MINISTRY OF EDUCATION AND TRAINING

HA NOI NATIONAL UNIVERSITY OF EDUCATION

LA THUY HUONG

FARM DEVELOPMENT IN THE SOUTHEAST REGION

Speciality: Geography

Code: 62.31.05.01

SUMMARY OF THE PhD DISSERTATION IN GEOGRAPHY

HA NOI - 2017

The thesis is completed at the Faculty of Geography,

Hanoi National University of Education

Supervisor: Prof. Dr. Do Thi Minh Duc

Assoc. Prof. Dr. Pham Xuan Hau

First Reviewer: Prof. Dr.Sc. Pham Hoang Hai

Institute of Geography

Second Reviewer: Assoc. Prof. Dao Khang

Vinh University

Third Reviewer: Assoc. Prof. Vu Thi Minh

National Economics University

The thesis will be defended at the University's Thesis Commission meeting at: ……

..……..……...

on …….., date …….., month ……, year …….....

The thesis can be found at:

- Vietnamese National Library
- The library of Hanoi National University of Education
- The library of Faculty of Geography- HNUE

PREAMBLE

1. The necessity of the Theme

With the development history of hundreds of years, farms have become the most popular and effective production form of the world's agriculture. In Vietnam, Farms have contributed to effective exploitation of resources, promotion of economic restructuring in agriculture and rural development. Farms in the Southeast region quantity account for the quantity and efficiency higher than the other regions. In 2014, the regional farms accounted for 20.7% of quantity, 38.6% of area and 44.5% of revenue in nationwide. And with 2.72% of agricultural land, 2.62% labor and 0.39% families engaged in production, Farms accounted for 14% of production value of the whole agricultural sector. Therefore, farm development is the inevitable trend in the Southeast region and the whole country. However, farm development still has many limits. Researching on farm development has practical meaning to both theory and reality. Thus, the author chooses the topic "Farming development at the Southeast area" as the topic for Doctor Thesis.

2. Objectives and tasks of research

2.1. Objectives

Objective of the thesis to research farm development at the Southeast area under geographic point of view, in which focus on the analysis of impacting factors, actual status of farm development, then purpose plans and solutions to contribute for farm development at the Southeast area.

2.2. Research Tasks

- Overview of theory and reality base about farm development, applied at the Southeast area.
- Analyze factors impacting on farm development of the Southeast area.
- Analyze actual status of farm development at the Southeast area during the stage of 2006 - 2014.
- Purpose plans and solutions for farm development at the Southeast area.

3. Research limitations

3.1. Content limitations

The thesis limits research of farm development at the Southeast area under the following aspects: Analyze factors impacting and actual status of farm development at the Southeast area during the stage of 2006 - 2014. In which, actual status of farmdevelopment is researched following with contents: Quantity, type, production model, Status of input resource usage (Expressing in revenue, income, effectiveness of land and capital), consumption of agricultural product; plans and proposals for solutions in farm development and improvement at the Southeast area following with sustainable orientation.

3.2. Limitation of space

Researching topic on farm at regions in the Southeast area, main targets are analyze up to provincial grades, some targets up to district grade. Nine districts are selected to survey 300 farms as cases for researching: Ben Cau, Tan Bien (Tay Ninh province), Hon Quan (Binh Phuoc province), Phu Giao (Binh Duong

province), Thong Nhat (Dong Nai province), Chau Duc (Ba Ria – Vung Tau province) and Binh Chanh, Can Gio, Cu Chi (Ho Chi Minh city).

3.3. Limitation of time

Researching data is for the stage of 2006 - 2014, divided into 2 stages: 2006 - 2011 and 2011- 2014.

4. Viewpoint and methods of research

4.1. Viewpoint

Five research viewpoints are used in the thesis: systematic viewpoint, territorial viewpoint, general viewpoint, historical viewpoint – perspective, sustainable development viewpoint

4.2. Research methods

Seven main methods are used in the thesis: method of collecting and processing documents, method of analysis, synthesis, comparison, expert method, method of sociological survey, statistical method, mapping method, geographic information system (GIS).

5. Protection arguments:

- Argument 1: The Southeast area has private strengths about farm economic development, specially farms of long term trees and breeding farms.
- Argument 2: Farm Economy at the Southeast area has outstanding development steps in farm scope and considerable changes about structures of farm types, investment levels and economic effectiveness. However, Farm development still have limits such as lack of planning, unstable effectiveness.
- Argument 3: Should have synchronous solutions to promote farm development, in which should focus on planning solution, application of high technology and market development.

6. New contributions of the thesis

- Contribute to classify argument and reality base of farm development to apply for researching current status of farm development at the Southeast.
- Analyze, classify strengths and limits of natural, social-economic factors impacting on farm development of the Southeast area.
- Analyze current development status and farm allocation at the Southeast area mainly in the stage of 2006-2014. Based on analysis of investigation results at 300 farms in the Southeastern provinces, The thesis classifies current status of farm scope, evaluate economic effectiveness, product consumption channels of farms as well as social matters are also inflected from viewpoint of farm owner. An then, to classify achievements and limits as well as difficulties to be overcome.
- Propose plans and some solutions for farm development following with sustainable orientation in the stage up to 2020, vision to 2030.

7. Thesis structure

Besides the introduction and conclusion, the thesis consists of 4 chapters of content, with 150 A4 pages, 32 figure tables, 18 graphs, 6 maps, 3 diagrams, 116 references and 50 appendices.

CHAPTER 1. THEORETICAL AND PRACTICAL GROUNDS ON FARM DEVELOPMENT

1.1. Overview of research issues

- *For the world*

+ *Research on farm model*

Johnston, Kilby, F. Ellis, John Harriss divides farm into two models, including "single model" (based on organization form of small-scale farms) and "dualistic model" (based on a two-tier structure: families in large farms). A.A Connugin says that every farm organization model is only suitable for certain conditions of nature, production practices and market linkages.

+ *Research on the size and number of farms*

According to Robert Eastwood, Michael Lipton and Andrew Newell, before the twentieth century, farm scale in the world was small. Since the late twentieth century, there was an international division of farm scale. Farm scale was often very small in Africa, The Southeast Asia and East Asia, mostly less than 2 hectares. In contrast, in developing countries, Farm scale was often more than 10 hectares. This feature is also shown in the research of Sokoloff and Engermannm, Lee and more details in the research of Hazell, Poulton, Wiggins, & Dorward, IFAD, Sarah K.Lowder, Jakob Skoet and Saumya Singh, Schultz T.W.

