



Demand Analysis Report- Socialist Republic of Vietnam



Programme Management Unit (FTF-ITT)
National Institute of Agricultural Extension Management,
(An autonomous organization of Ministry of Agriculture & Farmers Welfare, Government of India)
Hyderabad – 500 030, India
www.manage.gov.in

Contents

	<i>Page No.</i>
<i>1. An overview of Country - Vietnam</i>	<i>4</i>
<i>1.1. Country Profile</i>	
<i>1.2 Geography</i>	
<i>1.3 Climate</i>	
<i>1.4 Economy</i>	
<i>2. An Overview of Agriculture Sector, Policies, Programmes and Priorities</i>	<i>9</i>
<i>2.1 Agriculture Sector</i>	
<i>2.2 Agriculture Policies, Programmes and Priorities</i>	
<i>2.3 Strategic Programmes</i>	
<i>2.4 Strategy and Plans</i>	
<i>2.5 Vietnam's Agriculture Restructuring Plan</i>	
<i>3. An Overview of Allied Sectors, Policies, Programmes and Priorities.</i>	<i>18</i>
<i>3.1 Horticulture</i>	
<i>3.2 Animal Husbandry</i>	
<i>3.3 Fisheries Sector</i>	
<i>4. Present status and challenges in Agricultural Extension, Marketing, Insurance, Agriculture Mechanization, Food Processing, Infrastructure and any other relevant issues.</i>	<i>21</i>
<i>4.1 Challenges</i>	
<i>4.2 Agricultural Marketing</i>	
<i>4.3 Changes in Agricultural Marketing Policies</i>	
<i>4.4 Agricultural Insurance</i>	
<i>4.5 Agricultural Mechanization</i>	
<i>4.6 Food Processing</i>	
<i>4.7 Agricultural Infrastructure</i>	
<i>4.8 Status of Rural Infrastructure</i>	
<i>4.9 Other Relevant Issues</i>	

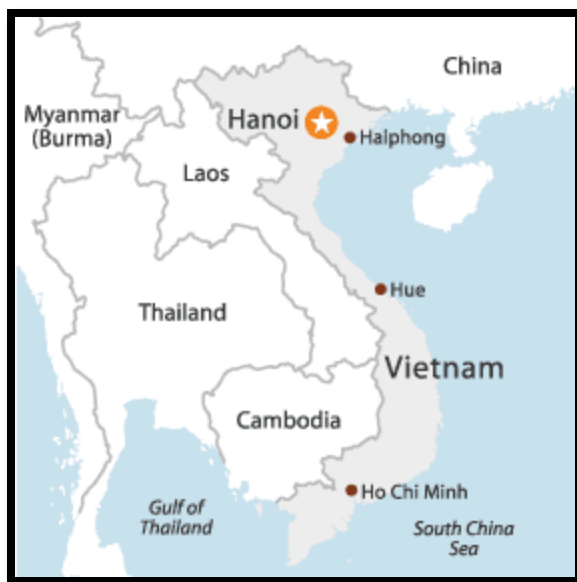
5. <i>Status of Agricultural Extension and Research system</i>	29
5.1 <i>Ministry of Agriculture and Rural Development</i>	
5.2 <i>Research System</i>	
6. <i>Public and Private Institutions and their Relevance in Agricultural Development.</i>	35
6.1 <i>Public Sector</i>	
6.2 <i>Private Sector</i>	
6.3 <i>Foreign Relations</i>	
7. <i>Present Capacity Building Programmes and Potential Areas</i>	39
8. <i>Training Priorities of the Country in Agriculture and Allied Sectors</i>	41
8.1 <i>Subject Matter specific training priorities</i>	
8.2 <i>Extension specific training priorities</i>	
9. <i>Conclusion</i>	
<i>References</i>	44

1. An overview of country

1.1 Country profile

Vietnam, officially the Socialist Republic of Vietnam, is a long stretched country along the eastern coast of the Indochinese Peninsula with an estimated 90.5 million inhabitants as of 2014, it is the world's **14th-most-populous country**, and the **eighth-most-populous Asian country**.

Vietnam borders **China** in north, **Lao PDR** and **Cambodia** in west, South China Sea in east, and the Gulf of Tonkin with the island of Hainan Dao (China) in north-east. The country shares maritime borders with **Indonesia**, **Malaysia**, **Philippines**, and **Thailand**. With an **area** of




331,689 km² Vietnam is about three times the size of **Bulgaria** or slightly larger than the **U.S. state of New Mexico**.

Capital city of Vietnam is **Hanoi** (Ha Noi) since the reunification of **North** and **South Vietnam** in 1975, former capital of the Republic of Vietnam and largest city is **Ho Chi Minh City** (also known as Saigon).

In 1986, the government initiated a series of **economic and political reforms** which began Vietnam's path towards integration into

the world economy. By 2000, it had established diplomatic relations with all nations. Since 2000, Vietnam's economic growth rate has been among the highest in the world, and, in 2011, it had the highest **Global Growth Generators Index** among 11 major economies. Its successful economic reforms resulted in its joining the **World Trade Organization** in 2007. It is also an historical member of the **Organisation Internationale de la Francophonie**.

Flag Of Vietnam	
Capital City	Hanoi(21°2'N 105°51'E)
Largest City	Ho Chi Minh City (also known as Saigon).
Official Language	Vietnamese
Population	91,700,000(14 th)
Area	332,698 km ² (65 th)
Density	276.03/km ² (46 th)
Water (%)	6.4
Major Languages	Vietnamese, English and French
Life Expectancy	73.41 Years
Currency	đồng (₫) (VND)
GDP(PPP)	Total \$593.509 billion Per capita \$6,414
GDP(Nominal)	\$214.750 billion Per capita \$2,321
Legislature	National Assembly
Neighboring Countries	China, Laos and Cambodia

1.2 Geography

Vietnam is located on the eastern Indochina Peninsula between the latitudes 8° and 24°N, and the longitudes 102° and 110°E. It covers a total area of approximately 331,210 km² (127,881 sq mi), making it almost the size of Germany. The combined length of the country's land boundaries is 4,639 km (2,883 mi), and its coastline is 3,444 km (2,140 mi) long. At its narrowest point in the central Quảng Bình Province, the country is as little as 50 kilometres (31 mi) across, though it widens to around 600 kilometres (370 mi) in the north. **Vietnam's land is mostly hilly and densely forested**, with level land covering no more than 20%. Mountains account for 40% of the country's land area, and tropical forests cover around 42%.

The northern part of the country consists mostly of highlands and the Red River Delta. Phan Xi Păng, located in Lào Cai Province, is the highest mountain in Vietnam, standing 3,143 m (10,312 ft) high. Southern Vietnam is divided into coastal lowlands, the mountains of

the Annamite Range, and extensive forests. It Comprises five relatively flat plateaus of basalt soil, the highlands account for 16% of the country's arable land and 22% of its total forested land. The soil in much of southern Vietnam is **relatively poor in nutrients**.



The Red River Delta, a flat, roughly triangular region covering 15,000 km² (5,792 sq mi), is smaller but more intensely developed and more densely populated than the Mekong River Delta. Once an inlet of the Gulf of Tonkin, has been filled in over the millennia by riverine alluvial deposits. The delta, covering about 40,000 km²(15,444 sq mi), is a low-level plain no more than 3 meters (9.8 ft) above sea level at any point. It is criss-crossed by a maze of rivers and canals, which carry so much sediment that the delta advances 60 to 80 meters (196.9 to 262.5 ft) into the sea every year.

1.3 Climate

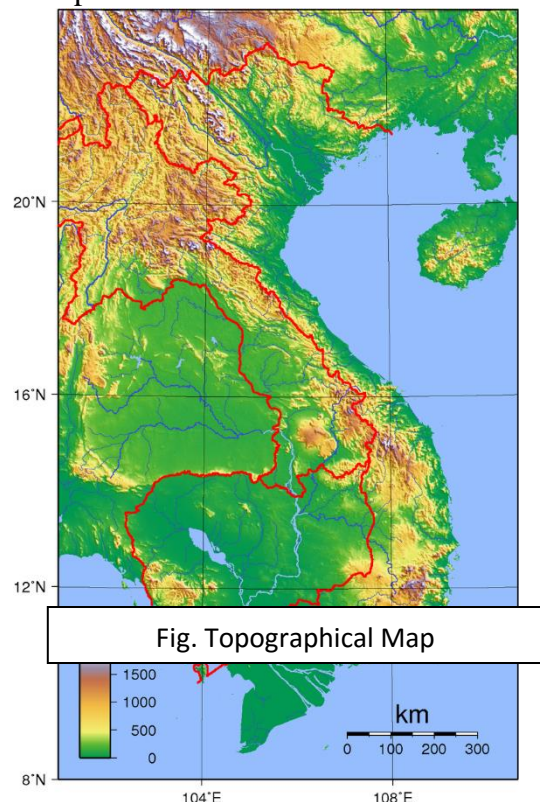
Because of differences in latitude and the marked variety in topographical relief, the climate tends to vary considerably from place to place. The average annual temperature is generally higher in the plains than in the mountains, and higher in the south than in the north. Temperatures vary less in the southern plains around Ho Chi Minh City and the Mekong Delta, ranging between 21 and 28 °C (69.8 and 82.4 °F) over the course of the year. Seasonal variations

in the mountains and plateaus and in the north are much more dramatic, with temperatures varying from 5 °C (41.0 °F) in December and January to 37 °C (98.6 °F) in July and August.

Vietnam in the northern regions have a **humid subtropical climate**, with humidity averaging 84% throughout the year. However, because of differences in latitude and the marked variety of topographical relief, the climate tends to vary considerably from place to place. During the winter or dry season, extending roughly from November to April, the monsoon winds usually blow from the northeast along the China coast and across the Gulf of Tonkin, picking up considerable moisture; consequently the winter season in most parts of the country is dry only by comparison with the rainy or summer season. During the southwesterly summer monsoon, occurring from May to October, the heated air of the Gobi Desert rises, far to the north, inducing moist air to flow inland from the sea and deposit heavy rainfall. The climate in the southern regions especially Ho Chi Minh City and surrounding Mekong Delta is predominantly Tropical savanna climate with high humidity and a distinct wet and dry season.

