, like vegetable farmers, face problems of commercialisation.

The supply to consumers is effected directly by the slaughterers or by the retailers who buy from them. Based in rural or peri-urban zones, the slaughterers are supplied directly by producers or by the intermediary of collectors. The commercial margins, which are small, fall between those of the rice and vegetable channels: the retail price is only 20% higher than the price paid to the producer and the producer receives 80% of the end price – in the United States, this figure is between 25 and 40%.

Consumption of pork differs in the country and in the cities, urban consumers preferring lean pork. There are numerous difficulties in producing lean pork, both technical and structural. The breed of exotic pig introduced recently requires new practices in piglet supply, feeding and care, which producers and extension workers do not know. Moreover, the small size of breeding (7 pigs in Nam Thanh) reduces bargaining power with the collectors and thus the valorisation of efforts towards quality.

In Nam Thanh (Hai Duong province), breeders have successfully tested collective actions in order to control piglet supplies, draw up agreements with veterinary services and develop regular relations with collectors.

As for the other channels, the increase in producers' incomes could occur via a clear differentiation of qualities (lean pork, fat pork). At present, the purchasing prices from the producer are not significantly different whereas for lean pork, animal food and care are more costly. The pork channel also suffers from price instability and the risks of buyer credit.

The food ration, consisting of half corn, represents about 65% of the production costs of pork. The efficiency of the pork channel thus depends on efficiency of the corn channel; indeed the retail price of corn is high (115 US$ per tonne, whereas the international market price is only 84 US$ per tonne) and unstable (Dao Duc Huan, Vu Trong Binh, Dao The Anh, Lecoq, 2003). In order to know how the price of Vietnamese corn could be reduced whilst retaining the socio-economic role that this product plays in the upland areas, it is necessary to know the limits to the increase in production in the different regions of production (notably Son La) and the transport problems experienced. Furthermore, the extensive production of corn in mountain areas is not sustainable (erosion, loss of ferti-lity of the soil). One solution lies in agro-ecological practices for production systems based on corn in these upland areas.

2.4. Conclusions for the three channels

The table below summarises the trends of the three channels. In all three cases, demand is greater for products of a specified quality (flavoured rice, clean vegetables, lean pork); for standard products, demand remains high for the low living standard population.

Currently, vegetables remain cheap products whereas pork is a costly foodstuff. The consumption of pork will only increase if the price for the consumer falls, which would require a fall in the cost of feeding and care.

Vegetable producers will see their incomes increase if they group together. They could thus benefit from economies of scale for production, marketing and transport.

To rebalance their position in relation to the wholesalers, the producers in the rural areas specialised in vegetable production (Dalat, Son La) will have to improve the transport (at present non-refrigerated trucks) and organise the circulation of information between producers and traders.

For the three channels, although the dispersed organisation with no long-term contractual relations allows low end prices and a certain flexibility, it does not favour risk-taking to conquer market shares for quality products providing higher incomes. The sale of specified quality products necessitates an organisation of communication and controls at three levels: producer groups; producer-trader groups (with the development of contractualisation between producers and traders); and public authorities to certify control structures in relation to the profession.

Table 23. Trends for rice, vegetable and pork commodity channels

	Consumption	Production	Channel
Rice	Falling for ordinary rice; increasing for flavoured rice However, ordinary rice will remain the basic foodstuff for all Vietnamese	Increasing Conversion of rice into crops with higher value added	Dispersion and competition Small commercial margins Lack of organisation to valorise the quality of flavoured rice (label, differentiated price)
Vegetables	Increasing for temperate vegetables, stable for leafy vegetables The health crises can discourage consumers (especially wealthy) from buying local vegetables	High increase in both the north and the south Shortages (rainy season) and surpluses (winter) for temperate vegetables Threats to land in peri-urban zone	Dispersed Circulation of information absent; low level of transactions in the peri-urban zone; dependence on wholesalers for rural production Lack of quality control and clear communication concerning quality
Pork	Increasing for lean meat Still limited by the price	Increasing	Lack of organisation of producers to indicate and valorise quality Constraints on reduction of end price = feeding costs

3. The planning of new markets

Jean-Joseph Cadilhon *(Imperial College at Wye - CIRAD)*

For some years, distribution has experienced two major changes, which will have consequences on the organisation of commercialisation: planning of the wholesale and retail markets and the development of large volume distribution.

3.1. The objectives of the urban development plans

City people's committees, in collaboration with the experts from the Ministry of Urban Planning and the Ministry of Trade, draw up urbanism plans. These plans include projects to develop the marketing circuits. The objectives of the authorities are to:

- reduce the circulation of large trucks in the large towns in order to improve traffic conditions;
- concentrate the actors of commercialisation in the official markets: close informal street markets; eliminate the existence of travelling vendors;
- improve the distribution of fresh products, by constructing supply-chain platforms in production zones and distribution centres around the major urban centres;
- encourage the production, commercialisation and consumption of clean vegetables in and around the cities.

Also planned are the construction and renovation of wholesale and retail markets. This allows the concentration of retail activities in the official concrete markets and supermarkets. In order to plan the network of retail markets, urbanism engineers undertake calculations of population per quarter, then establish the location and the size of the markets to be constructed or redeveloped according to the number of potential customers.

3.2. Two models of wholesale markets

The construction plans of new wholesale markets on the periphery of Hanoi and Ho Chi Minh City differ in their design, but seem adapted to the local context.

In Hanoi, more than half of the vegetables consumed are produced in the peri-urban zone and transported by bicycle or motorbike by collectors or farmers. On the other hand, fruit mainly comes from the south of the country or from China. The major roads which serve these production zones end south of Hanoi in the first case and on the left bank of the Red River in the other. It is thus necessary to cross the river to reach the centre of town. The plans of the People's Committee of the city favour the construction of a network of seven small peripheral markets, closer to the production zones, which will be linked by a ring road for the circulation of trucks. Two of these markets have already been developed (Denlu to the south of the city, Dich Vong to the west). Moreover, a new market has been constructed in the south of the city to house the fruit wholesalers and their large cargoes. A bridge to cross the Red River should be built nearby. These peripheral markets would act as warehousing and redistribution centres. The large trucks will remain outside the city and smaller trucks will transport the products to retailers who cannot travel to the secondary wholesale markets within the city.

In Ho Chi Minh City, the fruit and vegetables distribution networks are much more concentrated: each night, collectors transport large quantities by truck to the wholesale markets. The main supply areas for fruit and vegetables are the south central region (notably the region of Dalat), the Mekong delta and the peri-urban zone of Cu Chi to the north of the city. The roads coming from these zones arrive in the east, west and north of the city respectively. The People's committee of Ho Chi Minh City is planning the construction of three large peripheral distribution centres: one in the east for the products from the north, one in the west for the products from the Mekong delta and one in the north for products from the peri-urban zone. These markets, the largest of which, in the west, will cover an area of 150 hectares, are located to permit a break in the load between large and small trucks. A peripheral boulevard will link these three markets. At first generalist in nature, they will later specialise according to production.

Compared with spontaneous wholesale markets (Long Bien and Nga Tu So in Hanoi, Cau Muoi, Mai Xuan Thuong and Tan Xuan in Ho Chi Minh City), planned wholesale markets have some specific features (concrete soil, parking area, lighting).

3.3. Problems of tomorrow

The possible consequences of the development of new markets are numerous; they may be favourable or unfavourable to the functioning of marketing chains and to the stakeholders. It nevertheless seems that the authorities are not aware of all of these effects.