Sen shows that productivity of small farms is higher the large ones. Similar arguments are also found in the research of Feder, Walter. But several authors researching the small farms show other explanations: the high efficiency of Small Farms is not based on division of land but thanks to investing in infrastructure and technology (Sridhar Thapa); thanks to soil quality, ways of production organization, science and technology (Bhandari, Fan and Chan-Kang, Bhalla and Roy, Newell et al, Bardhan, Cornia). These authors have the same opinion: high productity is not thanks to small farm only. Especially, Deolalikar, Nkonya et al, Eswaran – Kotwal affirms: the concept of small farm with high effectiveness will completely disappear when agricultural technology is at the high level.

+ *Research on how to organize production, business of farm*

Buckett.M says that management agencies, associations should pay attention to training and drilling management skills for farm owners. Russell L. Lamb says that new form of ownership and control of the close links between the farms and family dinner tables in supply chains is replacing the commodity market. For farms in developing countries, Frans Ellits and Reardon et al. support plantations or through the prioritization of small farms with incentives, technology transfer or connecting small farms together. Von Oppen concerns about development issues of agricultural markets.

- *In Vietnam*

+ *Researching projects on farm in Vietnam*

Projects focus on systemizing of arguments, generating general information about farm development history, determining ability and development conditions, proposing solutions for farm development in the stage of industrialization and moderation such as projects of Nguyen Dinh Huong, Hoang Viet, Nguyen Sinh Cuc, Nguyen Dien, Tran Duc, Tran Huy Nang, Nguyen Canh Chat, Pham Quang Le, Quang Can, Nguyen The Nha, Le Du Phong, Le Trong. Some researches on farming economy in different production conditions and different ecological regions such as projects of Tran Duc, Nguyen Duc Thinh, Nguyet Viet Thinh.

+ *Researching projects on farm at the Southeast area*

Truong Thi Minh Sam reaseaches about farm in the region including the Southeast area, Binh Thuan, Ninh Thuan, Lam Dong. Separated researches about farm at the Southeast area were printed in the yearbook "Farming Economy at the Southeast area, current status and development orientation up to 2005". The thesis of Trinh Thanh Son discusses about territory organization for cassava manufacture and cultivation, although this thesis does not belong to farm topic, there still are useful analysis about series of production – manufacture – consumption to some agricultural products.

The author inherited and selected arguments and reality from above researching projects and concurrently realized that there has not had any project researching about the topic: farm development at the Southeast area based on geographic view of point.

1.2. Theoretical ground on farms

1.2.1. Definition, basic features, classification of farms

- *Definition of farm, farm economy*

Farm is emphasizing an organizational form of production and recognized from the economic, social and environmental aspects. Farm economy is emphasizing economic forms and recognized from the aspect of the farm economy. Thus, two these definitions have closely relationship to each other. In many cases, two these definitions about farming economy and farm are used similarly.

- *Basic features of farm*

+ The principal activities of farm is production of agriculture, forestry and fisheries.

+ The main purpose of farms is production of commercial agricultural products.

+ Production materials in farms are owned or used by independent owners.

+ In the farms, the key production factors are land and capital which are concentrated to a certain scale on development demand of commodity production.

+ Farm with advanced organization methods of production and management based on specialization of production, cultivation and application of technical advances, implementation of proper accounting, production operation and frequent access to the market.

+ Farm owners who have the will and capacity of management organization, with knowledge and experience in production and have certain knowledge about the business.

+ Most of farms hire workers.

- *Classification of farms*

+ Classification of farms in the world

The author sets out 5 ways of classification based on 5 different criteria: in the form of management organization and production structure, income structure, ownership form of production materials and according to the modes of production operation.

+ Classification of farms in Vietnam

In Vietnam, the most common classification of farms is based on the criteria of production structure with the types of farms: Cultivating farm, husbandry farm, aquaculture farm, forestry farm, general farm.

1.2.2. Factors affecting the development and distribution of farms

The dissertation analyzes three main groups of factors: (1) Geographic location, (2) Natural factors (including 5 factors: Topography, Soil, Climate, Water, and Organism) and 3) Socio-economic factors (including 7 factors: State policy, Investment capital and Consumption market, Population and labor, Science and technology, Infrastructure and facilities, Technical qualification, Management qualification, Production and business experience of the master, Linking ability to create value chain of agricultural products).

1.2.3. Criteria for assessing farm development situation

In this section, the thesis author focuses on the fields of cultivation, husbandry and aquaculture with respect to the level of investment and production efficiency of the farms in the Southeast. The criteria include: The total annual average farm output value from farm products, the total annual product sales of farms, the total farm capital mobilized per year, the average annual capital investment of a farm, the average revenue of a farm, the profit of the year, the efficiency of production on a farm, the efficiency of production on the land area, the turnover on capital during the year, the return on equity, the average return per farm, the average return per area, the return ratio of equity, the return ratio of total yield.

1.3. Practical grounds

1.3.1. Farm development in the world

Farm first appeared in Europe in the eighteenth century. In twentieth century, labor productivity in farms increased rapidly thanks to mechanization in production. Farm entered the stage of wealthy growth across Europe. Around the early twentieth century, the stream of immigrants from Europe to North America, Australia has opened the way for farm developing in the continent. In Asia, in the late nineteenth century early twentieth century, the penetration of Western capitalism, with the introduction of capitalist production methods has formed farms.

Labor productivity of the farms in the world is very strong differentiated between the developed countries and developing countries due to the

differences in the level of production, management, degree of mechanization and the application of scientific and technological achievements.

1.3.2. Farm development in Vietnam

This section, the author based on the results of surveys on agriculture and rural development and fisheries in order to outline farm development situation in our country in all aspects, such as fluctuations in the quantity, mobilization of resources, revenue, income, commodity ratio, ... as well as difficulties and problems of farms today.

1.3.3. Experience lessons

Experience lessons for the Southeast region to develop farms such as: Type of the most effective farm is family farm; should quickly establish a market for factors of production; mechanized efficiency much depends on the size of the land; farm owners should be provided with basic training and retraining as business owners; farm has close ties with the organization of cooperatives and state-owned enterprises; the Government plays a decisive role for the birth and farm developments.

CHAPTER 2. FACTORS AFFECTING THE FARM DEVELOPMENT IN THE SOUTHEAST REGION

2.1. Geographic location

The Southeast is located between the Central Highlands, South Central Coast (SCC) and the Mekong Delta (MD), Cambodia and East Sea facilitating farms to circulate agricultural products across the region and export. The Southeast region is also a home for modern agricultural research centers, institutes to expand the links, train human resources, transfer science and technology for farms. Furthermore, The Southeast region is also a home for industrial agro-processing facilities, the development of the concentrated agricultural production zones in association with favorable processing industry.

However, the Southeast located in the area of fast industrialization and urbanization, agricultural labor is increasingly scarce and aging, environmental pollution of soil and water (important production materials of farm) is more serious.