Annual rainfall is substantial in all regions and torrential in some, ranging from **1,200 to 3,000 millimeters** (47.2 to 118.1 in). Nearly 90% of the precipitation occurs during the summer. The average annual temperature is generally higher in the plains than in the mountains and plateaus. Temperatures range from a low of 5 °C (41 °F) in December and January, the coolest months, to more than 37 °C (98.6 °F) in August, the hottest month. Seasonal divisions are more clearly marked in the northern half than in the southern half of the country, where, except in some of the highlands, seasonal temperatures vary only a few degrees, usually in the 21–28 °C (69.8–82.4 °F) range.

People from the North, the Central, and the South will experience different types of climate appropriately throughout the year. While the North has a cold winter because it is close to the Tropic of Cancer. The temperature can drop to 10 °C (50 °F). The Central of Vietnam experiences the hot and dry winter from mid-January and mid-August while the South's climate



remaining hot and humid throughout the year. On rare occasions during winter, snow may fall in the highest elevations of northern Vietnam.

1.4 Economy

Vietnam's socialist-oriented market economy is a developing planned economy and market economy. Since the mid-1980s, through the Đổi Mới reform period, Vietnam has made a shift from a highly centralized planned economy to a mixed economy which use both directive and indicative planning (see Five-Year Plans of Vietnam). Over that period, the economy has experienced rapid growth. In the twenty-first century, Vietnam is in a period of being integrated into the global economy. Almost all Vietnamese enterprises are small and medium enterprises (SMEs). Vietnam has become a leading agricultural exporter and served as an attractive destination for foreign investment in Southeast Asia. In a similar fashion to other Communist countries after the end of the Cold War the planned economy of Vietnam lost the momentum for productivity and sustainable growth. **In the current period the economy of Vietnam relies largely on foreign direct investment to attract the capital from overseas to support its continual economic rigorousness.** In 2013, the nominal GDP reached US\$170.565 billion, with nominal GDP per capita of US\$1,902.

Petroleum is the main source of energy, followed by coal, which contributes about 25% of the country's energy (excluding biomass). Vietnam's oil reserves are in the range of 270–500 million tons. Oil production rose rapidly to 403,300 barrels per day (64,120 m³/d) in 2004, but output is believed to have peaked and is expected to decline gradually.

In 2003, mining and quarrying accounted for 9.4% of GDP, and the sector employed 0.7% of the workforce. **Petroleum and coal are the main mineral exports.** Also mined are antimony, bauxite, chromium, gold, iron, natural phosphates, tin, and zinc.

Crude oil is Vietnam's leading export, as it exported a total of 17 million tons in 2002. In 2004, crude oil represented 22% of all export earnings. Petroleum exports are in the form of crude petroleum because Vietnam has a very limited refining capacity. Vietnam's only operational refinery, a facility at Cat Hai near Ho Chi Minh City, has a capacity of only 800 barrels per day (130 m³/d). Refined petroleum accounted for 10.2% of total imports in 2002. As of 2012, Vietnam had only one refinery, the Dung Quat refinery, but a second one, the Nghi Son Refinery was planned and was scheduled for construction in May 2013.

Vietnam's anthracite coal reserves are estimated at 3.7 billion tons. Coal production was almost 19 million tons in 2003, compared with 9.6 million tons in 1999. Vietnam's potential natural gas reserves are 1.3 trillion cubic meters. In 2002, Vietnam brought ashore 2.26 billion cubic meters of natural gas. Hydroelectric power is another source of energy. In 2004, Vietnam confirmed plans to build a nuclear power plant with Russian assistance, [18] and a second by a Japanese group. Vietnam has been named among the Next Eleven and CIVETS countries.

Vietnam has gradually been transforming itself into a more open, more market-oriented economy and is beginning to enjoy the benefits of its steady but slow integration into the global commercial system. Reforms have included partial privatization of state-owned enterprises, liberalization of the trade and investment regimes, and modernization of the financial sector.

Trade organization's	AFTA, WTO, APEC, ASEAN,FAO
GDP by sector	Agriculture:17.00%, industry: 33.25%, services: 49.75%
Inflation(CPI)	2.05%
Population below poverty line	7%-7.2%
Unemployment	2.31 %
Main industries	paddy, rice, coffee, rubber, cotton, tea, pepper, soybeans, cashews, cane, peanuts, bananas, poultry, fish, seafood
Exports	\$162.11 billion
Imports	\$165.65 billion

2. An Overview of Agricultural Sector, Policies, Programmes and Priorities

Since the “Doimoi” in 1986, Vietnam has carried out remarkable reforms in the agricultural sector, both in terms of production and trade. From a “hungry” country after the war, Vietnam is now one of the biggest foods exporters in the world. Despite these successes, agricultural productivity as a whole has remained low and the added value of farm products from Vietnam is limited. While Vietnam is now one of the global leading producers of some products such as pepper, coffee, rice, cashew nuts and catfish in term of quantity. A brief review on agricultural policies in Vietnam will provide a basis input for the policy making in

Vietnam and for decision on investing in Vietnamese agricultural sector of domestic businesses and foreign investors.

2.1 Agriculture Sector

Agricultural production: According to statistics of Vietnamese General Statistics Office (GSO), the GDP of the agricultural sector has been increased during the period of 2000 to 2012. Its growth rate, however, has experienced a downward trend: 3.81%/year during 2000-2006 compared to 3.26%/year during 2007-2012. The average annual growth rate of **GDP of the fishery sector was higher than that of the agricultural sector**: 10.4% in 2000-2006 and 4.19% during 2007-2012 and vice versa for the forestry sector: 0.97% during the 5 years before 2007 and 3.24% during the 5 recent years.

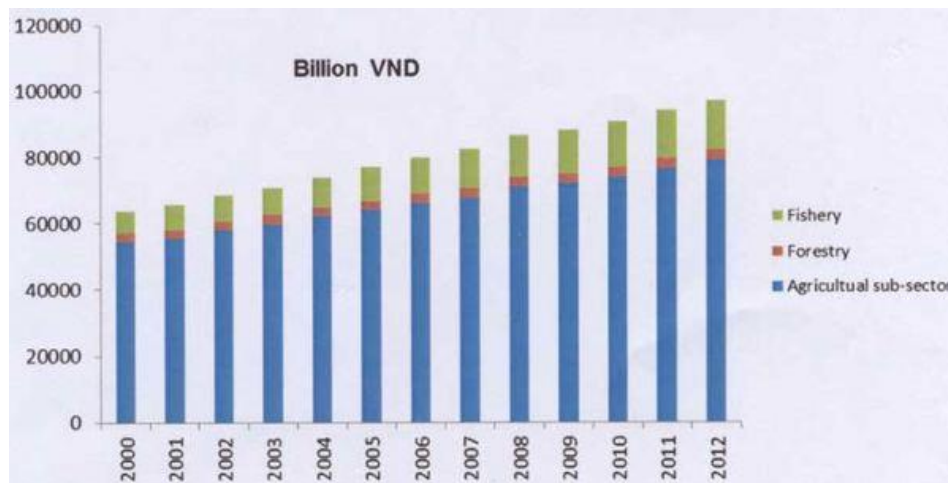


Fig. Agricultural GDP2000-2012 (1994 price)

Source: GSO, 2012

According to IPSARD (2013), a structural change has been seen in the agricultural sector for the last decade with the increasing proportion of fishery and forestry sectors and the decreasing proportion of the agricultural sub-sector. Fishery sector accounted for 21% in 2011 of the total agricultural GDP, an increase from 16% in 2000. In contrast, the proportion of crop production sector decreased from 62% in 2000 to 56% in 2011. The proportion of industrial and fruit crops tends to increase and accounts for one third of the total production value of the cultivation sector.

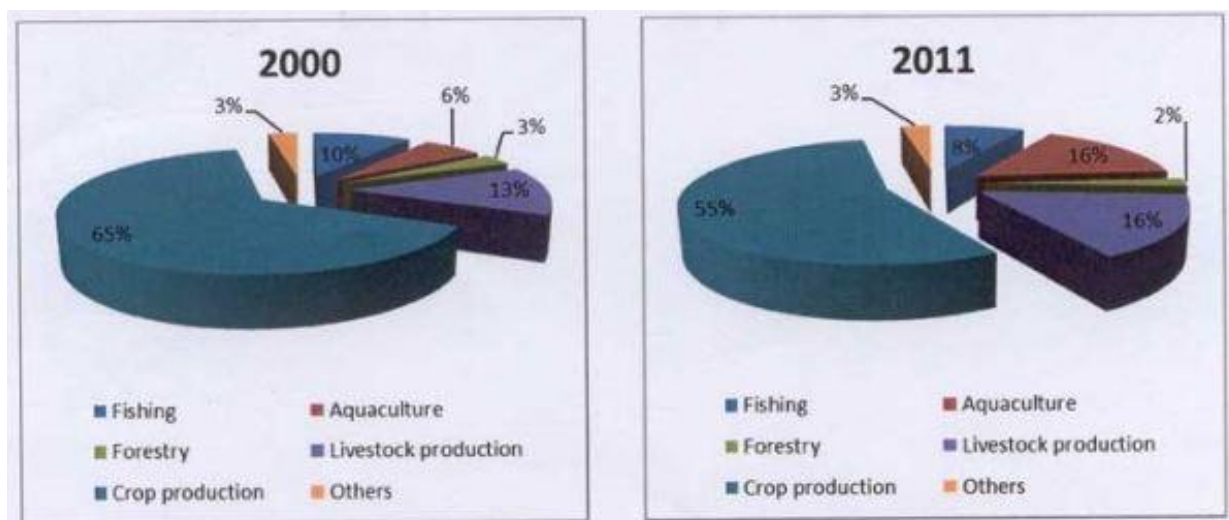


Fig. Changes in agricultural production structure

Source: GSO, 2012

The contribution of agricultural products accounts to the total exports of Vietnam is remarkable and keeps increasing over time, from 49% in 2001 to 57.7% in 2012. However, the export of aquatic products shown a smaller proportion of total exports, from 40.8% in 2001 to 23.4% in 2012.