Greater transparency in the food chains

The construction of wholesale markets should solve certain problems currently observed in the commercialisation channels for fruit and vegetables. The concentration in time and space of numerous traders – in a limited and regulated market – should improve the transparency of price setting and promote competition between wholesalers, something which will benefit the customers of the latter and the end consumers. New infrastructures should also improve the handling of fresh products with storage, sorting and packaging areas, as well as cold rooms. This should contribute to reducing losses in the commodity channels. Finally, moving the central wholesale markets to the periphery of the cities and the ban on the circulation of large transport vehicles in the town centres will certainly resolve the congestion problems in town.

More shared effects on the insertion of producers in the markets

In Hanoi, the construction of peripheral markets should reduce the travelling time of producers who market their production or that of other farmers. In the markets already built, lighting and security against theft are much appreciated by the sellers.

In Ho Chi Minh City, thanks to the high degree of transparency and the improved circulation of information between the urban and rural markets, more producers can sell their production at prices

more representative of the conditions of supply and demand.

However, the elimination of travelling vendors of food products will be a severe blow to poorer households around the edge of the city. Indeed, when their labour is not required on the farm, farmers' wives go to the city as travelling vendors. Their prices, higher than those offered by saleswomen on the official fixed markets of Ho Chi Minh City, take into account the delivery at home service. Moreover, as travelling sales and the informal markets can represent more than 80% of the sale of fruit and vegetables in Hanoi (Nguyen Dinh Quang, 1999), it is important to provide for an alternative which allows a wide distribution of products.

Long-term effects on job and income creation

The governmental policies regulating commercialisation and the construction of new markets can have ambivalent consequences on job creation and the increase of revenues.

In the short term, we might fear a clear loss in jobs due to the elimination of the informal marketing chains such as travelling vendors and informal markets. In Ho Chi Minh City, moving the wholesale markets will cause a reduction in the number of wholesalers: only the biggest, who have a means of transport to travel from their home in the town centre to the new peripheral wholesale markets, could continue their activity. According to author's surveys of wholesalers, numerous small wholesalers have decided to change their activity when the markets change location, a fact which promises to be difficult in a milieu where urban unemployment is already a problem.

In the long term, these planning policies should be accompanied by an increase in the number of jobs and in the incomes of the stakeholders in the commodity channels. At a more general level, the urban population of Vietnam will increase with industrial development. If changing the locations of the markets is a success and the new wholesale markets become attractive sites for the handling and exchange of food products, the increasing number of mouths to feed in the cites and the development of a food processing industry will bring about more activity for the wholesalers and, upstream, for the collectors and farmers. This in turn should result in a clear increase in terms of the creation of jobs and incomes.

3.4. The necessity for dialogue

In the wholesale market planning process, no dialogue has been provided for with the market users, the traders and the producers. However, this would be desirable to adapt the markets to the constraints and needs of the operators: localisation, location costs, times, services rendered. Moreover, for the traders who will not be able to use the wholesale and retail markets due to insufficient liquid assets or to localisation, it is important to imagine solutions, for example a credit programme to open shops or to acquire a vehicle.

4. The development of large volume distribution

Nguyen Thi Tan Loc *(RIFAV)*

Is the food commodity system in Vietnam, like in many Asian, European and Latin-American countries, heading towards a concentration of retail distribution and a growing proportion occupied by large volume distribution? What effects will these changes have on production, trade, transformation and the consumers?

4.1. The development of supermarkets throughout the world

Supermarkets are playing a larger and larger role in the trade of common consumer goods, in particular food products.

Supermarkets were born in the 1930s in the United States then in developed countries of Europe, such as England, France and Germany. They later spread outside of Europe.

In Latin America, where poverty affects 40% of the population, supermarkets experienced rapid growth, initially in the major cities (1980s), followed by the medium-sized towns and other towns (end of the 90s). Supermarkets were initially established in wealthier quarters, then the areas inhabited by the middle class, finally reach-

ing the working class areas. Their share in supplying increased from 10-20% in 1990 to 50-60% in 2000 – an evolution which required fifty years in the United States (Reardon and Berdegué, 2002). For example, in Guatemala, the poorest country in Latin America, supermarkets, which increased in number from 66 in 1994 to 128 in 2002, sell 35% of the total quantity of food sold in retail outlets (15% in 1994).

Since the 1990s, the Asian countries, such as Singapore, China, Thailand, possess supermarkets, the diversity of which reflects the living standards of the clientele. However, the share of large volume distribution in food trade remains small: in Taiwan, large volume distribution still only represents 20% of fresh product purchases and in Thailand, 35% (Cadilhon, Fearne *et al.*, 2003).

Three main factors can explain the growth of large volume distribution: urbanisation; the growth in incomes with its direct and indirect effects (purchase of refrigerators and means of transport); and the increasing proportion of working women.

The rise of large volume distribution transforms the food sector, due to the strong competition which exists in the sector and thus the necessity to reduce the selling price. Supply chain platforms are created as well as contracts between wholesalers and producers, private standards of quality, food safety, volumes, packaging. The direct marketing chains between producers and sellers are strengthened, directly by the points of sale or indirectly by the intermediary of purchasing centres; the proportion of supplying from the wholesale markets falls.

Demands with regard to quality, regularity of supply and modes of payment can lead to the exclusion of small farmers. However, producers' organisations have succeeded in taking advantage of these changes by implementing, often with the support of the state, a certification and signalisation adapted to the supermarkets (Reardon and Berdegué, 2002; Lautent, 2001). Generally, the development of large volume distribution places the power of decision and negotiation more than ever at the retail level, in the contact with the end customers and in a situation of oligopoly (Moati, 2001).

Nevertheless, some commodity systems resist the growth of large volume distribution. Whatever its share in the food trade may be, local sales in shops retain certain comparative advantages: freshness of products, care in the presentation, support for local production. Moreover, the proportion of fruit and vegetables commercialised is always lower than that of other food products: 50 to 75% less in Latin America, especially for reasons of conservation. In France, in 1995, hypermarkets, supermarkets and mini-markets commercialised 60% of fruit and vegetables (Vernin, 1998), whereas these products accounted for 80% of food trade (Malassis and Ghersi, 1997). Finally, as large volume distribution is controlled by oligopolies, the products available tend to become uniform, a tendency which has difficulty in being compatible with the differentiation of consumer purchasing practices. Thus, large volume distribution is experiencing a crisis – even if it adapts by diversifying the range of products available by concluding partnerships with suppliers (Moati, 2001).

The effect of large volume distribution on the end price of food products is difficult to establish; although it reduces the price of stabilised or transformed products, it varies much more for fresh produce; moreover, transport costs to supermarkets do not necessarily make buying in a supermarket more economical than buying in local markets (Saada, Valentin, 1997).

4.2. The development of supermarkets in Vietnam

Before 1990, there were no supermarkets in Vietnam (that is no shop of an area of more than 400 m^2). In the context of a subsidised economy, the Ministry of Trade managed the shops directly. Customers bought goods according to a fixed quantity without being able to choose either the products or the desired quantity. The first supermarkets appeared at the start of the 1990s. They were initially concentrated in the major cities like Ho Chi Minh City and Hanoi, then in the surrounding towns. Initially, the supermarkets, which were either small (less than 500 m^2) or medium-sized (500-1,000 m^2), were constructed in the city centre, like the Citimart or Minimax outlets. They then multiplied in the peri-urban districts and their

size increased: for example, on the outskirts of Ho Chi Minh City, the Coop Mart and Fivimart supermarkets (between 1,000 and 15,000 m^2), then Cora Mien Dong, Cora An Lac and Cora Dong Nai, which exceeded 15,000 m^2 (and are therefore hypermarkets, a term used for shops covering more than 2,000 m^2). In September 2001, Vietnam could count 70 supermarkets, 32 in Hanoi et 38 in Ho Chi Minh City [7].