2.2. Natural condition

2.2.1. Terrain

Terrain of the Southeast area has some characteristics both likely mountainous and midland terrain and plain and coastal terrain. The slope is gradual lower from the North to South, from the West to East including plain and flood- plain bench with height of 25 – 50m and semi-table land with bazan soil with height of 50 – 200m. Main terrains of the area include: low mountainous terrain holds 10%; wave hill terrain and semi-tableland hold 14%, plain terrain holds 76% of area. In general, the Southeast area has correlative flat terrain that is convenient for mechanism, irrigation and farm development under the big scope.

2.2.2.Land

Land resource in the Southeast area is plentiful. Total natural land fund of whole region is 2,391.4 thousand hectares, including 40 types of land and divided into 9 groups.

1) Group of yellow red soil is 1,019.4 thousand hectares, holding 42,6% of region's natural area, degree of fat land is high but sour with low bazo saturation. This land group is suitable for planting long term trees such as fruits and industrial trees. Red brown soil on Bazan rock (Fk) has low fatness.

2) Group of faded grey soil is 803.7 thousand hectares, holding 33,6% of region's natural land. Grey soil group is suitable for cultivation of long term or annual trees. Some typical trees such as rubber, cashew, pepper, custard apple, mango, xoài, grapefruit, grapefruit, rambutans, longan, banana, corn, beans and cassava,…grow and develop well. In general, grey soil has wide adaptable scope and high adaptable degree with trees.

3) Group of black soil is 150.6 thousand hectares, holding 6,3% of region's natural land area. Black soil from deposit alluvia of bazan (Rk) has very high fatness, not scour or little scour, distribute on low terrain, much water suitable rice – agricultural cultivation. Deep brown soil on products of pumice stone (Ru) is little scour with high fatness suitably with cultivation of soybean, tobacco, corn, bean in all types, custard apple, coffee, cashew, etc

4) alkaline land group has area of 144.8 thousand hectares, holding 6,1% of natural land area. Alkaline land is divided into two groups which are potential and operating alkaline land. Almost potential alkaline land is salty contamination at different levels, from medium to high salty degree. Operating alkaline land (Sj) mainly is deep operating alkaline land. Alkaline land with medium salty contamination can be exploited to breed shrimp, retain natural forest. High salty contaminated alkaline land is mainly to keep salt-marsh forests.

5) Group of alluvia land has area of nearly 97,7 thousand hectares, holding 4,1% of natural land area. Among them, the group of holding most area is alluvia having motley layer (Pf) which is suitable with cultivation of rice and agricultural products; the second area holding group is glay alluvia land (Pg), glay alluvia land on alkaline land (Pg/S), distributing in low and depressed terrain area, mainly for rice cultivation.

6) Valley land group due to deposit slope is about 50,1 thousand hectares, holding 2,1% of natural land area. This land has weak medium fatness, usually scour, distributed in low and flat terrain, suitable for rice cultivation, annual alternation of crops.

7) Sand land group has area of 23,3 thousand hectares, holding about 1% of natural land area, this land is poor nutritious, hold water weakly, has little value for agriculture, mainly for breeding, current forest protection and it is possible to combine with ecological tourism development.

8) Eroded and exposed land group with gravel and rock has area of 7,6 thousand hectares, holding 0,3% of natural land area, distributing at slope terrain with thin layer, little valuable for agricultural values.

9) Salty land group has area of 2,5 thousand hectares, holding 0,1% of natural land area used for rice cultivation or rice-crop cultivation.

Thus, it is possible to say that agricultural area of the Southeast area is wide, fat and plentiful. For land in farm development, the Southeast area has farm area up to 51, 6 thousand hectares; holding 38, 6% of whole nation's farm land. Average land area of one farm is also high at the top. Land suitable for farm development locates and focuses on flat terrain with convenient climate conditions which will be important conditions for forming big farm areas.

2.2.3. Climate

The Southeast has a equatorial tropical monsoon climate with two specific seasons rain, dry. The annual average temperature is about 27^0C–28^0C. Thermal base is high with total annual operation temperature is 9.500 - 10.000^{0}C. Temperature range between months is not large, from 3 – 5^0C. Monsoon brings deep differentiation of rain with 6 months of rainy season and 6 months of dry season. The average annual rainfall is about 1,500 mm. The rainy season accounts for 90% of annual rainfall. Dry climate of the dry season seriously impacts on production of farms.

In general, the climate of the Southeast is rather mild, less disaster. Long-lasting sunny days are favorable for crops and livestock, especially developing industrial crops.

2.2.4. Water resources

The Southeast region has many large rivers. River system of Dong Nai - Vam Co is the 3rd largest river system in our country. The basin area is 44.1 thousand km^2. Total average annual quantity of water flowing into the sea is about 37 billion - 40 billion m^3. Dong Nai river tital mode is simple with a flood season, a dry season. The flood season accounts for 82.8%, dry season accounts for 17.2% of total water volume. The region's hydrological regime is also impacted between the river with the tide. In addition to 3 river systems, the region has many canals, irrigation, transport of materials, agricultural products of the farms are convenient.

There are large reservoirs like Dau Tieng, Tri An, Thac Mo, Ham Thuan, Phuoc Hoa in the region which are important water reserves for farm production, to meet the needs of irrigation and desalination in the dry season.

Groundwater resources of the Southeast region is plentiful. It is estimated the supply output is approximately 12 million m^3/day. This is an important source of water for farm production in the dry season.

2.2.5. Creatures

The Southeast forest ecosystems including equatorial forest, salt-marsh forest, mangrove forest. Forest in the Southeast plays an important role in protection, maintaining and stabilizing the flow of surface water, groundwater, supply for production activities of farms.

The marine ecosystem of the Southeast is also rich and diverse with marine resources accounting for about 40% nationwide. Coastal zones, tidal beaches and islands are the places which can develop aquaculture farms.

2.3. Socio-economic factors

2.3.1. Policy of the Government

In the Southeast, localities have implemented the government policy of farm development in many fields to serve production: Rural credit policies, policies to promote application and transfer of science and agricultural technology progress, the program on developing major livestock and building brand, program on processing industry attached to raw material area.

2.3.2. Investment capital and consumption market

- *Investment capital:* Agricultural households in rural areas in the Southeast have the highest average accumulated capital, 2,14 times the national average. The Southeast also has the highest percentage of communes meeting the poverty reduction criteria in the country, the ability to invest in production and consumption of agricultural products, and the highest quality of agricultural labor. Ability for production investment, agricultural consumption, improvement of agricultural worker quality bring many advantages.

- *Consumption market:* With strong economic potentials, densely populated zone and high living standards, the Southeast has formed a large agricultural market with the largest centers of service, trade and export of agricultural products all over the country. Consumption market: in other hand, market also requires highly product quality then in order to develop farm effectively then it is necessary to choose suitable model with conditions of each local area and to calculate factors of food and ecological safety.