The export value of the agricultural sector has significantly increased since 2000 (except 2009) but growth rate has reduced, from 18.4% during 2000-2007 to 15.6% in the 5 recent years. While the total trade balance of Vietnam remains deficit over time, it is noteworthy that **agricultural trade is always surplus**. This fact associated with high GDP growth rate of agricultural sector analyzed above have proved the key role of the agricultural sector in the whole economy.

Growth in exports of the agricultural sector bases mainly on export of 5 major commodities including rice, coffee, pepper, cashew and rubber. The rice export turnover keeps on increasing for a long time and has rocketed since 2007, reaching the peak in 2012. The exports of coffee and rubber have also increased rapidly since 2009 as illustrated below. Vietnam is one of the **top rice exporting countries in the world and second largest exporter of coffee**.

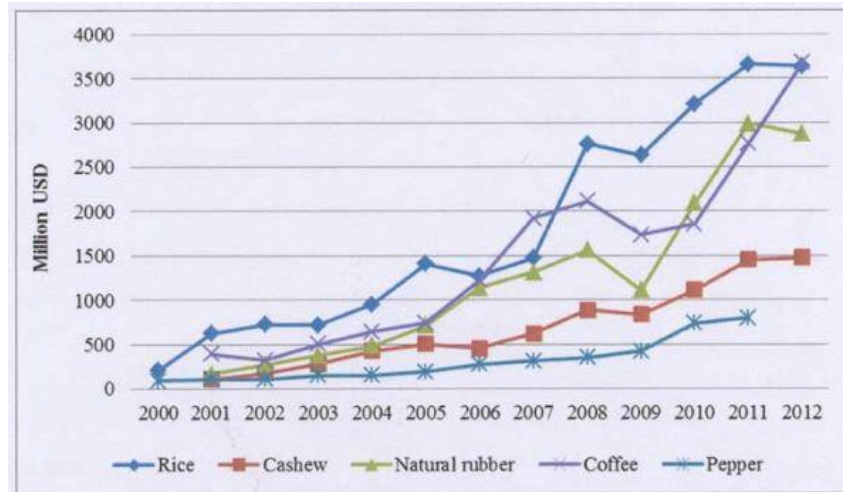


Fig. Export turnover of some major agricultural products (2000 – 2012)

Source: ITC, 2012

2.2 Agricultural policies, Programmes and Priorities

The key reform in agricultural policy of Vietnam dated in the late 1980s, after the “Doimoi” of the economy, with the enactment of the Directive No. 10. This directive enacted in April 1988, replaced the “Contract 100 systems” with the new “Contract 10 System”. The Directive including new bill to replace the compulsory quota system with a land tax indexed to productivity, has created big incentives to agricultural producers because it recognized farming families as the main units of agricultural production instead of maintaining the central role of ineffective cooperatives and state farms. This reform enabled Vietnam from a rice deficit country to become one of the largest rice exporters today.

According to Dang Kim Son and Nguyen Do Anh Tuan (2011), **reforms in land policy** have become the center of economic recovery with the issuance of the Land Act in 1988. The Communist Party and the State of Vietnam have issued hundreds of documents and policies related to land and have made certain achievements. Land allocation to households has been among the key incentives for enhancing productivity, thereby contributing to ending widespread food shortages.

This policy, combined with new efforts in production and trade reform, has created higher agricultural growth, rising incomes and welfare of farmers. In addition, agricultural land conversion to inefficient agricultural land has contributed to provide a foundation for growth and prosperity. However, even after the “**Contract 10 system**”, the farmers were allowed land use rights only no more than 03 hectare sizes and hinder the development of production on a large

scale. A significant amount of resources for agricultural production has been wasted due to land reallocation for industrialization. The imbalance between rural and urban public investment makes the income gap more expanded. Limitation in the land redistribution right of farmers is among the reasons for lower agricultural growth and potential. In fact, growth rate of agricultural production in the 2009-2013 period was lower than the previous 5 years. The export value of agricultural products were also lower than its potential due to the rigid use of agricultural land. The **environmental management is neglected** and led to the pollution and erosion of land. In terms of administrative management, the Government reduced direct control of its central institutions and of some local authorities over agricultural production decisions and management and cooperatives in the whole country were forced to reform their organization and activities. Many of SOEs have been equitized, in order to become more competitive and efficient.

2.3 Strategic programmes

To formally determine the primary balance and spatial layout of the main organizations for agriculture in Vietnam, avoiding overproduction and meeting the new requirements of international integration, the “strategic planning of agriculture” has been issued in recent years. On May 02, 2012, the Prime Minister issued the Decision No.124/QĐ-TTg approving the master plan to develop agricultural production by 2020, **vision to 2030 with the goal of building an agricultural comprehensive development** towards a modern, sustainable, large-scale commodity production on the basis of promoting comparative advantage, applying science and technology to increase productivity, quality efficiency and high competitiveness, ensuring strong national food security for the short-and-long-term period, while adapting to the diverse needs of domestic and exports, improving the efficiency of land use, water resources, labor and capital for agricultural production.

In term of General planning, the Government has issued development strategies and development plans for each specific sub-sector as follows:

- In order to synchronize the development of forestry management, protection, development, rational use of resource from forest, forest regeneration and improve the efficiency, exploitation and processing of forest products as well as the environmental services and tourism ecology, on May 02, 2007, the Prime Minister issued the Decision No.18/2007/QĐ-TTg approving the **forestry development strategy** in Vietnam during 2008-2020;

- With the objective of enhancing the livestock industry to become a goods manufacturing industry meeting the domestic demand, on 16 January, 2008, the Prime Minister issued Decision No. 10/2008/QĐ-TTg approving the livestock development strategy by 2020. The decision also encourages organizations and individuals to invest towards **developing livestock farms and processing companies**;
- With the goal of "Developing cultivation towards modern, sustainable, large-scale commodity production, increasing productivity, quality, efficiency and competitiveness in order to meet the diverse needs of domestic and export; improve the efficiency of land use, water, labor and capital, increase income and livelihood of farmers ", on April 16, 2012, the Ministry of Agriculture and Rural Development has issued the project to develop the **cultivation industry by 2020**, vision to 2030.
- Key measures are approved to promote and apply high yielding varieties and manufacturing process, high quality irrigation system; accelerate mechanization of the production contract; modernize industrial storage, processing, enhance the quality, hygiene and food safety and value - added agriculture;
- In order to organize the development of sustainable aquaculture in the direction of enhancing the value added and sustainable development and adaptation to climate change as well as to ensuring the environmental and ecological protection and the aquatic resources, on August 16, 2013, the Prime Minister issued the Decision No. 1445/QĐ-TTg approving the master plan for aquaculture development by 2020, vision to 2030;
- To build efficient and sustainable irrigation systems, serving agricultural production in the condition of gradually adapting the climate change and sea level rise, on May 25, 2012 the Prime Minister government has signed the Decision No. 1397/QĐ-TTg approving irrigation planning in the Mekong river delta from 2012 to 2020 and orientations to 2050 under the conditions of climate change and sea level rise. The Prime Minister also signed the Decision No.1554/QĐ-TTg approving the irrigation planning in the Red river delta from 2012 to 2020 and orientations to 2050 under the conditions of climate change and sea level rise and the Decision No.1588/QĐ-TTg approving irrigation planning in the Red river delta from 2012 to 2020 and orientations to 2050 under the conditions of climate change and sea level rise.

Although the plans have been issued, some limitations exist as follows:

- (i) The plans lack enough powerful policies and solutions to develop and implement them in a mandatory mode; lacking of measures to assess and determine effectiveness;
- (ii) The dissemination of information on planning for people and stakeholders are not effective, many people do not know about the plans programs and measures for agricultural development at the local level are not mentioned at the planning phase;
- (iii) There is no coherence between plans and no regional and, industry links;
- (iv) From sectoral planning to a switch economic development plan, there is no mechanism local social cohesion for leading to difficulties in switching to new rural planning. To deal with these limitations, on June 10, 2013, the Prime Minister of Vietnam issued the Decision No. 899/QĐ-TTg approving the plan of restructuring the agricultural sector towards improving value added and sustainable development (Agricultural restructuring plan- ARP). The Plan is aimed at maintaining growth, raising efficiency and competitive capacity through productivity, quality and value addition; meeting better the requirement and taste of domestic consumers and boost export.

The main objectives are to reach GDP growth of 2.6% to 3% in the 2011- 2015 stage and 3.5% to 4% in the 2016-2020 stage.