The diversity and quantity of the goods sold in the supermarkets is rapidly increasing, due to the increase in purchasing power. This is demonstrated by the record turnover recorded by the supermarkets during the Tet festival of 2003. Daily sales in the Intimex, Fivimart, etc. supermarkets exceeded one billion dongs. the Intimex supermarket, which marketed 10,000 types of goods in 2001, sold 15,000 in March 2003 and it is aiming at 20,000 before the end of 2003.

The turnover of supermarkets is increasing. For example, the Seiyu supermarket in Hanoi saw its daily turnover triple from 1996 (700,000 VND) to the end of 2002 (2,000,000 VND). Yet the economic efficiency of the supermarkets is still not a general phenomenon, a fact which poses a problem for investors. As they represent a new method of commerce, certain supermarkets are still not profitable. Thus, of the 70 supermarkets in Hanoi and Ho Chi Minh City, 14 were in deficit in 2001, 14 were breaking even and 15 were in profit, profit of more than 500 million dongs for ten of them [8]. Traders are forecasting the appearance of new supermarkets in 2003, not only in the towns, but also in the provinces and major industrial zones such as Da Nang, Binh Thuan, Can Tho, Tien Giang, An Giang, Vinh Long, Hai Phong, Thai Binh and Bac Giang. At the same time, the supermarkets are increasing their area.

4.3. The place of food products

Most supermarkets participate in the marketing of foodstuffs (48 from a total of 70, or 70%), 23 out of 32 in Hanoi, 25 out of 38 in Ho Chi Minh City. Food products represent 30% of all goods in more than 80% of supermarkets.

As fresh fruit and vegetables are bulky and perishable, not all supermarkets sell them. Only 14 of the 32 supermarkets in Hanoi sell fresh vegetables and 21 out of 38 in Ho Chi Minh City. As for other food products, the sale of fruit and vegetables in supermarkets is increasing and diversifying. For example, it is possible to find unusual local products such as baby corn, cucumber and asparagus, sweet peppers, carrots, green beans and Nam roi grapefruits, as well as imported products such as apples from New-Zealand, grapes from the United States and tropical fruits from Thailand. Prepared vegetables are also sold.

4.4. Relations with the producers and consumers

In order to have regular supplies, supermarket managers attempt to develop contracts, verbal or written, with producers (cooperative managers or individuals) and, more rarely, with wholesalers. The contracts specify the quantity, species, price, quality, delivery and mode of payment. Contracts are thus concluded with farmers who produce lean pork, dairy products and clean chicken (Proconco), as well as with cooperatives producing clean vegetables. Thus, producers commit more responsibility to the end quality of the products and are forced to take the market orientation more into account.

With regard to the consumers, surveys should be carried out on a large sample to be more aware of which points of sale they prefer when making their purchases. The thirty supermarket customers interviewed in Hanoi and Ho Chi Minh City mention the following reasons for making their purchases in a supermarket: more confidence in the health quality of the products and possible recourse to the responsibility of the supermarket in the event of a problem; health service controls; the attraction of specific products which cannot be found on the market; and the attractive presentation of the products.

4.5. Positive and negative effects

In summary, the number of supermarkets and their turnover is increasing more and more rapidly. Supermarkets contribute to reducing the role of the open and travelling markets. For the moment,

[7] Source: Communication from an official of the Department of Commerce, General Statistical Office in 2001.
[8] Source: Communication from an official of the Department of Commerce of the GSO in 2003.

the development of large volume distribution has not been accompanied by a reduction in distribution costs. It is necessary to analyse whether these high prices are due to the initial phase of development of the supermarkets and the costs will fall as the extent widens; or whether they are the result of consumer mistrust of the quality of the products sold in supermarkets due to the less than rigorous nature of the controls; or even the result of consumer preference for purchasing in local markets and from regular vendors.

As the prices in supermarkets are high, numerous consumers do not have the means to make their purchases there. There is, therefore, a dual distribution system: the supermarket for well-off consumers, the market for the others.

Conclusions: the need for new contractual arrangements

At present, the food commodity channels are fragmented. Wholesale transactions are limited to north-south and border trade; the wholesalers play a major role in controlling information and steering flows, a role which is nonetheless limited by an inadequate transport infrastructure (no refrigeration).

The incentives provided by the market to develop quality products are limited, despite the high consumer demand. This state of affairs is the result of at least four problems: the lack of precise communication with regard to production and control practices on the part of producer and trader organisations; the lack of rigorous quality control linking public and private structures; unclear strategies in terms of purchasing price for quality products; the difficulty in implementing contracts between producers and traders in order to secure supply and outlets in terms of quality and quantity.

In developed countries, contractualisation is more and more common; it permits the flows and stakeholders' incomes to be stabilised. However, in Vietnam, this development is confronted by several obstacles: the high level of price variability; the weakness of the legal framework in the event of conflict; the diversity of the activities of producers and traders. It would be necessary to sensitise the latter to the advantages of contractualisation and to the responsibilities that they imply.

The short marketing chains, a limited cost of work and the unelaborated products favour low end costs if we compare them to other countries. Prices nevertheless increase rapidly, especially for fresh products, which corresponds to the growth of demand. The market should be able to adapt to a differentiated demand in terms of purchasing power and supply products with price ranges and variable additional services.

Finally, the current trends towards centralisation of distribution (reduction in the number of wholesale and retail markets, development of large volume distribution) will doubtless have negative effects in terms of employment which should be evaluated and partially compensated (credit and training programmes).

The opportunities provided by the domestic market to producers are still imperfectly transmitted by market mechanisms. Improving access to technical and market information and coordination within commodity systems would have a positive impact on food supply in terms of quantity and quality.

Hence, the response of agriculture to market opportunities is presently constrained by problems of production structures as well as deficiencies in market organisation. We will consider the case of peri-urban agriculture to illustrate these constraints. Peri-urban agriculture is very receptive to product market opportunities, but it is threatened by constraints on the factor markets, including land and chemical products. It also illustrates the non-economic functions of agriculture (social integration, buffer against urban density, waste recycling), that are presently endangered by expansion of built-up areas without public regulation of land use.

Box 12 - Market information and consultation systems

In order to adapt production to market needs it is important to supply reliable information to both producers and traders regarding untapped outlets, and also to facilitate discussions among them on strategies for adapting supply to demand. A Hanoi vegetable market information and consultation system was set up in March 2002 at the Research Institute of Fruits and Vegetables (RIFAV) in the framework of the SUSPER (AVRDC/CIRAD/ French Ministry of Foreign Affairs) regional project concerning peri-urban farming. Indicators of market supply (product origin, quantities and price) are assembled four times a year at the main wholesale points of the vegetable trade in Hanoi (five night markets), and for those vegetables which make up 80% of the total quantity of fresh vegetables available in these markets (eight to fourteen depending on the season). Those which are sold all year round are: tomato, cabbage, choysum, water morning glory, Chinese cabbage and cucumber). The information is published in bulletins and is shared in meetings between producers, traders and development agents. In April 2003 a meeting was held to discuss the tomato and cabbage imported from China which dominate the market between July and September. The better look of Chinese products and the difficulties of growing during the wet season due to disease explain these imports, despite consumer suspicion regarding the safety of Chinese products. In the framework of the SUSPER project, trial production under plastic cover of disease resistant plants is aimed at solving this type of problem. During the same meeting, producers also expressed their desire to have daily telephone information on retail and wholesale prices. This type of daily information sharing has already begun in the south with ICARD and concerns a dozen fruits and vegetables. Price information thus gathered can be found on the ICARD web site and will soon be broadcast on television.

Box 13 - Setting up quality commodity chains

Despite consumer demand, quality product commodity chains are difficult to develop (see market section). Consumer trust is low due to poor producer communication concerning their methods and the lack of State control.