2.3.3. Population and labor

- *Population:* The Southeast has a population of 15,790,400 (2014), accounting for 17.4% of the national population. It has the highest population growth rate, which is more than double that of the country is mainly due to the mechanical increase. Population density in the Southeast is 669 people/km^2 (2.4 times the national average), but unevenly distributed among provinces and cities. Population is concentrated mainly in industrial development areas and coastal provinces.

- *Labor:* The Southeast has a plentiful labor force with high professional qualifications, capability of grasping and rapidly applying scientific and technological advances to production. However, in rural areas, there is always a severe shortage of local human resources, especially skilled workers, due to the fact that labor is attracted to the industrial and service sectors.

2.3.4. Science and technology

The Southeast is a large concentration of universities, colleges, professional high schools, leading research institutes and high-level scientific staffs, thus having the top strong scientific and technological potential of the country. Scientific achievements on seeds, fertilizers, chemicals, disease control, and new technologies have been applied by the farmers in the area with obvious effectiveness. Notably, the technical advances in the work of plant and animal breeds such as the introduction of vegetable varieties, imported breeds, lean pigs, exotic pigs, high yield dairy cows, raising chickens for meat, raising chickens for eggs. The new technologies in flower growing and vegetable gardening are also applied such as minimum tillage techniques, net house

planting techniques, nylon cover, sprinkler irrigation, drip irrigation, apply bio-fertilizers through leaves, hydroponic planting, aeroponic planting... Advanced farming practices, the "three down, three up" program, sustainable farming, integrated IPM mitigation, GAP production are also continually being widely replicated in the area.

2.3.5. Infrastructure and technical facilities

The thesis has focused on the analysis of infrastructure elements (including road traffic system, communication system and power supply system) and technical infrastructure elements (including irrigation system, agricultural, forestry and fishery processing facilities, equipment and machinery in farms of the Southeast).

In general, the infrastructure and technical facilities for the development of farms in the Southeast have been invested. This investment has promoted the development of the farm, but it is still not enough to meet the requirements of production.

2.3.6. Management ability and the production organization experience of farm owners

Farm owners in the Southeast area have determination to make money and enrich, they have experiences in production and trading farm, however, management capacity and qualification have not been high to satisfy with requirements of modern agricultural production. The management, production - business organization is still based mainly on experience.

2.3.7. Ability in connecting and creating agricultural value series in the Southeast area

In the Southeast area, companies operating in agriculture field are still limited that affects on forming connections to create up agricultural product value series. The unprompted character in agricultural production of farmers is big. The habit of immediate benefit expectation makes them not be passionate in participating in connections in order to create up value series. Production of agricultural products and processing and consumption activities do not have any connection that makes production activities not be stable and sustainable.

2.3.8. The level of economic development of the Southeast region

The Southeast region’s growth rate is high and sustainable and it is a leading region in economic development of the country. Annually, it contributes more than 60% of national budget revenue. It is leading in proactive integration, expanding trade and economic cooperation with other countries in The Southeast Asia and the world. This condition is extremely important in the formation of an attractive investment environment, as well as a large consumption market for the production and business of farms.

CHAPTER 3
FARM DEVELOPMENT STATUS IN THE SOUTHEAST REGION

3.1. Overview of the development of agriculture, forestry and fishery of the Southeast

Agricultural – forestry – aquatic area only holds the rate of 3, 87% (in 2014) in the region's GDP structure, they play an important role because this region attracts 1/4 of workers and feed 40% of the regional population. The agricultural sector also has a great significance in providing the raw materials for the processing industry, food consumption, contributing to the ecological balance. Many types of agricultural products used as raw materials for industry and exports account for a high percentage compared with the whole country. Currently, agriculture - forestry - fisheries of the region are being positively changed towards industrialization and production of goods associated with the market and rural development.

3.1.1. Agricultural sector

The region's area of agricultural land in 2012 is 1,355.22 thousand hectares, accounting for 57.45% of the region's natural land and accounting for 13.38% of the land for agricultural production of the country. Recent agricultural production tends to increase slightly, reflecting the value of production increased from VND 128,311.00 billion to VND 132,074 billion (2011-2014). The region's agricultural production structure is shifted towards reducing the percentage of cultivation, increasing the percentage of livestock and agricultural services, but the advantage still belongs to the farming sector (68.9%) then livestock and agricultural services (in 2012).

a) Cultivation

- *Industrial plants:*

+ Perennial plants: in 2014, the area of perennial trees in the Southeast region is 806,48 thousand hectares. Regarding the structure of plants, key plants are rubber; cashew, pepper, coffee, as well as the leading plants with yield and area in the country. In 2013, rubber accounts for 56% of the area and 72.7% yield; cashew: 63.3% and 66.8%, pepper 41.3% and 43.7% compared to nationwide, Coffee is also an important industrial plant but it is only grown in areas of red basalt soil, favorable water conditions. Coffee area in 2013 accounts for 7% and yield of 5.3% compared to nationwide.

+ The annual industrial crops: The region's area of annual crops in 2014 is 38,6 thousand hectares. Structure of annual crops is quite diverse, but the most important ones are sugarcane, peanuts and soybeans.

- *Fruit trees*

Fruit trees are developed in the form of farm forming concentrated commodity regions. Dong Nai has 62.39% fruit tree area of The Southeast region. The main drawback of fruit tree is less scientific application of advanced technology into production, processing technology, storage and unexpanded export markets.

- *Food crops*

Food crops are not the strength of the Southeast region. Recently, the plant area has been reduced from 500.7 thousand hectares down to 451.5 thousand ha (2006-2014). However, the yield is still increasing from 1,588.1 thousand tons up to 1,816.3 thousand tons in the same period thanks to continuous productivity improvement.

- Vegetable, flower, decorative tree are tree types holding big advantage in consumption market and production ability at rural area.

b) Husbandry

Recently, in the Southeast region's husbandry has tended to grow faster and accounts for a high percentage in the structure of agricultural production value as demand for products of meat, milk and eggs from the urban areas as well as the development of industrial parks and export market. The main products are beef, pork and poultry.

3.1.2. Fisheries

In the Southeast region, thanks to good investment in offshore fishing means, developing processing technology, fishery is gradually becoming one of the strengths of the region. 2014 fishing output is 217,000 tons, accounting for 67.7% of total seafood output of the region. The period of 2006 - 2014, aquaculture output is increased from 85,099 tons to 103 565 tons. In particular, fish and shrimp account for the highest percentage. The main aquaculture forms are cage, raft, farm. Many aquaculture farms are expanded with much investment capital, high economic efficiency.

3.1.3. Forestry

Forestry is not only much economic significance but also particularly ecological and environmental significance. Forest land area of the region in 2012 is 511.82 thousand hectares, accounting for 3.32% of the national forest land.