2.4 Strategy and Plans

<p>Highlands seeks drought solutions</p> <p>(Mard - 01/04/2016) The Government has urged Central Highlands' zauthorities to take serious measures to cope with the severe drought, which could lead to a shortage of food and affect people's health.</p>		
<p>Regulations on Tra fish amended</p> <p>(MARD - 04/11/2015) The government has approved the Ministry of Agriculture and Rural Development (MARD) plan to amend Decree 36/2014/ND-CP to resolve difficulties of management offices, enterprises and farmers in implementing the decree over the past one year.</p>		

<p>Farm sector catalyst for change</p> <p>(MARD - 31/07/2015) The agriculture and rural development sector would promote restructuring of State-Owned Enterprises (SOEs) and withdrawal of capital from non-core business in the second half of this year, according to the Ministry of Agriculture and Rural Development.</p>	
<p>Agricultural restructuring committee formed</p> <p>(MARD - 17/04/2015) Prime Minister Nguyen Tan Dung has decided to form a steering committee to help the government guide the national agricultural restructuring period from 2015 to 2020.</p>	
<p>Ministry seeks to remove anonymity of VN rice</p> <p>(MARD - 25/03/2015) The Ministry of Agriculture and Rural Development has submitted a plan to the Government that seeks to develop a Vietnamese rice brand name by 2020.</p>	
<p>Quotas on salt and egg imports set for 2015</p> <p>(MARD - 06/03/2015) The Ministry of Industry and Trade in Circular No 03/2015/TT-BCT has set an import quota of 102,000 tonnes of salt and 46,305 cartons of eggs (a dozen each) for this year</p>	

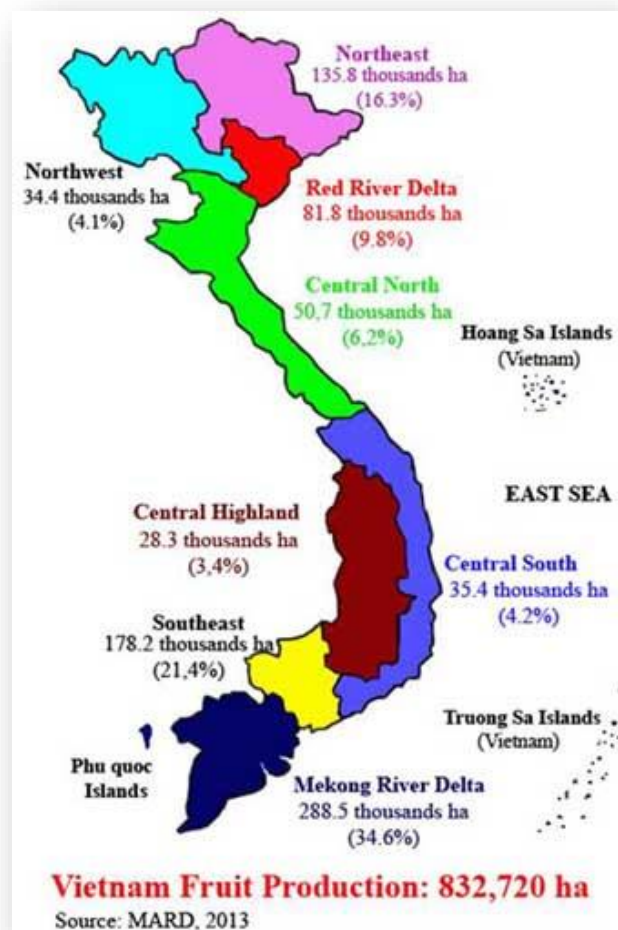
2.5 Vietnam's Agriculture Restructuring Plan (ARP)

Two decades of rapid economic growth and global market integration have transformed Vietnam from a country trying to meet the basic subsistence needs of its people to an emerging market economy. In 2010 Vietnam reached the middle income status. The structure of the economy has shifted from a primarily agriculture base towards industry and services and the private sector is expanding rapidly. Between 1993 and 2013, economic growth averaged 7-8 percent per year and the national poverty headcount rate fell from 58 percent to 21 percent. Agricultural growth in particular has assured food security and made a key contribution to economic and social development and stability.

State-led agricultural development has created the infrastructure and institutions instrumental in productivity gains and market access. Looking forward, there is clearly a greater role for the private sector, with decreasing intervention and administrative controls by a state machinery that does not have sufficient experience of marketing, post harvest management and processing. Today Vietnam's rural areas still provide the major sources of livelihood for some two-thirds of the population and are home to more than 90 percent of the country's poor. While the share of primary agricultural activity in GDP has fallen to about 18 percent, compared with 31 percent two decades ago, the 'agricultural complex' – including agro-industry and food-related business services – accounts for one-third of Vietnam's GDP and a similar share of merchandise exports.

This growth story, however, is unlikely to continue in the future. Increasing competition for resources from other sectors, changing demand in national as well as international markets, and rising costs will force the agriculture sector to produce more while using less. Producers no longer compete regarding prices alone; now they need to compete on the base of quality, standards compliance, reliability and sustainability. The agricultural sector will have to learn to adapt to changing demands, upgrade capacities, and become more skilled at innovation.

To cope with these emerging challenges, the Vietnamese government in June 2013 approved a comprehensive Agricultural Restructuring Plan (ARP) that shifts emphasis from heavy reliance on central planning to an approach in which decision-making is increasingly devolved to market actors responding to market opportunities and forces. The ARP seeks to accomplish this transition, however, while safeguarding the rights and livelihoods of its largely small producers. A primary objective is to assure the long-term welfare of farmers and consumers. Green growth and sustainable development are also central concepts behind the Plan.



3. An overview of Allied Sectors, Policies, Programmes and Priorities.

3.1 Horticulture

Vietnam has a climate and favorable soil for the cultivation of vegetables and fruits to serve the needs of domestic consumption and export. In its decision number 1648/Q?-BNN-TT dated July 17th, 2013, the Ministry of Agriculture and Rural Development identified 11 major fruit crops for agricultural development and restructuring.

Major types of Fruits: The top eight fruit that are popularly widely produced in large areas, and bring about high profit and/or high export potential include 1) banana; 2) pineapple; 3) citrus; 4) mango; 5) dragon fruit; 6) longan; 7) lychee; and 8) Rambutan.

	
Fig. Dragon Fruit	Fig. Rambutan Fruit

The area under vegetable and fruits in Vietnam country has more than 823 000 ha with productivity of 170 kg / ha. In particular, the Mekong River Delta (MRD) and Lam Dong with vegetable acreage the largest. According to development plan until 2015, vegetable area of

900,000 hectares nationwide estimated increase 15.4% and by 2020 it was 1.2 million ha area increased by nearly 54% compared to today.

According to the Ministry of Industry and Trade, vegetables and fruits to 2015 is capable of achieving exports of \$ 1 billion / year. The reason is that in a long time, from the late 1990s and early 2000s, the export of fruits and vegetables grow very slowly. From 2007 onwards, the export commodities began to prosper when growth rate faster than the average 20- 25% / year.

If in 2007 exports reached only vegetables \$ 305 million, then to 2012 increased to 770 million. The first months of 2013 exports reached 187 million, up 10% compared to the same period of 2012.

Vietnam have vegetable production 5th in Asia. In recent years, it has begun to focus on export-potential markets such as Japan, Taiwan (China), Thailand, Cambodia.

There are **60 plants for fruit processing technology**, modern equipment, diversified products, quality meet the requirements of the market such as Japan, America and Europe.

According to economic experts, to provide domestic market and huge export potential, horticulture Vietnam must ensure the safety and quality, to form areas of focus, determination and regulation of the especially in terms of quality face FSH.

3.2 Animal Husbandry

Major farm animal production sectors: pig, poultry, cattle and buffalo.

Pig sector: In Vietnam, the pig is the most important livestock. It is estimated that 1.5 million tons (76.7% of pork in the total of meat production) were produced in the year 2001. Of which, only 2.6% is used for exporting and the remainder is for domestic consumption. The export markets are Russia, Hong Kong, Malaysia and China.



Fig. Mong cai Pig

The chicken sector: Chicken production plays the second most important role in livestock production. It is estimated that there are 12 local breeds and they make up more than 80% of the chicken population in the whole country. The commercial chicken inventories are based on exotic breeds, totaled to about 30 million whereas local breeds of chicken account for 158 million. The stock of chickens has been increasing 3-4% per annum. 65% of the chicken population is in the North and 35% is in the Central and the South.



Fig. Ho Chicken

Other livestock production such as horse, rabbit, sheep, deer, goose, pigeon, turkey, ostrich, quail, dogs play a fairly important role in some households and systems. Nevertheless, their role in the whole agricultural production is still limited. The Horse population is around 132 thousand animals, which are concentrated in the Northern Mountains and Midland areas, most of them are local breeds.

3.3 Fisheries Sector

Vietnam's fishing industry, which has abundant resources given the country's long coastline and extensive network of rivers and lakes, has generally experienced moderate growth. In 2003, the total catch was about 2.6 million tons. However, seafood exports increased fourfold between 1990 and 2002 to more than US\$2 billion, driven in part by shrimp farms in the South and "catfish", which are a different species from their American counterparts, but are marketed in the United States under the same name. By selling vast quantities of shrimp and catfish to the U.S., Vietnam triggered antidumping complaints by the U.S., which imposed tariffs in the case of catfish and was considering doing the same for shrimp. In 2005, the seafood industry began to focus on domestic demand to compensate for declining exports.



Fig. Shrimp



Fig. Catfish

4. Present status and challenges in Agricultural Extension, Marketing, Insurance, Agriculture Mechanization, Food Processing, Infrastructure and any other relevant issues.

4.1 Challenges:

- ❖ Much of the potentials in the agriculture and rural development has not been properly or efficiently made use of, particularly the land use and the labour force.
- ❖ The Vietnam agriculture is in nature still weak in term of productivity, quality and competitiveness
- ❖ The rural infrastructure is very poor: irrigation schemes, roads, power supply, communication, warehouses, markets are all in need, the existing facilities cannot meet the requirements of commodities production.
- ❖ Certain communities in the rural areas, particularly in the mountainous areas still live in poverty.
- ❖ The capacity to protect from and to mitigate the natural disasters is limited. The environment in rural areas is derogated; forests suffer from logging, erosion, soil is degraded, water sources are polluted.

4.2 AGRICULTURAL MARKETING

In Vietnam, the recent years, marketing policies have received attention of Government and other stakeholders in the agricultural value chain. However, the whole country has not succeeded in establishing an agricultural marketing system.

According to (S.S. Acharya, 2003), there are three components of an agricultural marketing systems, including:

- (i) The performance of physical and institutional infrastructure to transfer farm products from the farmers to consumers
- (ii) The discovery of prices at different stages of marketing and
- (iii) The transmission of price signals in the marketing chain specifically from consumers to farmers.

Agricultural marketing creates added value for agricultural products through improvement of delivery time, bargaining power in the markets and product diversification.

Agricultural marketing also requires infrastructure development both in terms of **Physical condition and Institutional conditions**.