Various activities are ongoing in the framework of the SUSPER and MALICA projects in order to solve these problems. Trough the journal of the Consumer Association (VINASTAS), consumers are kept informed of our results on consumer demand and the question of quality within the commodity chains. In Dong Du commune (Gia Lam district), the Danish NGO ADDA is working together with the Farmer's Union to help spread information concerning the quality of clean vegetables. Bulletins were put together with specification sheets including the use of clean water, optimizing chemical input use, the use of natural fertilizer as well as disease treatment and regular plant observation.

Labels were prepared bearing product origin. Contacts were set up between the cooperative and salespeople in shops, supermarkets and market stands. A similar approach is underway with the Van Tri cooperative (Van Noi commune, Dong Anh district).

VASI has been working for several years setting up a lean pork commodity chain in collaboration with INRA, GRET (Hai Duong Province), and CIRAD (Ha Tay Province). A common production protocol was worked out in regular meetings with producers. This production protocol touches on races, feeding practices and veterinary treatment. Contacts were set up between producers, collectors, and slaughterers in order to discuss on quality indicators along the commodity chain.

Peri-urban agriculture: challenges and threats on corner food supply

Hubert de Bon *(CIRAD)*

On city outskirts agriculture still takes up a significant percentage of land and manpower. This agriculture is extremely diversified and includes numerous value added speculations. It plays an important role in supplying cities with fresh produce, such as leafy vegetables. It also plays a role in protecting cities against flooding, maintaining a certain cultural identity as well as waste recycling. This multifunctionality is, however, under the threat of several constraints: land use above all, as well as the low ecological sustainability of production systems due to excessive chemical input.

1. A multi-functional agriculture

1.1. A feeding, economic and social role

In administrative terms, the two major cities of Vietnam are organised into urban and rural districts. In the text, we consider the cities in their entirety, unless otherwise noted. The agricultural zones around the two major cities of Vietnam, Hanoi (2.7 million inhabitants) and Ho Chi Minh City (5.1 million inhabitants), are occupied by rice production to a level of 76% for Ho Chi Minh City and 79% for Hanoi. Despite this large area, animal and vegetable production is highly varied in order to satisfy the multiple needs of the urban markets (see box 14). Thus, in Hanoi, market gardening (headed cabbage, tomato, water morning glory, etc.), corn, pulses (soya beans, yard long bean), tubers (sweet potato, taro), floriculture (roses, chrysanthemums), fruit trees, ornamental trees (peach trees, kumquats) contribute to the needs of human food, food processing transformation (canna, cassava), peri-urban breeding (sweet potato for leaves, soya, corn) and leisure activities. We can also note a wide diversity in animal production: buffalo, cows, pigs, small ruminants such as goats and hinds/deer, dogs, poultry (ducks, hens, geese, quail) and the aquaculture of freshwater fish and shrimps (Mai Thi Phuong Anh *et al.*, 2003).

Table 24. Statistical data for the cities of Hanoi and Ho Chi Minh City

	Hanoi (2000)	Ho Chi Minh (1999)
Total population (inhabitants)	2,712,000	5,097,000
Population density (inhab/km^2)	2,925	2,434
Agricultural population (inhab/km^2)	829,000	448,000
Total area (ha)	92,098	209,400
Agricultural areas (ha)	44,705 (48.5%)	98,000 (46.8%)
Cultivated area (ha)	38,586	
Area of aquacultural ponds (ha)	3,142	6,500
Area of forest (ha)	6,630	34,657

Sources: Mai Thi Phuong Anh et al., 2003 and General Statistical Office, 1999 and 2001.

Peri-urban agriculture, which we locate within the city and a 50-kilometre radius around the city, guarantees employment for a proportion of the population. In Hanoi, 30% of the population is considered as living entirely or partly from agriculture. Rice farming sometimes represents a speculative character for the conservation of land use, notably in areas very close to the city; other farming types respond to the competition of agriculture confronted by other economic activities, notably for the profitability of space and labour.

Box 14. The peri-urban production systems around Hanoi

Paule Moustier *(CIRAD)*

The analysis of agricultural production near Hanoi confirms the characteristics of peri-urban agriculture, where perishable products and intensification strategies are dominant. Agriculture responds to the needs of both self-consumption and incomes by sales. Table A summarises the major characteristics of this agriculture.

Table A. Major characteristics of agricultural production near Hanoi

Products	Localisation and period	Destination and objectives	Specificities
Rice	Lowlands (spring, summer)	Self-consumption Land speculation near Hanoi	2-3 cycles/year Fertiliser Falling in favour of vegetables
Com, sweet potato	Mid-altitude lands (winter)	Animal food	Falling in favour of vegetables
Vegetables Flowers Medicinal plants Soya	Uplands/mid-altitude (summer-rainy season/leafy vegetables e.g. choysum) Lowlands (winter; leafy vegetables, cabbage, potato, carrot, etc.)	Sale (Hanoi, Centre, South, North) Diversification of incomes	Excess fertilisers and pesticides Staggered schedule Specialisations per district (e.g.: carrots in Cam Giang –flowers in Tu Liem) Diversification of farms Limited by work time (sale irrigation and drainage)
Pigs Chickens		Sale (Hanoi) Diversification of incomes	Quality efforts

Sources: Fontenelle, Dao The Anh, Defourny, Dao The Tuan, 2001; Lecostey and Malvezin, 2001; Toscano-Gil, 2000.

Around Hanoi, agriculture primarily responds to strategies of income diversification. Even if it cohabits with commerce and crafts, agriculture still represents more than half of the incomes in a municipality such as Trung Trac (Lecostey and Malvezin, 2001). On average, the labour employed in a household other than for farming represents 0.6 people in peri-urban areas (compared to 0.4 in rural areas). The size of farms is also smaller the closer we come to the urban centre: 1,800 m^2 in urban areas, 2,500 m^2 in peri-urban areas, 3,000 m^2 in rural areas (Mai Thi Phuong Anh *et al.*, 2003).

Works on the typology of farms are still not easily available. Nevertheless, Lecostey and Malvezin (2001) attempted to explain the differences in the incomes of farms in a village in Tu Liem, and Durand (1998) did the same for a village in Thanh Tri: the key factors, since the land distribution of 1993, are: the localisation of the land in favourable areas in terms of relief (flood levels), soil fertility, access to irrigation and drainage infrastructures; accessibility in terms of transport; access to a commercialisation network; and the possibility of access to capital thanks to land accumulation and extra-agricultural activities, notably in the public service. In the case of well-off agricultural households, incomes from land accumulation (primarily around the living spaces) are invested in diversification away from rice (fish-farming, arboriculture), which require the purchase of agricultural inputs, or in commerce. On the contrary, poorer households retain the rice fields, diversification being limited to water morning glory (rau muong) and the breeding of a few pigs to be sold; a member of the family brings home the income of a worker or small trader.

The main constraints expressed by the producer are in relation to the floods and periodic water deficits, to the cost of inputs and to the problems of outlets.

Table 25. Deficit in Hanoi for the main food categories, 2001, thousands of tonnes (consumption - production)

Cereals	Roots and tubers	Pulses	Vegetables	Milk and eggs	Fish and aquatic products	Pork	Fruits
18.1	35.0	- 31.7	14.3	55.8	- 7.5	6.7	3.9

Source: Mai Thi Phuong Anh et al., 2003.