3.2. Farm development status in the Southeast region

3.2.1. The importance of the farm in the agricultural development of the Southeast

In 2014, the farm land area only accounts for 2.72%, labor accounts for 2.62%, the number of households involved in production accounts for 0.39% of the agricultural sector of the region, but the production value accounts for 14%. Farm has contributed more and more to the value of agricultural production, create jobs, increase products both in quantity and quality, to meet the needs of residential consumers, providing great and stable material resources for processing industry and export.

3.2.2. Number of farms, farm type and commercial production value of farms

- *Number of farms*: If in 2000, number of farms in the region accounted for 14.48% of total farms in the whole country; it accounted for 12.38% in 2006, then to 2011, this rate is soaring, reaching 26.86% and 22.5% in 2014.

- *Type of farm*: In 2010, the Southeast region mainly has cultivating farms, husbandry farms and finally the aquaculture farms. Since 2011, with the restructuring in the direction of increasing the contribution of husbandry farms, reducing the percentage of cultivating farms and aquaculture farms. In 2011, accounting for 63.83% cultivating farms, animal husbandry 34.4%. aquaculture farm 1% and other farms (including general farm and forestry farm) 0,7%. Thus, although there is changes in the structure of farms over time, but in general, the proportion of crop and livestock farming is still dominate. Overall,

in 2014, cultivating farms accounted for the most percentage in the provinces of Binh Phuoc, Tay Ninh, Binh Duong. Husbandry accounted for the most percentage in the provinces of Dong Nai, Ba Ria - Vung Tau, Ho Chi Minh City.

- *The value of farm commodity production*: Farm in The Southeast region accounted for 32.37% of revenue from agriculture, forestry, fisheries, 40.67% of the value of income from agriculture, 11.94% of the revenue from forest 33.15% of the industrial and service products of sold agricultural and forest products compared to farms in the whole country. These are impressive figures showing the size and position of the Southeast region's farms compared to the farms of the whole country. Commodity rate of farms in the Southeast area and provinces in the area excepting Dong Nai is higher than the average of whole country.

3.2.3. Mobilization and effective use of input resources of farms

a) Mobilization of resources

- *Land*

On July 1st, 2011, total area of the farms in The Southeast region is 58,704 hectare. Of which, Binh Phuoc has the leading farming area (35,5% farming area), followed by provinces of Tay Ninh (27,6%), Binh Duong (21,5%), Dong Nai (13,6%), Ba Ria - Vung Tau (1,4%) and Ho Chi Minh City (0,4%).

If division in farm type in all the provinces (except for HCMC), the percentage of perennial land mainly accounted for 89.5% of regional average. In 2014, farmland area of The Southeast regions fell to 7077,56 hectares compared with other regions, number of farms as well as farmland scale accounted for the most rate in the region.

- *Investment capital*

There is a big difference in investment capital between the provinces and cities and the types of farm in per place. The investment capital in the provinces Dong Nai, Ba Ria - Vung Tau, Ho Chi Minh City is higher than 3 other provinces in farm types. In all provinces, cities, husbandry farms are invested much more than cultivating farms due to the requirements of input costs as well as higher economic efficiency. Aquatic farms have high investment capital on average.

Research on capital, the author's survey results of investment capital scale for the types of farm and different capital sources, About 85% of all capital is accumulated by farm owners. Other capital sources are less. In particular, bank loans of cultivating farms accounted for a higher percentage, perennial farms accounted for lowest percentage.

To assess the investment level in intensive farming, the author has calculated total investment capital/ha of farm area. The highest level of investment capital is in husbandry farm (Table 3.1).

However, the larger area of a farm is, the less investment capital on 1 ha is and vice versa. The evidence is that most of farms with an area of between 10 and 20 hectares with investment capital of about VND 100 million/ha; between

1 and 2 hectares, the investment amount is 500 to VND 1000 million/ ha; under 1ha, the investment capital is up to 1,300 to VND 2,000 million/ha.

Table 3.1. Average size of the farm and average investment capital per hectare

	Average area/farm (ha/farm)	Total investment capital/ha (million dong/ha)
Perennial farm	14	111,82
Livestock farm	2	931,06
Aquaculture farms	11	110,04
Average	8	521,34

Source: Survey results of the author

- *Labor resources*

+ *Farm owners*: According to a survey of the author, 100% farm owners are directly involved in production. On the composition, the majority of farm owners who are surveyed are local people. Their knowledge about natural characteristics, economic - geographical society of the production area, investment production is high, thus it is more effective.

Family member of farm owners often range from 4 to 9 people/ farm but most are farm size of 6 people/farm. Almost farms mobilize human resource from family to participate into production and trading stably.

For the technical qualifications of farm owners, most of farm owners in the region with low qualifications. The rate of basically untrained farm owners accounted 64.3% primary level, 20% vocational training; other levels are not significant.

+ *Workers in farms*: in 2014, the Southeast region's farms used 41,343 workers, of which family's workers accounted for about 47.56%, hired workers accounted for about 52.44%. Most farms out of surveyed 300 farms with farm labor scale from 6 to 9 workers. In which, scale of 7, 6, 8 and 9 workers/farm is the most. Reviewing per type of farm, most of industrial perennial farms have from 7 to 9 workers. Most husbandry and aquaculture farms have 6 to 8 workers.

For qualifications of farm workers, similar to farm owners, number of trained farm workers via the survey is less.

b) Effective use of farm resources in the Southeast

- *Turnover, income*

In 2014, average revenue on one farm (not distinguishing types) is highest comparing with other areas and higher twice or three times comparing with whole country's average. In the period of 2011 - 2014, the average revenue per farm in The Southeast region increased although total area as well as on an average farm acreage decreased. Most provinces gained average revenue more than VND 2 billion/ farm, but there are many differences between the types of farm and the regions.

The average profit per farm is over 1 billion dongs to nearly 2 billion dongs in almost all provinces and types of farms, except for seafood farms of Dong Nai province below 1 billion dongs per farm. In particular, livestock and fishery

farms have dramatically high average profit in Ba Ria-Vung Tau and HCMC (Table 3.2).

Table 3 2. Average profitability on a local farm by type, 2014

Unit: Million dong /Farm

Local	Cultivation	Cattle-breeding	Aquaculture	Total	Average
The Southeast region	1.329,93	1.676,32	1.311,31	1.485,91	1.517,11
Binh Phuoc	1.290,60	1.018,00	-	-	1.170,7
Tay Ninh	1.379,00	1.543,00	-	1.580,00	1.313,9
Binh Duong	1.353,50	1.660,80	1.193,30	1.633,36	1.460,2
Đong Nai	1.375,24	1.675,10	860,24	1.386,72	1.324,3
Ba Ria - Vung Tau	1.180,60	2.148,50	1.845,80	1.510,50	1.671,4
HCMC	-	1.818,33	1.434,41	-	1.626,4

Source: Calculated from the data of the Department of Cooperatives and Rural Development, Ministry of Agriculture and Rural Development

Average profit per hectare of a farm is also high. Husbandry farm gained more than 1 billion to VND 2 billion/ha in all the provinces. General farm gained high average profit, between 500 and VND 700 million/ha. Followed by aqua-culture farm and the lowest is cultivating farm (most provinces gained less than VND 100 million/ha).