Physical infrastructure for agricultural marketing may be selling stores, supermarkets or storage structures, roads and transportation facilities, marketing yards, grading equipment, packaging facilities, processing plants, and retail outlets.

Institutional infrastructure consists of organizations (public, private or cooperatives) and mechanism for performing various marketing functions.

4.3 CHANGES IN AGRICULTURAL MARKETING POLICIES IN VIETNAM

The Government has introduced reforms aimed at facilitating the transition from centralized economy to a "market economy socialist orientation". Renewal of economic planning was combined with measures to encourage the free market. The removal of the agricultural trade restriction and price controls on agricultural commodities has allowed farmers to sell their goods in the market. It has also encouraged the establishment of private enterprises and foreign investments, including foreign firms. Agricultural marketing has been realized by both the Government and the private sector, including producers and business.

Government has issued a range of policies to support private sector in terms of marketing for agricultural products, of which three main groups of policies include

- (i) Policies supporting the access and market development for investors and business in agriculture
- (ii) Supports under the national trade promotions
- (iii) Support under the national brand and regional brand programmes.

The Government approved Resolution No.01/NQ-CP (dated 2nd Jan, 2014) on the tasks and solutions to implement plans of economic and social development and state budget. This Resolution gives more priorities for trade promotion activities, especially export promotion of key agricultural commodities such as rice, coffee, pepper, cashew nuts, seafood, and fruits to potential markets.

More support for investments in marketing infrastructure is required to facilitate marketing activities in agricultural sectors, because the lack of infrastructure, including rural roads, marketing yards, storage, and multipurpose cold storage facilities, grading facilities, quality testing laboratories, food processing units and communication networks is the main reason for the high loss of agricultural production in Vietnam. While the investments are mainly medium and long-term, the public budget is not enough for funding big projects. Therefore, the Government should encourage private sector to invest in such infrastructure and share with the Government in marketing activities. An enabling environment should be created in order to encourage private business to carry out and develop feasible projects for agricultural marketing.

The Government should launch a whole program on supporting private sector in agricultural marketing, including the following:

- Promoting multi-media promulgation on diversification, export oriented production, opportunities for increasing farm income and farmers' management skills; and guides on farmer utilization of market information services
- Providing information and training materials, and workshops on the role of city and local authorities in improving food supply and distribution systems, including rural-urban marketing linkages; and advice on small-scale agro-industries suitable for meeting urban food needs
- Facilitating economic and policy studies on agricultural marketing and guidelines on marketing strategy formulation in response to growing globalization of trade
- Helping farmers to access in market services including market research result, market information, and participate in trade promotion.

- Providing training packages for entrepreneurs in agribusiness
- Support to awareness campaigns on trade promotion, food safety in agricultural processing, trade and marketing
- Appropriate technologies for agro-industries and post-harvest management, expert consultations and post-production constraints analysis.

4.4 AGRICULTURAL INSURANCE

Agricultural insurance is a form to support farmers to reduce their difficulties when disasters or diseases occur. According to Decision 315/QD-TTg of the Prime Minister, under this Decision the State will support,

- 100% of insurance fees to poor farmers engaged in agricultural production
- 80% of insurance fees to nearly poor farmers engaged in agricultural production
- 60% of insurance fees for other farmers engaged in agricultural production when they participate in agricultural insurance pilot.
- 20% big farms and businesses.

Vietnam is a major agricultural producer and is in the top of the world's 3 largest exporters of rice, coffee and pepper. Sixty to 70% of the population live in rural areas and have working activities related to agriculture. Agricultural insurance potentially has a very large market. However, the reality is quite different. Agricultural insurance in Vietnam receives small amounts of investments. Vietnam farmers do not pay much attention to insurance, and the investors, after suffering several failures, do not want to invest in this market.

Agricultural production has potential risks, therefore so far very few insurance companies invest in this sector. In addition, small-scale production practice of farmers makes it difficult to implement agricultural insurance. In fact, the risks involved are often related to crops, and livestock so the losses of farmers need to be "shared" from the insurance company. However, to get to the Agricultural insurance, not all farmers are eligible under the regulations of insurance companies.

However, according to the Insurance Department (Ministry of Finance), the proportion of farmers participating in agricultural insurance in Vietnam is very low, only 1% of the total crop area, 0.24% of cattle - cows, 0.1% of pigs and 0.04% of poultry are insured. Therefore, it is necessary to raise awareness for farmers to voluntarily get insurance for their crops and livestock,

sometimes even without the support from the State. But more importantly, it is to help farmers change their production method.

Agricultural insurance is a new, complex type which have incomplete policy mechanism. Central and local agencies, insurance companies also have difficulties in implementing this type of business, because the scope of insurance activities is large; agricultural production has small and scattered scale and natural disasters and epidemics frequently happen. The complicated changes in climate, weather, natural disasters and epidemics vary over time, so are the changing situation of market prices, agricultural inputs, and animal feeds.

One of the Agricultural Insurance Company in Vietnam is “Vietnam National Reinsurance Corporation”.

4.5 AGRICULTURAL MECHANIZATION

At present, the traditional production method based on human and animal labor still played a dominant role with a limited number of mechanized stages (mechanization ratio for soil technology approximately 70% while is lower than 30% for other stages) and the ratio agricultural labors over whole labors more than 50%. Thus, it can be concluded that the mechanization process at a preliminary stage.

Investment level of agricultural machineries was the highest in Mekong River Delta CSA.

1. Mechanization to improve yield and quality for main crops

- Comprehensive mechanization for rice production
- Mechanization in drainage and irrigation
- Development of greenhouse system and devices to create micro-climate area
- Comprehensive mechanization for Sugar-cane production
- Mechanization for corn and legumes

2. Improvement of post-harvest technology to reduce losses, ensure quality and food safety

- Technology and equipment for rice seed processing
- Drying technology and equipment for agro-products

4.6 FOOD PROCESSING

The Vietnamese food processing sector continues to expand supported by rebounding economic growth and macroeconomic stability, Vietnam’s deepening international economic integration and a rapidly urbanizing, youthful population which are shifting their diets to include

more processed and package food products. As foreign invested food processors continue to establish themselves in the Vietnam market, the prospects for U.S. food ingredient exporters will continue to improve, but the overall market will remain very competitive, with preference continuing to be given to regional ingredient exporters, such as South Korea, Thailand, and Malaysia.

Vietnam's food processing and beverage industry continued to grow in 2014, expanding 5.1% in the food processing sector, versus a 6% growth rate in 2013; and 10% in the beverage sector, from 8.8% in 2013, according to data provided by Vietnam's General Statistics Office (GSO) (at 2010 prices). At current prices, Vietnam's food and beverage industry is growing fast at almost 21% in 2013, with food production growing at 20% and beverage production growing by almost 27%.

According to the latest statistics from the GSO, the number of food processors in Vietnam in 2012 was 7,751, of which 5,708 were registered food processing enterprises and 2,043 were enterprises manufacturing beverages. In 2012, the number of food and beverage processors in Vietnam grew 3.8%. Some firms specialize in producing only food ingredients, while others handle retail-ready products, in addition, to ingredients.

Key market drivers for the food processing industry include strong economic growth, which has averaged around 5% annually with relatively low inflation, ongoing reforms, rapid urbanization, and rising disposable incomes. The continued strong inflow of overseas remittances from Vietnamese living overseas also buttresses many families' incomes. Foreign direct investment (FDI) has been relatively stable in recent years (US\$15.6 billion in 2014, US\$21.6 billion in 2013, US\$16.3 billion in 2012, and US\$15.6 billion in 2011, respectively), and provides higher paying and skilled jobs to larger segments of the Vietnamese population, especially in the outskirts of cities and rural areas. All these factors have created a dynamic commercial environment in Vietnam.

Many food processors in Vietnam use both locally produced raw materials as well as imported food ingredients in their operations. They also have their own distribution channels to wholesalers, distributors and retailers, as well as to hotels, restaurants and other industries nationwide. In Vietnam, some large food processors prefer to purchase raw materials through local importers or distributors to avoid the complication of import procedures. Most small food

processors with low sales volume utilize local wholesalers who can take care of the necessary import procedures.

4.7 AGRICULTURAL INFRASTRUCTURE

The Infrastructure of agriculture and rural economy actively moving towards stronger production of valued and profitable agricultural products on the market's demand.

Rice growing area reduced to increase aquaculture and promote cultivation of other crops of higher value; however, rice growing developed for better quality and higher efficiency and food security has been assured. Maize production developed rapidly from 2 million tons in 2000 to 3.45 million tons for the year 2004.

The output of grained crops from 34.5 million tons in 2000 to 39.3 million tons in 2004. To improve the soil quality and increase yield as well as output of agroproducts, the Vietnam Institute of Agricultural Engineering and Postharvest Technology (VIAEP) has studied and applied many technological projects into agricultural production such as system of advanced technology and equipment for mechanization of sugar-cane cultivation, including the main equipment as sugar-cane-leaf rotary chopper BLM-1.2, deep chisels XS-1.2, XS-1.8, stump cutter, etc.

Recently, VIAEP has applied a model of earth-worm keeping to treat agricultural waste, to make the soil more fertile and the worm itself to be added as edibles for raising of pig, chicken, fish, tortoise, eel, etc.

4.8 Status of Rural infrastructure

Water supply and irrigation: Water supply and irrigation have basically met the demands on socio-economic development, including in the agricultural and rural sector. The total irrigation and drainage capacities by 2005 have reached 8 and 1.7 million ha of cultivated land, respectively.

Dyke protection and flood control: Over the last 5 year period of 2001 – 2005, the amount of excavation and earth fill works were more than 10 million m³, and 880,000 m³ of rock were used to construct bank protection works.

Other infrastructure systems in rural areas such as transport, power supply, have also been improved. Infrastructure in many rural areas have been improved, irrigation schemes have been able to irrigate 90% of the rice cultivation area. Tens thousands of subsidiary crops, industrial crops and fruit trees have been grown; the dyke system has been strengthened. So far, 98% of communes have had automobile roads linked to the centers. More than 90% of the communes have had access to power supply, 58% of rural population have had domestic water supply, 99% of the

communes have had health care stations, and 100% of the communes are now in the service area of national television.