Box 15. The specific place of peri-urban agriculture in supplies to the cities
***Isabelle Vagneron** (CIRAD), **Paule Moustier** (CIRAD), **Hoang Bang An** (RIFAV)*

In Hanoi, the vegetables consumed come primarily from a production radius of 30 km around the city. This is the case for more than 70% of leafy vegetables in all seasons and for other vegetables in the main production period, from November to March. Thus, 95-100% of lettuce comes from less than 20 km away while 73-100% of water morning glory is grown less than 10 km from Hanoi. The origin of temperate vegetables is more variable: whereas 75% of tomatoes are grown less than 30 km from Hanoi during the cold season, 80% of tomatoes sold in the hot season come from China and 15% from Dalat, situated more than 1,000 km south of Hanoi.

The sales chains are very short. One of the most striking characteristics of the wholesale markets in North Vietnam is the very high proportion of producers coming to the markets by cycle or moped to sell their own production and sometimes that of other producers. Generally, the producers are relatively more present during the cold season (more than 40% of the total volume of vegetables traded) than during the hot season.

The proximity of urban zones facilitates relations of trust and the exchange of information between producers, sellers and consumers, in particular to control health quality of the products. Thus, all supermarkets and healthy vegetable shops in Hanoi are supplied by cooperatives situated in the province of Hanoi with which they maintain regular relations; the producers deliver to the supermarkets every morning. In Ho Chi Minh City, the Metro supermarket is supplied in "clean" vegetables by producers from Cu Chi, less than thirty kilometres from the city.

Short commodity channels have developed for local markets with products such as leafy vegetables or flowers. These commodity channels correspond to the eating habits of the country where leafy vegetables like water morning glory, Chinese mustard or Choysum are eaten every day both in restaurants and at home. In the section of this document dealing with vegetable commodity channels, we have seen that peri-urban agriculture contributes more than three-quarters of the flows of leafy vegetables as well as temperate vegetables for the city of Hanoi.

The constitution of sprawling city-provinces with relatively average population responds to the need for a certain self-sufficiency of the city with regard to food products. At present, the average population density of Hanoi is 2,945 habitants/km^2 whereas the average of the Red River delta is 1,180 inhabitants/km^2. In urban Hanoi, the densities are very high, reaching 32,995 habitants/km^2 in the Dong Da district. Despite this, and despite an increase in agricultural yield in recent years, the population of the city of Hanoi is in deficit with regard to most food products. The total deficit was estimated at 94,000 tonnes (see table 25).

1.2. Preserving the environment and cultural identity

Other than the function of food provision for the city, agriculture around Hanoi also serves a function of civil security: protection from floods. Outside these protection dykes against floods of the Red River in Hanoi, the areas likely to be flooded are thus occupied by large areas of market gardening, corn, sweet potato, etc. This function is effected on large areas of fertile soil which allow the development of specific channels, such as "clean" vegetables making more

structured use of inputs and in smaller quantities. Similarly, lowlands are used to farm rice, the crop most capable of developing hydromorphic land, sometimes transformed into aquacultural ponds.

In the current urban planning of Hanoi, the authorities are interested in retaining an organisation around the traditional village. Agriculture holds an important place here, sometimes with ancestral specialities (citrus fruit, medicinal plants). It therefore has a function of cultural identity. It responds to the needs of city-dwellers looking for traditional values by purchasing certain products and visiting a different environment. This function is to be related to the leisure activities of the city dwellers by means of a walk in an agricultural farm, or recreational fishing which is simultaneous with aquacultural production both in Ho Chi Minh City and Hanoi.

The function of maintaining a lifestyle is linked to the open space of a farm, be it aquacultural or covered with vegetation. However, this free space is considered by urban planners as a land reserve more than a landscape which improves the quality of life. Finally, peri-urban agriculture has a cleaning function through the use of organic waste, either animal or domestic (even if it is currently limited due to the health risks posed by the use of waste).

2. Threats to peri-urban agriculture

2.1. Extension of construction

As economic activities are drawn together, they create an exponential demand for construction of housing, transport infrastructures and companies. These activities have a much higher economic profitability than agriculture, all the more so as Vietnam is a country where the development of industries and services is given pride of place by the public authorities as a vital necessity for the future. The proportion of agriculture in the gross product of the province of Hanoi is 3.9% and only 0.2% in Ho Chi Minh City. In Hanoi, for about a decade, the total area of agricultural land has changed very quickly. Changes from rural land (agricultural and silvicultural) to urban land is strictly controlled by the state which wants to limit the total areas per year to 2.5%. This, however, will cause prices to rise, despite official compensation, leading eventually to an exponential tendency of the shift from agricultural use to construction. Current forecasts estimate a reduction of 26% of agricultural land within the next ten years.

2.2. Low ecological sustainability of the production systems

In order to maintain their incomes, confronted by this land and economic pressure, farmers tend to turn towards the intensification of their production system with more labour, more inputs and more investment. The risks of environmental pollution by pesticides and leaching of nitrogen-rich fertilisers are thus increased. Moreover, pollution of soil and water, whether the result of agriculture itself or other urban economic activities, poses the problem of production quality. The current SUSPER[1] project attempts to respond to this problem by perfecting market gardening which uses fewer chemical inputs but is based on a certain intensification of production methods to increase yield - for example, by the development of sheltered production. Furthermore, this project also attempts to provide certain elements to improve the quality of peri-urban agricultural products and to have this recognised by the consumers. This is one method of maintaining local agriculture, but it is not the only one. It should complement the other functions and other types of peri-urban agriculture described earlier.

Conclusion: preserving multifunctionality

Agriculture would thus seem condemned to intensification, both with regard to aquacultural systems and plant farming. Despite the desire to increase self-sufficiency in the cities with regard to animal products, the share of urban and peri-urban agriculture in supplying the cities will diminish if we refer to a constant administrative geographic area. Local agriculture will have a

[1] SUSPER, FSP mobilising 2000-56 “sustainable development of peri-urban agriculture in South East Asia”

place in urban development, not only via traditional channels of foodstuff provision, but also by the various rural amenities which it brings about for economic activities which want to benefit from the peri-urban country structure and the habitability of the city. However, to maintain this place, it should prove its capacity not to pollute the environment and not to place the consumers' health at risk.

Box 16. Peri-urban agriculture under discussion
Paule Moustier *(CIRAD)*

For about ten years, peri-urban agriculture has been the subject of an increasingly large body of literature. This interest is the result of the current context of increasing urbanisation and the dynamism of different programmes at international level (for example, Cities Feeding People of the IDRC, the UNDP-Habitat, the ETC-GTZ NGO which runs the RUAF network, the SIUPA initiative of the CGIAR).

The first debate concerns the definition of urban agriculture and its specificity in relation to rural agriculture. A certain number of international institutions (FAO, CGIAR), differentiate urban agriculture situated in towns and peri-urban agriculture located around the towns. Other institutions use a single term to designate both types of agriculture, referring to "urban agriculture" (CRDI, UNPD) or "peri-urban agriculture (CIRAD, WECARD). For our part, we will use the term peri-urban agriculture in the broader sense of the word (including intra-urban agriculture). Beyond these semantic differences, the main question of geographical contours defined by peri-urban agriculture is a delicate one. Certain authors adopt a broad definition of peri-urban agriculture, with an unclear notion of proximity to the city and the emphasis on the function of food supply to the cities, an approach which does not clearly distinguish it from rural agriculture, itself more and more oriented towards the market. For other authors, the specificity of peri-urban agriculture is in its relations with the cities concerning the exchange of resources and products, providing a certain number of opportunities and constraints (Mougeot, 2000). Thus, peri-urban agriculture concerns the area where we can witness the effects of competition between agricultural and non-agricultural urban uses of resources: land, water, labour, waste (Moustier, 2000). Although these definitions allow a better understanding of the factors which differentiate urban and rural agriculture, they remain difficult to apply in order to define a precise geographical zone and must be adapted to each particular context. Thus, for Hanoi, we considered a distance of 50 kilometres from the city centre, in the province of Hanoi and in the peripheral provinces of Ha Tay, Vinh Phuc, Hung Yen and Bac Ninh.