Như vậy, hiệu quả của TT chăn nuôi là cao vượt trội so với các loại hình TT khác, xét cả về doanh thu bình quân trên một TT, thu nhập trên một TT và thu nhập trên một ha của TT. Comparison between provinces, the indicators are especially high in Ba Ria - Vung Tau province and Ho Chi Minh City.

- *Land use efficiency*

During 2011 - 2014, the Southeast region's farm average area has decreased by 13,7%, but revenue rose up to 28,7%. The situation is similar to most provinces and cities in the region. This result shows that the effectiveness of farm is high and stable in the whole Southeast region and also reflects the planning and development policy of farm is proper (Table 3.3).

Table 3.3. Fluctuations in area and turnover of the Southeast farms in the period 2011 – 2014

Local	Area			Revenue		
	Area (ha)		Increase, decrease (%)	Turnover (billion dong)		Increase, decrease (%)
	2011	2014		2011	2014	
The Southeast region	**58.704**	**51.626,44**	**- 13,7**	**12.678,3**	**16.311,92**	**+ 28,7**
Binh Phuoc	20.666	14.654,43	- 41,0	1.898,3	2.063,5	+ 8,7
Tay Ninh	16.250	16.994,06	+4,6	2.173,2	2.504,23	+ 15,2
Binh Duong	12.631	8.977,12	- 40,7	3.209,6	3.035,29	- 5,7
Đong Nai	8.065	9.605,85	+ 19,1	4.463,2	7.285,8	+ 63,2
Ba Ria - Vung Tau	846	1.110,88	+ 31,3	602,3	941,31	+ 56,3
HCMC	245	284,1	+ 15,9	331,8	481,78	+ 45,2

Source: Calculated from the data of the Department of Cooperatives and Rural Development, Ministry of Agriculture and Rural Development

Ho Chi Minh City is the leader in terms of average income from agriculture, forestry and fishery on one farm and one hectare, followed by Ba Ria - Vung Tau, Dong Nai, Binh Duong, Tay Ninh and Binh Phuoc provinces respectively.

When the larger the size is, the less average efficiency is. For example, in cultivating farm, acreage in provinces of Binh Phuoc, Tay Ninh is large, respectively 18,2 hectares and 17,5 hectares, average profit is low, it is only 70,91 and VND 78,8 million/ha, while less acreage in provinces of Binh Duong, Dong Nai, Ba Ria - Vung Tau province of 15,5 hectares, 15,79 hectares and 12.9 hectares, the average profit is higher, respectively, VND 87,32 million/ha, VND 87,1 million/ha and VND 99.52 million/ha.

- *Efficiency of investment capital*

Efficiency of investment capital measures the capability of creating revenue and profits for farm of one investment capital unit in agriculture, forestry and fisheries in the year. In 2014, per 1 capital generates VND 2.3 revenue, VND 1.3 profit. Indicators are similar in other provinces (Table 3.4).

Table 3.4. Profits from agriculture, forestry and fisheries of The Southeast region's farms, in 2014

Regions, provinces	Revenue (billion dong)	Total capital (billion dong)	Profit (billion dong)	Revenue/capital (VND)	Profit/capital (VND)
The Southeast region	**16.311,92**	**7.069,1**	**9.242,82**	**2,3**	**1,3**
Binh Phuoc	2.063,5	884	1.179,50	2,3	1,3
Tay Ninh	2.504,23	975,9	1.528,33	2,6	1,6
Binh Duong	3.035,29	1.371,4	1.663,89	2,2	1,2
Dong Nai	7.285,8	3.182,8	4.103,00	2,3	1,3
Ba Ria - Vung Tau	941,31	390,4	550,91	2,4	1,4
Ho Chi Minh City	481,78	233,7	248,08	2,1	1,1

Source: Calculated from data of Cooperatives and Rural Development Department, Ministry of Agriculture and Rural Development

In 2014, the average profit from agriculture, forestry and fisheries of the Southeast region's farms on per farm gained VND 1.512,7 million/farm, per hectare gained VND 179 million/ha. However, there is a clear difference of two indicators among the provinces with the high profit in Dong Nai, Ba Ria - Vung Tau, HCMC (from more than 1,600 to nearly 2000 million VND per farm). The rest of the provinces is quite good, from over 1,200 to over 1,500 million/farm. The average profit per farm of the Southeast region per hectare is similar but the distribution is more cleared. Ba Ria - Vung Tau and Ho Chi Minh City have the highest value; Dong Nai is quite good; Binh Duong is medium; Tay Ninh

and Binh Phuoc are similar at low. The difference between Ho Chi Minh City and Binh Phuoc is more than 10 times

+ Profit analysis on the capital: surveying results of the author show that profit rate on the capital is lowest at long term tree planting farms (137,5%), considerably higher than breeding farms (153,5%), highest at aquatic farms (249,4%). On the other hand, average rate of return on capital tends to fall when the scale of investment is increased. This trend varies between types of farm business. However, the scale of investment is increased, the profit margin is increased significantly thus farm owners trying to expand production scale is often occurs in all types of farm.

Perennial farm: With a moderate investment scale (to VND 1,300 million/farm), the ratio of profits and the gross margin of each farm is not highly variable, or it can be said that production and business efficiency of these groups differ. Difference in investment efficiency is increased from the investment group of VND 1,300 million/farm, and a great variation among the highest investment (over VND 1,500 million/farm). In this group, rate of return on capital may encounter problem in capabilities of management, product consumption as well as on the intensive farming effectiveness much different between the farms belonging to this group (Figure 3.1).