4.9 OTHER RELEVANT ISSUES

Vietnam began its economic reform process in 1986 with a view to proactively engaging in international economic integration. Due to its early head start, it is now in a relatively good place in its reform process. It has, in fact, achieved important socioeconomic gains and laid a more concrete foundation for future economic development. However, it still faces many reform challenges, which makes realizing its development goals a formidable task.

4.9.1 Feed and grains

Rice is the leading grain produced in Vietnam in terms of area cultivated, followed by maize. Four-fifths of the maize produced goes into animal feed, while substantial and growing volumes are imported.

Non-farming companies have been showing signs of investing in the agricultural sector, reports Nikkei Steelmaker, Hoa Phat Group, has set up an animal feed subsidiary and it is said to be investing VND300 billion (around \$13.3 million) in a feed mill near Hanoi with an annual capacity of 300,000 tons. Production is scheduled to start there by March 2016, followed by another plant in Dong Nai province in the south of the country as well as pig and poultry farms.

4.9.2 Vietnam's poultry sector

Average annual growth in poultry meat output in Vietnam is also above the global norm at 5.8 percent, with chickens and ducks widely reared across the country. Prices are not internationally competitive, according to the OECD. Since 2008, imports totaling between US\$60 and US\$90 million have entered the country, mainly from China and the U.S.

Local farmers will soon find they are losing market share to regional and international rivals, Nguyen Thanh Son, chairman of the Vietnam Poultry Association, has warned. Thanh Nien News reports that he was addressing a meeting attended by the agriculture minister in Hanoi a month ago, where there was a call for a case to be brought against the U.S. for “dumping” chicken thighs.

The egg sector in Vietnam is relatively small, according to the OECD report, but it is growing at an average annual rate of more than 6 percent.

4.9.3 Vietnam's pig sector

Pig meat is the second largest sector in Vietnamese agriculture with a 15 percent share, according to the report. Output has increased at an average rate of 6.9 percent per year since 1990 although it has declined in recent years. Almost all pig meat produced is consumed in the country, and export potential is limited by poor meat quality and persistent diseases, according to the report. Local producers are effectively protected from imports by restrictive barriers.

4.9.4 Livestock in Vietnam

Pigs, chickens, ducks and water buffalo are the main livestock animals in Vietnam. Water buffalo are the main beast of burden. Ducks and fish ponds are everywhere. The pigs can be huge. Pigs trundled in tube-like bamboo cages with small opening for the nose to stick out a piled on to the back of motorcycles. A typical rural family has 4 pigs, 2 piglets, 20 chickens, a rooster, 11 ducks, 50 banana trees and two star fruit trees.

4.9.5 Coffee and Vietnam's Effort to Grow through Agriculture

Vietnam is a major coffee producer. With the help of government subsidies, it expanded coffee production by eight fold in the 1990s to over 550,000 tons a years to become the world's number two producer in 2001 after Brazil and ahead of Columbia. The increased production provided Vietnam with valuable hard currency but caused a worldwide coffee glut and a drop in prices which hurt coffee farmers around the globe.

4.9.6 Rats and Vietnamese Agriculture

Vietnam suffers from periodic rat infestations. In some years they multiply as a result of bumper rice crops and they eat large amounts of rice. In 1997, rats destroyed 925,000 acres of rice paddies in Vietnam. Answering the call to "Kill Rat, Grow Cat," Vietnamese have smoked and flooded rats out of their holes and clubbed them and poisoned them. Tails from killed rats can be taken to a local rat control center for a 200 dong reward for each tail. One man who brought in a bag with 2,000 tails told the Los Angeles Times, "This is easy work. There are rats everywhere."

5. STATUS OF AGRICULTURAL EXTENSION AND RESEARCH SYSTEM

5.1 Ministry of Agriculture and Rural Development (MARD)

Ministry of Agriculture and Rural Development (MARD) is a governmental agency performing state management functions in the fields of agriculture, forestry, salt production, fishery,

irrigation/water services and rural development nationwide, including state management functions with regard to delivery of public service in accordance with legal documents.

Organization structure of Ministry of Agriculture and Rural Development (MARD):

1. Organizations in charge of state management:

- Planning Department
- Finance Department
- Science, Technology and Environment Department
- International Cooperation Department
- Legislation Department
- Personal and Organization Department
- Ministerial Inspection
- MARD office
- Department of Cultivation
- Plant Protection Department
- Department of Husbandry
- Veterinary/Animal Health Department
- Agro-forestry Processing and Salt Industry Department
- Forest Protection Department
- Forestry Department
- Aqua Exploiting and Protection Department
- Department of Aquaculture
- Water Resource Department
- Dyke Management and Flood Control Department
- Works/Construction Department
- Cooperatives and Rural Development Department
- Agro-aqua-forestry product quality management Department

2. Organizations on service delivery

- Information Technology and Statistics Centre
- Centre for Clean Water and Sanitation
- National Centre for Agriculture and Aquaculture Extension
- Vietnam Agriculture Newspaper

- Agriculture and Rural Development Magazine.

5.1.1 The current extension activities are as follows:

- 1) Setting up models demonstrating advanced techniques for transferring to farmers. The models concentrate on introducing new varieties, techniques/ technologies. Parallel to this, extension workers organize field days to train and respond to questions from farmers.
- 2) Organizing training farmers. Not all new techniques are demonstrated in the fields, therefore training is a means to transfer them quickly to farmers. Training methods are face-to face training, training via TV, radio, brochures, CD, VCD, DVD, and via websites. Training of trainers (ToT) is also an effective training method to expand the number of skilled extension practitioners. Additionally, the extension system also creates opportunities for some advanced farmers to utilize advanced technologies from overseas.
- 3) Organizing science and technology forums, specific festival and exhibitions, where farmers can exchange directly with scientists, managers and examples of successful cases of applying new technology

Beside the responsibility of transferring technologies and training, the extension system also takes responsibility for disseminating new policies related to agriculture, farmers, rural areas and markets. Meanwhile, extension workers receive feedback on weaknesses, constraints from the practices for proposing development of new technologies or adjusting new policies.

Today, the following actors participate in carrying out extension duties:

- The government extension system (Extension centers)
- Research institutions
- Universities
- Enterprises
- NGOs
- Volunteer extension organizations (Associations, Local Common Interest Groups).

Although successful in obtaining certain results, Vietnam extension system, especially the government extension still has some limitations as follows:

- 1) Human resources are lacking in both quantity and quality. Currently the professional staff accounts for only 1 people per 280 farming households. Among extension workers, there are only 15% who received professional training in the field of extension, the rest have mainly shifted from other technical professions. In 2010, the number of extension staff with Master and PhD degree is

210; Undergraduate is 6,000 people, accounting for only 17.6% of total number of extension workers.

2) The extension workers specialties not yet meet the requirements for improving production to achievable levels. Most of them are specialized in crops and husbandry; other fields are lacking. At village/hamlet level, even at commune level, there is only less than 1 extension worker, therefore they have to carry out works related to the whole production process, including crops, livestock, fishery, forestry, irrigation, rural economy and markets. This means that a general and integrated knowledge are required for grassroots level extension, which is difficult to find.

3) Extension has focused mainly on hunger alleviation and poverty reduction. It has not yet really developed to provide support in the processing and marketing of products. This is a reason why small and medium farm owners and agricultural enterprises have received very limited attention and services from Government extension departments.

4) The extension methods do not yet satisfy the diversified demands of the different farming systems, the differences in terms of knowledge and culture of farmers in many varied localities. In addition, the barrier of languages in communication with ethnic groups also limits the effectiveness of extension workers. A top down approach is still a common method in planning and carrying out government extension activities.

5) The current extension policies and program is mainly focused on the government extension system, extension without any payment. Therefore, this does not create a motivation to socialize this activity, and does not promote the participation of other organizations in extension works such as enterprises, associations, NGOs. The linkages among extension – research - education are not yet well developed.

6) The system of monitoring and evaluation of extension activities is still lacking and working improperly. The involvement of local authorities is still very limited. Farmers are not yet involved in the extension works at the stage of planning, therefore extension activities do not really meet the requirement of farmers as well as the reality of the agricultural production.

5.1.2 SOLUTIONS FOR STRENGTHENING AGRICULTURAL EXTENSION

The basic solutions suggested below should be taken for improvement of agricultural extension performance:

- 1) Socialize the agricultural extension system, where government plays a roles in coordination, building legal frameworks for technology transfer, technical standards and agricultural extension services for poverty elimination in remote areas and ethnic minority groups.
- 2) Agricultural extension approaches should be shifted from top down and one way to two-way information flow; from supply-driven to farmer-led, community-led and demand-driven and participatory agricultural extension as well as from single technical recommendations to packages of technical advice. Demand-based agricultural extension services with payment should be tested and scaled out as well.
- 3) Strengthen linkages between research and extension for improving quality of technology transfer.
- 4) Priorities agricultural extension services for the high value crops and wealthy commodity chains where they can support and harmonies with extension systems for the poor. Special priority should be given to key agricultural products with large areas or significant export value, like rice, coffee, rubber, tea, cashew nut, and fisheries... as well as focus on high technology adaption and building new rural areas.
- 5) Strengthen international cooperation on agricultural extension to update new technology, approaches and methodologies.
- 6) Improve human resources training in both professional knowledge as well as ethnic languages. Update and improve training materials, as well as training methods and curriculum. Maximize advantages of the internet and mass media in knowledge transfer; establish technical forums; and build online knowledge banks. Harmonize transfer and advisory services.

5.2 RESEARCH SYSTEM

ACIAR is the Australian Centre for International Agricultural Research. It is part of the Australian Government's Development Assistance Program, and contributes to that Program's objectives of helping developing countries reduce poverty and achieve sustainable development. ACIAR commenced its Vietnam program in 1993.