A second debate concerns the viability of peri-urban agriculture and the necessity for political support. In light of the land costs in urban areas and the still not catered for housing and infrastructure needs, it would seem legitimate to let agriculture move towards rural areas whilst at the same time improving the transport infrastructures, as occurred in Europe. Moreover, urban agriculture is subjected to many types of pollution and is itself a pollutant (Ellis and Sumberg, 1998). However, other authors emphasise the numerous positive externalities of urban agriculture, which justify public support: waste recycling (Midmore and Jansen, 2002); creation of open spaces (Fleury and Donadieu, 2001); social insertion of disadvantaged populations (Mougeot, 2000). In fact, it can be claimed that the multi-functionality of urban agriculture renders it more economical for society than other types of green areas, such as parks for example (Moustier, 2003).

Thus, most authors recognise that moving agriculture far from the urban centres is inevitable if only market forces are left at work. However, deciding whether this shift is desirable or not depends on the evaluation of the impact of peri-urban agriculture on all of its functions, both economic and non-economic. The authorities can strengthen the positive impacts of agriculture and reducing the negative impacts. This is the aim of many peri-urban agriculture development projects, which work along technical paths which are both more profitable and less pollutant.

Conclusion
Motors of change and lines of action

1. The key variables of change

What are the key variables which determine the evolution of the domestic market? How can they change?

1.1. Demographic growth

The annual growth of 1.7% per year will continue and may even increase : in 2003, the government has lifted the sanctions which previously prevailed in case of more than two children by couple. We will witness, then, minimum growth which will cause the increase in food consumption and employment needs.

1.2. Population imbalances

The population imbalances between, on the one hand, upland and delta zones and, on the other hand, rural and urban zones are likely to worsen if the state does not implement voluntaristic policies, notably concerning credit and training, in order to develop agricultural and extra-agricultural employment in rural zones – following the successful example of Taiwan.

Whatever the changes, the proportion of consumers who are non-producers of food commodities in relation to agricultural producers will increase.

1.3. The standard of living of the households

The standard of living of the households determines the value of food outlets and the type of products consumed. The increase in the standard of living leads to less consumption of rice and an increasing consumption of fruit and vegetables, meat, dairy products and processed products. It is also accompanied by a demand for products of a specific quality (for example flavoured rice or lean pork). Finally, it favours purchases from large volume distribution.

The standard of living is linked to the growth of the Vietnamese economy. In recent years, the rate of growth has reached 7%.

1.4. Quality demands and health crises

As quality controls are not, at present, numerous and as the media are sensitised concerning health crises, it is to be feared that, as in the past, (formalin soup scandal, water morning glory poisoning, etc.) health crises will become more numerous. The products most likely to be the subject of health crises are vegetables, due to the quantity consumed and the conditions of production; however, these crises can also affect meat and fish.

Health crises increase the mistrust of the consumers vis-à-vis local products and can affect consumption of the products involved for several years. They encourage trade enterprises, in particular large volume distribution, to resort to imports from Australia, New Zealand, etc. This may be also favoured by Vietnam joining the World Trade Organisation, following the government will. However, if it is reactive and organised, the profession can profit from the situation by implementing credible quality measures.

1.5. Competition from the international market

The consequences of the gradual implementation of the AFTA agreements (ASEAN Free Trade Agreement) are still little known, as there are very few clear documents which relate to the trade regulations of agricultural products.

The opening of the ASEAN markets can offer new outlets for products where Vietnam is competitive. However, for many of them (rice, coffee, rubber), the markets are saturated. Moreover, with the increased living standards, Vietnamese production costs will be forced upwards. Thus, according to studies cited by the

report on human development (CNSSH, 2002, p. 84), Vietnam is less competitive than the other countries in the region and than the economies in transition (fifty-second position in the world whereas Thailand is in twenty-seventh position and China forty-sixth). Nevertheless, as agriculture has been less protected than the other sectors of the economy (in particular the consumer goods industry), it should suffer fewer negative effects of trade liberalisation.

At the same time, Vietnam will be confronted by more aggressive export strategies by its neighbours (China, Taiwan) and countries further away (Australia, the United States). Among the products threatened are, in the short term, corn – and as a consequence animal feeds and pork - and, in the medium term, temperate fruits and vegetables. Indeed, if they succeed in guaranteeing a more regular supply than local producers, Australia and the United States could tap the clientele with a high standard of living and who purchase from supermarkets.

However, the international market may generate opportunities for the development of quality products with geographical indications.

1.6. Access to land

Access to land is particularly complex in Vietnam. Properties are much divided and very small, especially in the north of the country. The size of the farms can only increase by informal methods. The information on the urban development plans is very hard to find. An underground property market is developing. This absence of transparency does not allow farmers to expand their land and is not favourable to the protection of agricultural land in the peri-urban zones.

Although an official property market is being developed, there is a risk that absentee land owners will monopolise the land and the peasants will not have the means to have access to property.

Recently, the government has encouraged the exchange of plots between farmers. This represents a first step towards regrouping of lands and increase in the farm scale. The development of a land market regulated by the state, combined with marketing outlets becoming more stable, can result in the increase in the scale of transactions, and in the development of a more specialised and skilled agriculture. In the Red River Delta the farm size may yet still be limited by demographic pressure and labour being little absorbed by the industrial sector.

1.7. The instability of the food sector

Local food crop production has demonstrated its capacity to respond to the increased demand for quantity thanks to favourable policies. However, food supply remains unstable in terms of quantity, price and quality. This instability is a characteristic of the Vietnamese food sector.

The farmers are confronted by the risks of climatic variations and of access to irrigation water, which are of considerable significance for production. The resulting price instability is compounded by the lack of information and organisation of the producers on the markets, as well as deficient infrastructures and means of transport (isolated upland zones, transport dominated by two-wheeled vehicles, non-refrigerated engine-powered vehicles). In order to minimise the risks, the producers diversify their production. These strategies, however, contribute to compounding market instability: the producers are not particularly inclined to invest time, competencies and capital in one of their productions and the traders have difficulty in finding regular suppliers. Forms of contractualisation, or vertical integration nevertheless appear between producers and traders. This is the case in the quality vegetables and pork commodity channels. These attempts are, however, limited as there are no mechanisms allowing recourse to public authorities in the event of disputes, for example between the parties.

1.8. The necessity for organisation of the profession and the consumers

In order to conquer markets in terms of both quantity and quality, it is essential that the producers organise themselves to better communicate with regard to quality efforts, negotiate prices with the traders and organise internal and external quality control.

To anticipate, and possibly manage, health crises, the players in the commodity channels should institute inter-professions capable of communicating with the consumers and the public authorities.

Consumer associations could also be a driving force in orienting production towards their demands in terms of quality and product diversity.

Without this organisation, domestic production runs the risk of being partially substituted by imports.

2. The necessary regulatory intervention of the state

Although the state has intervened to encourage exports, the same cannot be said for the development of the domestic market, apart from planning the wholesale markets. Furthermore, agriculture has benefited from far less public – and private – investment than the other sectors of the economy (CNSSH, 2002). This situation, which is typical of developing countries, is highly inefficient: indeed, the modernisation of the agricultural sector has a more marked ratchet effect on the rest of the economy than does the industrial sector and should therefore take priority in the sequence of public interventions (Lipton, 1977). This was practised in Taiwan with a certain degree of success (Kay, 2001).