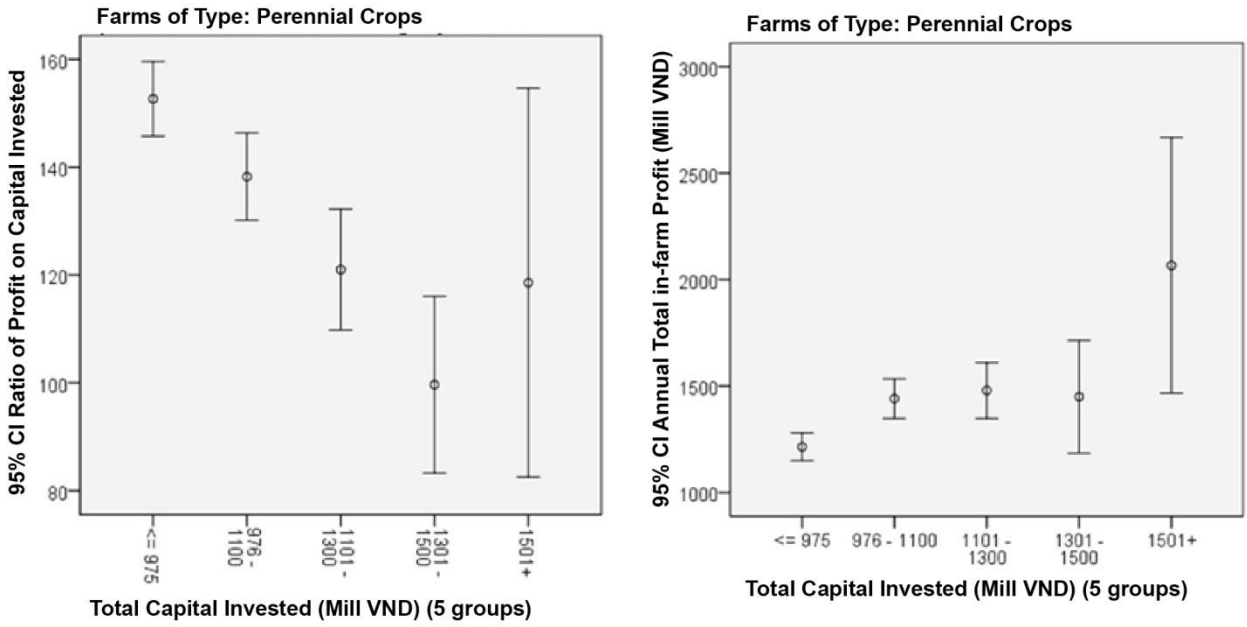

Figure 3.1. Return on capital and gross profit during the year for perennial crops

Source: Survey results on 300 farms of the author

Husbandry farm: The difference in the biggest investment efficiency in the smallest investment group (from VND 975 million or less/farm). It is possible, for husbandry, high investment capital is required, so small farms, facing many risks, must be eligible to reserve feed and supplies for animal, actively make feed by themselves,... thus less capital is impossible. Much difference in investment efficiency in both groups farms with 1101- VND 1300 million/farm and 1301- VND 1500 million/farm. The most important is the group with the most investment (over VND 1,500 million/farm), low profit ratio is negligible

compared with the immediately lower group (1301 to VND 1500 million/ farm), but total average profit of a farm is overshooting (Figure 3.2).

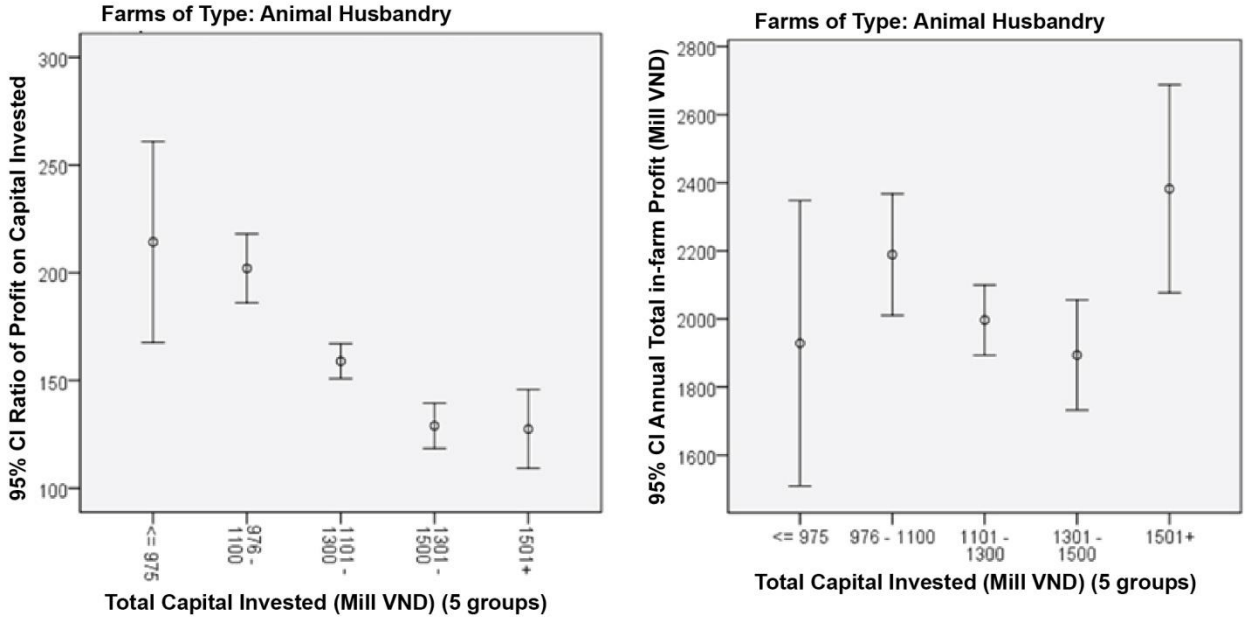

Figure 3.2. Rate of return on capital and total return in the year of husbandry farm

Source: the author's survey results

+ Analysis of return on total output value

Rate of average return on output value is slightly and irregularly fluctuated on investment capital, typically ranging from 55% to over 60%.

3.2.4. Seeking consuming sources for agricultural products of farms

a) Consumption organization

- *Consumption through merchants' collection of goods*

Among the farms surveyed by the author, 97.3% farms consume their products through merchants. Followed by consuming at market, with 58%, 27.7% sold to restaurants. The contractual form of sale accounts for 23.7%, and field sale for factories accounts for only 2.3%. Consumption is one of the outstanding difficulties that make production passive and unstable. Farm is always subject to the most disadvantages. In the type, husbandry farm and aquaculture farm have more diverse marketing channels. Comparison of commodity value scale, large-scale farms prefer to join in the consumption channels of restaurants, supermarkets and via contract.

- *Modes of consumption of agricultural commodities from farms*

Expression of this mode of consumption is the presence of the collection stations of the processing enterprises from the outset. The two parties will make prior agreement with strict commitments, ties. The advantage is that farms can be supported from the producers, processing enterprises or from the state capital, technology and engineering. Processing enterprises can actively reserve input materials. But it is only theoretical, it is sometimes much different in fact. Currently, there is only about 20% of the region's farms consuming agricultural products through this method. When the plants are in troubled, they will consume less or they refuse to buy products and farmers are also willing to

unilaterally break the contracts if they see attractive profits when the market prices spike.