5.2.1 ACIAR focusing on in Vietnam

ACIAR currently funds research projects in the fields of forestry, fisheries, livestock production systems, soil management and crop nutrition, horticulture, agribusiness and agriculture policy. We currently have a major program working in the north West Highlands of Vietnam, a smaller program in the South Central Coast, a specific climate change adaptation program in the Mekong delta, a marine aquaculture program, and plantation forestry program with sites in the south, central and north.

5.2.2 Some examples of successful ACIAR projects

Forestry:

Many Vietnamese rural communities suffer a harsh climate and degraded soils. Australian and Vietnamese experts have been working together to introduce varieties of Australian tree species suited to Vietnamese conditions. These species have been successfully planted in difficult environments, increasing land productivity and stopping soil degradation. This research work has brought benefit to Vietnam's wood growers and small rural companies who participate in the multi-million dollars wood production industry. The current focus of ACIAR's forestry research in Vietnam is improving management of plantations to grow trees for higher value furniture products and improving processing.

Crop protection

To help Vietnam control plant diseases, ACIAR has funded a project to boost the diagnostic capacity of Vietnam's plant pathologists through training and to establish a diagnostic laboratory at the Hanoi Agricultural University (HAU).

Livestock

Pig production is vitally important to Vietnam. However the local pig breeds are slow growing, producing meat with a high fat content. The Institute of Agricultural Sciences of South Vietnam worked with the Queensland Department of Primary Industries (QDPI) to introduce Australian breeds well suited to Vietnamese conditions. Crossing the Vietnamese and Australian breeds resulted in faster growing progeny with leaner meat.

Poultry

In Vietnam, poultry farming is a major income source for many smallholder farmers. The industry, however, faces a major disease threat from plague. Vaccines and diagnostic tests for

poultry diseases in Vietnam, including Newcastle disease in chickens, have been developed by Australian and Vietnamese experts under the ACIAR-funded research projects.

6. Public and Private Institutions and their Relevance in Agricultural Development.

6.1 Public Sector

6.1.1. National programs by public organizations

- Period 2000-2006: six national target programs, including
 - National Program on Hunger Eradication and Poverty Reduction and employment creation
 - Five – million hectare of forest program, and
 - Program for Rural Water Supply and Sanitation.
- Period 2006-2010: 10 national target programs, of which MARD handled program on clean water and rural sanitation.
- Central Resolution 7 on agriculture, rural, and peasants
- Period 2012-2015: 16 national programs are implemented, of which are training program for labor and job creation, sustainable poverty reduction program, Clean water, Sanitation and Environment in Rural Areas, and new countryside building program.

As part of Vietnam's public administration reform in 2002, the Ministry of Agriculture and Rural Development reorganized its structure and role. Since then, it has been steadily becoming more market oriented, reorganizing the functions and competencies of its staff, and realigning and refocusing its public expenditures on new priorities. The ministry is developing a medium-term expenditure framework with clear performance and outcome indicators and preparing three-year rolling and annual expenditure plans.

6.1.2 Others initiatives by MARD.

- Designed a plan to develop agricultural enterprises period 2011-2015, which sets target to have 10% newly established enterprises
- Organizes annual dialogue meeting among agricultural enterprises, line gencies, government...
- Provides information on government policy related to agricultural enterprises.
- Approved a number of regional planning for agriculture production: shifting the production structure on agriculture, forestry and aquaculture to 2010 and vision by 2020; catfish production and marketing; vegetable, fruit, flower.

6.2 Private Sector

6.2.1. Private sector in Agriculture

- Private enterprises have grown rapidly at SME scales: agro-processing for rice, cashew nuts, tea, fruits and salt.
- In 2006, 1,153 private enterprises investing in agriculture (accounting for 54% number of agriculture enterprises)
- 10.4 million of farm households and 113,699 commercial farms in 2006. Total capital estimated at about 80,000 billion VND, approximately with total capital stock of agriculture enterprises

6.2.2 Investment in agriculture Infrastructure

- Irrigation: about 75% of total (1996-2010)
- Infrastructure for fishery development: Storm shelter anchorage and moorage for vessels program, Fish ports investment program; and Fishery seed production and infrastructure investment program.
- Infrastructure for cultivation and livestock development: enhancing capacity in research and breeding; enhancing capacity in testing quality of seed, breeding, and fertilizer; capability of veterinary system,
- Infrastructure for forestry development. (2006-2010): Program on survey, evaluation, and inspection of forestry development; MODIS Ground Receiving Station; National parks and natural preservation areas.

6.2.3. Overview of agriculture and public/private investment trend in Vietnam

No	Name of company/enterprises	Location	Type
1.	Pacific Company	Hoa Binh province	FDI (100%)
2.	Hoa binh Agro-processing company	Hoa Binh province	Joint stock
3.	Thanh Son company	Hoa Binh province	Private
4.	Hoa Binh Sugar joint stock company	Hoa Binh province	Joint stock
5.	Phuong Huyen seed production and trading limited company	Hoa Binh province	Private
6.	Dong Giao foodstuff export company	Ninh Binh province	Joint stock
7.	Hong Quang seed company	Ninh Binh province	Private

8.	Thanh An agro-processing company	Ninh Binh province	Private
9.	Huong Nam Mushroom Center	Ninh Binh province	Private
10.	Van Dac Phuc Processing company	Hai Duong province	FDI (100%)
11.	C.P. group	Hanoi	Transnational

6.2.4. Public Private Partnership Initiatives

- MARD and about 15 international groups undertaken PPP initiatives. Few are:
 - PPP coffee group: private sector includes Nestle, Yara, Syngenta, Bayer, BASF, Cisco, EDE consulting, Dakman, Sara Lee, Vinacafe, and others.
 - PPP Tea group: cooperation of Unilever
 - PPP vegetable and fruits group: Application of GAP in production of vegetables and fruits. PepsiCo and Syngenta, Yara.
 - PPP Fishery group: Metro Cash & Carry Vietnam, Cargill, and Fresh studio.
 - PPP Common Commodity group: The group targets to strengthen the sustainable production of maize and soya bean. Monsanto with IPSARD conducted a study on GMO products in Vietnam.

6.2.5. Key national, regional and international firms/banks

- Vietnam Bank for Agriculture and Rural Development (VBARD). Main clients of VBARD are farmers. VBARD is ranked 10th in top 500 largest enterprises in Vietnam, by VNR500 Club.
- Vietnam Southern food corporation (Vinafood II) is the biggest rice exporting company in Vietnam, rank 21th by VNR 500.
- C.P ranked 28th in VNR 500 in 2011. Proconco joint stock company (Vietnam and France), Cargill company limited, Greenfeed Vietnam, Japfa Comfeed.
- Vietnam dairy Products Joint – Stock Company, ranked 43rd in top VNR-500 and top biggest private company in Vietnam.
- Production and trading agricultural inputs: Unilever LD Vietnam, An Giang Plant protection Joint stock company, Petrovietnam Fertilizer and Chemicals Company, Binh Dien fertilizer company.
- Top investors in aquaculture, processing and trading aquatic products are private enterprises: Minh Phu Seafood Corporation, Hung Vuong Corporation, Vinh Hoan Corporation, Minh Quy Seafood Company Limited, and DABACO group.

6.3 (Other Government Organizations) Foreign Relations

Vietnam's relationship with other countries has made great improvements in the last 10 years, ending its period of isolation after the Vietnam War as it continues economic liberalization. The number of countries maintaining official relations has increased from 24 in 1989 to more than 150 in 1995.

6.3.1 United States: Relations with the United States were restored after the lifting of the trade and aid embargo in 1993, restoration of diplomatic relations in 1995, the U.S.-Vietnam Bilateral Trade Agreement in 2000, and a visit by President Clinton. Clinton's visit marked the establishment of diplomatic and economic ties between the two countries. He was the second president to visit Vietnam.

In July 2000, the Bilateral Trade Agreement was signed, giving Vietnam the same access to the U.S. market and tariffs as Western and ASEAN nations. The agreement has helped significantly increase Vietnamese exports to the United States, as well as raise U.S. investment in Vietnam. The United States unveiled a controversial Vietnam Human Rights Bill in 2002 that was met by angry rebuttal in Hanoi. There is concern about the intolerance of religion (especially Christianity) and opposition to the government. Pressure for political change also continues to be a source of tension. The relationship between militaries is slowly improving, and Vietnam benefited from the U.S.-led war on terrorism when the United States targeted U.S.-based Vietnamese anti-communist groups.

6.3.2 China: There was an immeasurable improvement in relations with China when Vietnam withdrew from Cambodia in 1989. A border settlement in 1999 helped to further reduce tension. In 2002, Jiang Zemin, President of China, visited Vietnam. Although there are still inherent prejudices from the Sino-Viet border wars of the late 1970s, politically and economically, the two countries have much in common. They are among the last surviving communist regimes in the world, and both are embracing similar economic reform.

6.3.3 Cambodia: Vietnam's military withdrawal from Cambodia in 1989 helped to improve relations, but there remains underlying mistrust as a result of decades of conflict and mutual antagonism. There is a disagreement on the demarcation of their border, especially at sea, although the disputes seem to be edging closer to a resolution.