The intervention of the state is necessary to orient the changes, compensate for the deficiencies of the private sector, reduce the risks, invest in public goods. Indeed, in the food commodity channels, the risks are of differing types: nutritional and health-related for the consumers; quantitative losses for the producers; dishonesty with regard to quality for the traders; economic risks linked to transport problems for both the producers and traders. In light of these risks, those involved develop strategies, both individual and collective, which are, however, limited in their efficiency. The state can intervene in several domains:

- infrastructures - irrigation, drainage, storage;
- transport, by opening up the upland production zones and identifying the transport systems adapted to the transport of food products and the configuration of the production zones;
- credit, by implementing credit programmes for producers, traders and transformers of food products according to their needs (acquisition of land, notably for the peasants, of points of sale, of packaging and transformation units, of vehicles); by creating complementary savings and credit institutions (mutuelles) for producer or trader groups;
- technical training, notably in practices of structured intensification of production systems (fruit and vegetables, pork, corn); as well as training on management and marketing;
- technical support for off-season crop and horticultural production;
- organisational support – for dialogue between the operators, especially for the development of new markets; to reinforce the procedures of contractualisation and recourse in the event of disputes between the parties of the contract;
- quality control, by organising impromptu inspections and accrediting private control bodies;
- provision of information to the consumers, concerning the sources of health risks, and to the producers, concerning prices;
- support for populations at risk through targeted complementary nutrition programmes

3. What role for research?

As we have just seen, voluntaristic policies are necessary for local production to be able to respond efficiently to changes in domestic demand. However, the data are lacking for these policies to be based on solid elements. Research has an important role to play in collecting and analysing these data.

3.1. Information system on the food sector changes

This document provides the elements to understand the evolution of outlets for food products. It is based on an integrated approach to the dimensions of the adjustment of supply and demand, i.e. quantity, costs and incomes, quality, coordination between players at the different levels of consumption and the supply channels.

This appraisal is, nevertheless, incomplete. It lacks studies on consumption and to marketing in the centre and south of the country.

The quantitative information on price and income setting in the channels, collected from a small sample, should be confirmed for a larger sample. The evolution of commercial regulations and its impact on imports and exports require

macro-economic work. The niches in the market for products of agricultural diversification (for example dairy products, goats, flowers, etc.) should be identified more precisely.

It is also necessary to regularly update the type of appraisal presented in this document. In order to do this, we recommend the implementation of a consumption and market information system.

An information system on food changes would allow the other economic actors in the commodity system to be informed, regularly and in good time, of changes in the quantities consumed and quality expectations, as well as in supply (place of purchase, frequency, etc.) and consumer behaviours (method of preparation, place of consumption, etc.). It would also be a tool for the public health services, which work towards the reduction of food shortages and are at the same time confronted by the new, so-called "transitional" diseases (obesity, cardio-vascular diseases, etc.). By monitoring the behaviours (anti-risk, etc.) and beliefs of the consumers (dietetic image of products, etc.), the information system will be able to orient health and nutritional communication actions efficiently.

A market information system should provide regular information concerning the quantities and price of the main food products in collection, wholesale and retail zones. It should monitor the variations in the sources of the products throughout the year in order to map the supply flows. It will also include the monitoring of farms, in order to analyse constraints for marketing at the level of production. It will regularly update the information on the organisation and the efficiency of the commodity systems, in terms of competitiveness compared to the foreign markets, of income distribution, of quality.

A panel of operators in consumption, trade and production could be created to monitor the evolution of the qualitative parameters – consumer preferences with regard to the product and the place of purchase, perception of risks, reaction to price changes – and to evaluate the organisation, information and negotiating power within the channels. Surveys on a representative sample would facilitate the estimation of quantities consumed and exchanged and the identification of how prices, incomes and quantities are set.

3.2. Research concerning property

Property differentiation calls for a closer study of the methods of transfer of land, mostly informal (land law has still not been completed), the rules and practices with regard to temporary (rental, sharecropping, etc.) or definitive (sale, inheritance) transfer. For example, are the plots fragmented or does one son benefit from the inheritance in order to maintain a viable farm? Do modalities differ from one region to the next (urban proximity, dynamics of the production systems, etc.)? Are there problems of land insecurity? How are the transfers of rights administrated or officialised at local level? Is a property market beginning to emerge? What are the links between land differentiation and land concentration, diversification/specialisation and economic differentiation?

3.3. Research concerning coordination within the commodity systems

Research in social sciences has an important role to play in identifying the information and coordination mechanisms in the channels which will be most efficient in regulating quality and quantities. These organisations should:

- realise economies of scale, by regrouping sales within producer groups and wholesale markets;
- provide incentives to improve quality, by implementing systems of contractualisation or integration, payments differentiated by quality, sanctions and bonuses;
- communicate quality practices – product labelling, organisation of traceability;
- increase negotiating power vis-à-vis buyers by coming to prior agreements regarding prices, quantities and the time of sale;
- manage crises within the inter-professions (mutualisation of risks, communication to the consumer).

For each of these functions, several measures, both public and private can be suggested, tested and evaluated. If the measure is private in origin, it must be accompanied by a public intervention in order to lend credibility to the commitments undertaken and provide for arbitration in the case of dispute.

Research in social sciences concerning quality should be combined with more technical work

dealing with the sources of health risks and repercussions in terms of health: the measurement of contaminating elements (chemical products, microbes, heavy metals, etc) at the different stages of the channels, epidemiological monitoring of consequences in terms of health for the consumers.

3.4. Research concerning the structured intensification of production systems

In order to be competitive on the domestic market, certain commodity channels - corn, pork, off-season vegetables – should reduce their production costs and make optimum use of chemical products to guarantee the health quality of the products and the protection of the environment. Research should suggest technical methods, using fewer harmful products, and evaluate their economic profitability. It should also play a role in compiling and preserving the local savoir-faire as regards products of specific quality.

3.5. Solutions for fighting against poverty

The fight against poverty is a priority for both the Vietnamese government and the donors alike. This document suggests outlines for increasing the distribution of wealth to the poor populations in a context of strong economic growth.

The poor populations are mainly located in the rural zones, but also, and increasingly so, in urban zones, where the opportunities for employment are few for the unskilled population.

At present, there are 60 million people in rural areas and 20 million in urban areas. In 2020, the rural population will have remained unchanged (60 million) whereas the urban population will have doubled, reaching 40 million people. In order to increase the opportunities for the creation of wealth in rural areas, farmers will have to reckon with all the available options, both agricultural and non-agricultural, for both the domestic market and for exports. The city market is a reservoir for the creation of wealth for farming populations because there are still untapped outlets. The large variations in the quantities and prices throughout the year bear witness to this (especially for fresh products), as well as the demand for quality products (clean fruits and vegetables, lean pork, flavoured rice), which is only imperfectly reflected by purchases as a result of insufficient supply.

In more concrete terms, the opportunities provided by the domestic markets should be specified for each geographic zone. Thus, each rural zone can be considered as a supply reservoir, current or potential, for a town (rural or urban). The originality of the suggested procedure lies in the diagnosis of the demand for consumer goods in these towns in order to identify new outlets, in terms of products, period of the year, quality (the approach adopted for food goods can be applied to non-food goods). The diagnosis of demand is followed by the analysis of the current supply flows of the towns. This spatial analysis allows the particular positioning of the rural and peri-urban zones to be demonstrated in terms of comparative advantages for the products of specific periods and the means of strengthening these advantages to be understood: for example, the zone of Son La has an advantage in the production of tomatoes during the rainy season to supply the Hanoi market, which always experiences deficits during this period. Increasing the production of this reservoir at this time can provide additional income for the inhabitants; the means of doing this should result from a diagnosis of the constraints to increased supply, which may lie in the state of the transport and conservation infrastructures.

Reduction of agricultural inequalities requires the rebalancing of indispensable resources in order to benefit from the market opportunities, including the transport infrastructures, market information, credit and technical training.