6.3.4 India: India sees Vietnam's support as a useful counter-weight to increasing Chinese influence in Pakistan. A defense cooperation agreement between Hanoi and New Delhi in 2000

allows for high-level military, security, and intelligence exchanges. Although trade between the two countries remains negligible, India sees Vietnam as potential security for reducing their dependence on Persian Gulf oil sources

6.3.5 Russian Federation: After Russian President Vladimir Putin's visit to Vietnam in 2001, Communist Party General-Secretary Nong Duc Manh's visit to Moscow and St. Petersburg in 2002, and Vietnam's debt repayment to Russia, Putin announced a new strategic partnership in military, trade, and economic cooperation. **The main trade discussions include the expansion of oil and gas sectors, an increase in Russian military sales to Vietnam, and increased export of Vietnamese consumer goods.**

7. Present Capacity Building Programmes and Potential Areas

Sl. No.	Organization	Capacity Building Programme/ Areas Details	Potential
1	MARD	Raising the value of all horticultural exports to US\$ 1 billion. Dragon fruit for export was given the highest priority for export. To date, the project has organized fast-tracked pilot farmer groups that achieved EUREPGAP certification by the end of 2006; formed a viable exporting cooperative; trained over 200 farmers on EUREPGAP protocols; conducted marketing research work in Europe; developed a new national dragon fruit standard; and provided capacity building activities in SPS awareness, pest risk assessment, and post-harvest handling techniques geared to the U.S. market.	
2	The sasakawa peace foundation	In January 2006, a three-day training course was held in Hanoi in order to transfer the newly acquired research and analysis methodology to other researchers and teachers in Vietnam. Twenty-five people participated in the course, which covered four subjects: agricultural economics including survey methods, product chain analysis, policy system analysis, and farm products' comparative advantage analysis.	
3	USAID Mekong Adaptation and	The USAID Mekong Adaptation and Resilience to Climate Change (USAID Mekong ARCC) and partner NGOs, Asian	

	Resilience to Climate Change	<p>Management and Development Institute (AMDI) and Vietnam Red Cross implemented pilot rice-shrimp farming adaptation strategies in 2014-15 within Thuan Hoa, directly involving 32 farmers working 54 ha of land.</p> <p>A review on rice-shrimp farming practices extending across five delta provinces leveraged small-scale community adaptation in influencing landscape change</p>
4	ACIAR (Australian center for International Agricultural Research)	<p>ACIAR's strategies are human resource development, economic integration and environmental sustainability.</p> <p>ACIAR's program in Vietnam supports technical, agribusiness and enabling policy research to enhance smallholder incomes from selected areas of high-value agriculture, aquaculture and forestry.</p> <p>Program focusing on climate change adaptation and mitigation in rice systems, sustainable crop cultivation and livestock production systems in challenging environments, sustainable mariculture systems for high-value species, selected horticultural products (high-value temperate fruits and vegetables), sustainable production of cash crops (maize), and livestock and forestry products initiated by ACIAR.</p>
5	Agricultural Extension in Vietnam	<p>NAEC headquarter has 82 staffs (of which: 6 PhD, 15 Masters and 54 bachelors) working in 9 Divisions and 1 representative office in Ho Chi Minh City. They are involved in developing policies and mechanisms of management for extension in agriculture, forestry, fishery, rural industry and transfer of technology.</p>
6	SNMR-CV (Sustainable Management of	<p>The following technical training modules were developed under trainers training program:</p> <ul style="list-style-type: none"> • General communication skills of CEW

	Natural Resource in central Vietnam)	<ul style="list-style-type: none"> • Household economics • Sloping Agriculture Land Technique (SALT) • Cultivation techniques and Integrated Pest Management (IPM) for rice, maize, cassava, fodder grass, beans and peanuts • Veterinary practices and animal husbandry for cattle and pigs.
--	--------------------------------------	---

8. Training Priorities of the Country in Agriculture and Allied Sectors

The demand analysis on preceding sections indicates the country Vietnam is having more hilly and dense forest areas with humid sub-tropical climate. The country attracts capital from overseas towards Foreign Direct Investment (FDI). After the war the country has made tremendous enhancement in productivity and move from hungry status to self-sufficient status in rice production. However, there is a need to enhance productivity and quality production of few food crops. The country exports rice and coffee besides, pepper, cashew and catfish. In the five-year plan period more than 3.2 per cent contribution shown from agriculture towards GDP. The government initiative on reforms in land policy, forest, livestock, has given direction to prepare a comprehensive agriculture development programme. It is indicated that the rural infrastructure and labour force has to be strengthened and more preventive measures to be undertaken to reduce the natural disaster which happen very often. Beyond the public extension system there is a need to bring the private sector also to achieve high economic growth, to reduce the poverty and to become modern industrial country and to enhance quality agricultural commodity production.

To achieve these challenges Ministry of Agriculture and Rural Development (MARD) has taken initiative in the fields of agriculture, forestry, salt production, fishery, irrigation/water services and rural development nationwide, including state management functions with regard to delivery of public service in accordance with legal documents. In this aspect various capacity building programmes are to be organized to flagship the schemes and programmes of MARD for the field extension functionaries and managerial functionaries. This promotes new learnings, inter-regional and inter-country networking, and provide access to new research techniques. In this context, a training need analysis has been made for Extension functionaries, covering all sectors of agriculture, livestock, fisheries and other allied sectors.

8.1 Subject Matter Specific Training Priorities

1. Improved production technologies on major crops
 - (a) Rice (b) Coffee (c) Pepper, and (d) cashew nuts
2. Improved production technologies on major horticulture crops
 - (a) banana; (b) pineapple; (c) citrus; (d) mango; (e) dragon fruit; (f) longan; (g) lychee; and (h) Rambutan.
3. Soil Health Management - Soil Health Management for southern Vietnam
4. Promotion of small and medium enterprises in agriculture
5. Management for value added agriculture products
6. Agriculture trade (policies and programmes)
7. Environmental management (environmental issues for quality export promotion)
8. Forest resource management
9. Livestock farm management and processing techniques
10. Promotion of high yielding variety (seed production, input management)
11. Quality irrigation system
12. Farm Mechanization (mainly for rice, sugarcane, maize and legumes)
13. Mechanization in drainage and irrigation
14. Modernized value storage
15. Sustainable aquaculture due to climate change
16. Drought management in highlands
17. Promotion of State Owned Enterprises (SOE)
18. Promotion of Agro industry
19. Promotion of Fruit crops
20. Food processing technology
21. Management of Horse, Piggery and Poultry
22. Management of Sea food enterprises
23. Value chain management in Agricultural commodities
24. Agricultural marketing system
25. Promotion of market support for the farmers
26. Role of public private sector in infrastructure development
27. Market information service

28. Market research (Marketing and market analysis)
29. Promotion of entrepreneurs in Agri. Business
30. Post-Harvest Management and Post Production Constraints Analysis
31. Agriculture Insurance
32. Development of green-house system and devices to create micro climate area.
33. Rice seed processing
34. Drying technology and equipment for agro - products
35. Vermi composting
36. Rat control management

8.2 Extension Specific Training Priorities

1. Extension Management
2. Training management for farmers and extension functionaries
3. Recent incentives in training methods
4. Training evaluation
5. Multimedia
6. Impact assessment of training
7. Public Private Partnership in extension and research
8. Extension approaches
9. Participatory management in agriculture
10. Monitoring and Evaluation of extension programmes / schemes
11. Research-Extension-Farmer-Linkages
12. Human resource management
13. ICT in Agricultural extension
14. Role of research system in sustainable development in agriculture
15. Preparation of agriculture plan at district and state level
16. Group management for Agri. Business promotion
17. Role of financial institutions in agriculture development
18. Youth in Agriculture
19. Entrepreneurship development
20. Gender sensitization
21. Leadership Development

- 22. Stress Management
- 23. Competency enhancement
- 24. Expert system
- 25. Decision support system for sustainable agriculture

9. Conclusion

Vietnam's basic development objectives are (a) to sustain high economic growth (b) to escape the status of a poor country (c) to accelerate the industrialization and modernization process in order to become "a modern, industrialized country" by 2020; and (d) to transform into reality the slogan "prosperous people; a forceful country; and an equitable, democratic, and civilized society."

To achieve the above objectives, the following are the recommendations proposed by MARD for comprehensive agriculture development.

- Land use and planning: Land fragmentation should be solved. Speed up the planning of crop production in balance with capacity of agro-processing enterprises.
- Credit: More favorable credit policies for agriculture sector: lower interest, appropriate payment period and larger loan size, especially for farmers who engage in primary production.
- R&D in agriculture: should be strengthened, not for only primary production, but in post-harvest and processing, transfer of new technology and farming practices
- Infrastructure: Upgrading infrastructure for agriculture production (roads, communications, irrigation, disease prevention) to strengthen capacity to prevent diseases, calamities, improve accessibility to market, and to reduce cost.
- Land use and planning: Land fragmentation should be solved. Speed up the planning of crop production in balance with capacity of agro-processing enterprises.
- Credit: More favorable credit policies for agriculture sector: lower interest, appropriate payment period and larger loan size, especially for farmers who engage in primary production.
- R&D in agriculture: should be strengthened, not for only primary production, but in post-harvest and processing, transfer of new technology and farming practices
- Infrastructure: Upgrading infrastructure for agriculture production (roads, communications, irrigation, disease prevention) to strengthen capacity to prevent diseases, calamities, improve accessibility to market, and to reduce cost.

- Value chain Management: diversifying/differentiating export products and strengthening nonprime competitiveness
- Attracting efficient foreign direct investments (FDIs); and (iii) improving labor and management skills
- Reform of state-owned enterprises (SOEs) with emphasis on large corporations and their equalization and listing in the stock market
- Development of the financial market, especially the corporate bond market and to build up an effective financial supervision system and appropriate capital account liberalization
- Deepen tax reforms, especially those associated with the taxation administration and assets tax in order to broaden the tax base.

References:

- http://ap.fftc.agnet.org/files/ap_policy/195/195_1.pdf
- <ftp://ftp.fao.org/docrep/fao/010/a1250e/annexes/CountryReports/Vietnam.pdf>
- http://www.agnet.org/library.php?func=view&id=20150804112243&type_id=4
- https://en.wikipedia.org/wiki/General_Statistics_Office_of_Vietnam
- file:///C:/Users/lab/Downloads/Thesis_Cuc_printed.pdf
- http://pdf.usaid.gov/pdf_docs/Pnado028.pdf
- <https://www.spf.org/spaf/projects/>
- <http://aciar.gov.au/country/vietnam>
- www.syngentafoundation.org/__temp/BO_AG_EXTN_VIETNAM.pdf
- http://www.smnr-cv.org/publications/smnr_vietnam_mandatory_eng_3414856.html