In urban areas, the domestic market creates jobs for a whole chain of commercialisation and restaurant services. However, many of these jobs are threatened by both public and private initiatives for the “modernisation” or centralisation of food distribution. Preserving these jobs requires the social utility of local distribution to be recognised, as well as the correction of their negative effects, in particular the relative lack of hygiene, which could be resolved by suitable training programmes. Training and credit programmes adapted to the personal projects of these small entrepreneurs would also allow retraining for more remunerative jobs.

Finally, as consumers, the poorest populations are penalised by the problems of health quality and periodically high prices. The actions aimed at improving the quality and availability of foodstuffs will, therefore, have a positive effect on these populations if they are not reflected by overly high surcharges. Thus, with regard to improving quality, the state should at the very least ensure that the food supplied is not toxic by organising impromptu controls followed by sanctions. At the same time, private commodity channels may develop for goods of specified quality with higher prices which correspond to an additional service in terms of technical, control and communication strategies.

Opportunities for employment in the food transformation sector, still at an embryonic stage, should be intensified by market research as well as by support for the organisation of supplies of raw materials.

Thus, the development of the market, both domestic and foreign, will be a driving force in the fight for the creation of more equally distributed wealth, if the public authorities, with the support of researchers, encourage physical and institutional links between the producers, the consumers and all of the intermediate companies.

Appendix - Some figures…

Socialist Republic of Vietnam
Area: 330 900 km^2

Demography

(according to the last census, 1999)

Population	76.3 million inhabitants
Annual population growth (between 1989 and 1999)	+ 1.7%
Annual urban population growth (between 1989 and 1999)	+ 3.6%
Annual rural population growth (between 1989 and 1999)	+ 1.2%
Life expectancy:	67.8 years
Adult literacy rate	93.1%

Labour force

Agricultural labour force, 2000 (GSO, 2001)	62.5%
Hourly wage rate, 1998 (Haughton *et al.*, 2001)	0.15 US dollar
Minimum wage in public companies, 2002	34 US dollars/month

Poverty, malnutrition

GDP/inhabitant, 1999	305 US dollars
GDP/inhabitant ranking, 1999 (UNDP, 2000)	114th
HDI ranking, 1999 (UNDP, 2000)	104th
GDP growth, 2001	+ 6.8%
Malnutrition rate for children under 5, 2000 (NIN, 2003)	36.5%
Poverty rate, 1998 (VLSS, 1998)	37%

Food consumption

(Figuié and Bricas, *infra*, according to VLSS 1998)

Value of domestic food market	5 billion US dollars
Share of urban market in food market	40%
Value of food consumption away from home	0.7 billion US dollars
Share of food expenditure in consumption	39% (urban)
	53% (rural)
Share of food from own-production	4.7% (urban)
	36.4% (rural)

Volume retailing, 2001 (communication from Department of Trade, GSO)

	3 hypermarkets
	70 supermarkets

Agricultural production

(GSO, 2001; MARD, 2002)

Agricultural area per exploitation, 1998	9,000 m^2
Share of agricultural production in the GDP, 2001	23%
Share of agricultural production in the rural GDP, 2001	70%
Share of food production in agricultural production, 2001	80%

Main food crops production

	area (1,000 ha)	production (1,000 tonnes)
Rice (2000)	7,700	32,550
Sweet potato (2000)	258	1,660
Corn (2000)	713	1,930
Vegetables (1998)	401	5,150
Fruits (1999)	485	4,160
Meat (2000)	-	1,900
Milk (2000)	-	350
Aquatic products (2000)	-	1,700

Agricultural exports

(MARD, 2002 and the statistics of the RIFAV)

Value of agricultural exports (excl. fish),1997- 2001:

2 to 2.5 billion US dollars per year

Main food products for exportation

Products (2001)	Volume of exports (1,000 tonnes)
Rice	3,800
Cassava	1,220
Tea, coffee	999
Fish and seafood	392
Fruits	134
Sugar, honey	79
Peanuts	78
Pork	73
Treenuts	44

Food imports

(MARD, 2002)

Value of agricultural food imports (excl. aquatic products), 1995-2000:

0.4 to 0.5 billion US dollar per year

Main food products imported

Products (2001)	Volume of imports (1,000 tonnes)
Wheat	823
Dairy products	630
Vegetable oils	260
Sugar	87
Fruits	41

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List of acronyms

ADDA	Agricultural Development Denmark Asia
AFTA	ASEAN Free Trade Agreement
ASEAN	Association of South-East Asian Nations
AVRDC	Asian Vegetable Research and Development Centre
CGIAR	Consultative Group on International Agricultural Research
CIDSE	Coopération internationale pour le développement et la solidarité
CIRAD	Centre de coopération internationale en recherche agronomique pour le développement
CNSSH	Centre national des sciences sociales et humaines
ETC	Consultants in Development Programmes
FAO	Food and Agriculture Organisation
GDP	Gross Domestic Product
GRET	Groupe de recherche et d'échanges technologiques
GSO	General Statistical Office
GTZ	German Agency for Technical Cooperation
HDI	Human Development Index
ICARD	Information Centre for Agriculture and Rural Development
IDRC	International Development and Research Centre
IFPRI	International Food Policy Research Institute
INRA	Institut national de recherche agronomique
IOS	Institute of Sociology
IRD	Institut de recherche pour le développement
IRRI	International Rice Research Institute
MALICA	Markets and Agriculture Linkages for Cities in Asia
MARD	Ministry of Agriculture and Rural Development
NCSSH	National Centre for Social Sciences and Humanities
NEZ	New Economic Zones
NGO	Non Gouvernemental Organisation
NIN	National Institute of Nutrition
RIFAV	Research Institute on Fruits and Vegetables
RUAF	Resource Centre on Urban Agriculture and Forestry
SAM	Social Accounting Matrix
SCAC	Service de coopération et d'action culturelle de l'Ambassade de France
SIDA	Swedish International Development Agency
SIUPA	Strategic Initiative on Urban Agriculture
SUSPER	Sustainable Development of Peri-urban Agriculture in South-East Asia
UNDP	United Nations Development Program
VASI	Vietnam Agricultural Science Institute
VINASTAS	Vietnam Standard and Consumer Association
VLSS	Vietnam Living Standard Survey
WECARD	West and Central African Council for Agricultural Research and Development

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RÉPUBLIQUE FRANÇAISE

What are the wealth generating opportunities in Vietnam, other than exports, for the urban and rural poor? The domestic market represents twice the value of agricultural exports, yet the latter are the priority focus of policies. The domestic market is currently experiencing considerable growth due to the increasing population, urbanisation and higher incomes. Food is diversifying towards meat, fruits and vegetables. Street food is expanding. Quality of appearance, taste and safety are becoming a major concern for consumers.

Local food production has demonstrated its capacity to respond to the growth of consumer demand, thanks to appropriate agricultural policies. However, the food supply is often irregular in quantity (seasonal surplus and deficits) and quality. Moreover, inequalities in agricultural incomes are becoming more and more marked from one region to another and the workforce, in excess in the rural areas, cannot easily shift from agriculture to other activities, e.g. the food processing sector is still to a large extent undeveloped. In perurban areas, agriculture is very receptive to market opportunities and its roles are varied (supply of fresh food, employment, greening), but its sustainability is threatened by pressure on land, as well as agricultural and non-agricultural pollution.

The present organisation of commodity chains, both small-scale and competitive, is favourable to a low end price of food products. Yet due to a lack of farmers' trade associations, contracts between farmers and traders, and information and control devices, quality and regularity of food supply cannot be guaranteed. Hence the economic opportunities in the domestic food sector could be improved by public support of the provision of information (both technical and commercial) and the organisation of the stakeholders in the agricultural sector.

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