- *Method of gathering products at wholesale markets*

Selling at the markets is made in a manner of overlapping payments. Recently, along with the market system, the supermarkets also consume a stable and great amount of agricultural products for the farms in the region, especially Saigon Co-op supermarket system of Ho Chi Minh city Trade Cooperative Union.

- *Method of consumption through cooperatives (Cooperative)*

The form of consumption is: 1) Collect agricultural products then sell them directly to consumers through commercial outlets within the cooperative system; 2) Collect agricultural products from the cooperative members and then consume through the clues in rural markets; 3) Conclude or cooperate with commercial, processing and export enterprises in order to organize the sale of goods for its members. Currently, this mode of consumption is not the strength of the region. Evidence is that there is only about 10% of agricultural cooperatives consuming products, 3% processing of agricultural products for farmers.

- *Consuming special products*

With special products such as flowers, ornament plants, special aquatic products, fruits, vegetables produced under GAP ... the farmers must actively seek for contracting from other locations or restaurants, supermarkets ... the advantage of this method is that the producers can be initiative since the signing of the contract, the product quality meets the demand of the buyer, free from risks of market fluctuations. The main disadvantage of this method is the high cost of contract negotiations, the farm owners' ability to seek the consuming sources is limited, the opportunity to expand the business and production is limited.

In short, every form of consumption has its own advantage and disadvantage. However, there is one common point is the products from being harvested until access to consumers must go through many intermediaries. Between there is no strict relationship among these stages. Consequently, producers and consumers take disadvantages, processing enterprises and exporters are passive; high cost of circulation but less quality of product, the origin is unable to trace,... Thus how to encourage enterprises to engage in the production and business process of products, how to encourage them to cooperate, and link production to consumption... is still a hard question that the Southeast region has not found convincing answers for many years.

b) Link in consumption

- This section, the author analyzes the structure of agricultural product value chain through indirect channels and the structure of the agricultural product value chain through direct channels farm and highlights the advantages of direct marketing channels as well as explain why the channel is not common in the Southeast region.

- Linking relationship in the value chain

By analyzing the typical value chain, its shows, there has been a formation of link between basic components of farm – consumption broker - processing enterprises in The Southeast region in general. However, the link is still loose. It is only in the form of division link rather than a link to create new values.

3.2.5. Farm owner's plan of production and business

Generally, 80% of farm owners has long-term farm developing plans and strategies. 20% of them has no specific orientation. These may be farms with the most risks if there are adverse changes in the marketplace. Husbandry farm owners have specific strategies. 22% of them has long-term strategies. The aquaculture families also have clear plans in general (no one has no a specific plan). Those who have specific strategies have invested so this percentage is particularly high for the groups of farms have invested more than VND 1,500 million/farm, as well as the farms with large scale and high output value (more than 3,700 million/farm).

For the plan to invest in expanding production: Generally, only 32% of farm owners intends to invest in expanding production. This percentage is somewhat higher in husbandry farms, farms with the scale of average output value (2601-VND 3300 million/farm) and fairly high in the group with high investment rate/ farm (over VND 1300 million), most notably in the group of investment rate is more than VND 1,500 million/farm.

Thus, it can be seen that the farms which plan to invest in expanding production are the farms with strong capital potentiality, area scale as well as large scale of production, high productivity. Thereof, the State must be interested in support of investment capital, training, raising the level of expertise, management skills for farm owners.

3.3. Achievements, restrictions from farm development in the Southeast region

3.3.1. Achievements

- Farms focus on creating large production areas with more quantity of goods, accelerating the process of restructuring of plants, animals, enabling the processing, slaughtering industry to develop.
- Productivity of farms is much higher than farm family.
- Concentrated farms have contributed to providing jobs to workers in and out of the region, increased incomes for producers, attracted many economic sectors to invest, such as farmers, workers, civil servants, retired officials, domestic and foreign businessmen. Thereof, the people's capital is used effectively thanks to investment in farm development.
- Along with the farm development, the new methods of production organization such as production or service cooperatives, cooperative alliances, and farm clubs have been formed.

3.3.2. Restrictions

- Production effectiveness of farms in the area has not been stable.
- Services supporting for operation of the farm are still low.
- Labor qualification at farms is still low.

- Matters about building up product brand name, information and market connection, advertisement and trading promotion are still weak. Matters about connection in product consumption have been built however not really attractive to promote participation from farms and related components.

CHAPTER 4. ORIENTATION AND SOLUTIONS OF FARM DEVELOPMENT IN THE SOUTHEAST REGION

4.1. Farm development orientation in the Southeast

4.1.1. Problems to overcome of the Southeast farms

- Production effectiveness of farms has not been stable. This matter gives out requirements for planning and supports from the state and functional organizations.

- The awareness of farming at all levels, sectors and localities in the Southeast is not sufficient so the government management of farm development has not paid much attention. The mechanisms and policies issued for the present farm are lacking and incomplete. In many localities, the implementation of policies is slow. Some policies proved unreasonable, lack of feasibility but not adjusted in time.

- Planning issues: Many localities have no plans, annual and long-term plans for the development of farms.

- The majority of households have to find ways to multiply their land plots by buying, renting from lots of owners for a relatively concentrated area. With many transactions, trading, farmers face many difficulties in applying for certificates of land use rights and farm certificates.

- Lack of capital, hard to access to credit: Up to 90% of farms in the Southeast region are trading with their own capital, or appropriating capital, 99.7% of surveyed farms need to borrow funds and interest rate support. As lack of funds, farms cannot make intensive investment for productive activities of their business.

- In terms of science and technology: The number of hi-tech farms in production, processing and preservation is still limited, concentrating only in some fields and regions. .

- The market of fertilizers, pesticides, animal feed and feed for fish is inadequate.

- Low educational level of farm owners, management, organization of production - business is mainly based on experience. Workers working in the farms are mostly unskilled, untrained.

- For building product brands: Although in some provinces and cities, farms are funded and branding procedures, especially in farms of production under GAP. However, the most difficulty is that the cost for certification is too high (up to hundreds of million dong/farm), safe agricultural product output has not been guaranteed, people still have to search for the place of consumption. The sale of VietGap products is also hampered because MARD has not enacted a

common label for agricultural products which meet standards. Bad and good commodities are not distinguished.

- Information and market linkages, advertising, trade promotion: Most farm owners in The Southeast region are facing the difficulty in agricultural product consumption. Market manipulation, "robbery" trading is still common.

- For the matter of linking in consumption of products, despite of contract, but the violation or breach of contract often happens. The legal enforcement between the partners is poor.

- The sales in supermarkets, commercial centers are well profitable, but farmers are hard to step in such market segment.

Thus, the difficulties of most farms are lack of knowledge of science and technology, lack of seeds, breeds, lack of funds, difficult to sell products, lack of market information, lack of production support services. These are urgent needs of the farm owners and farms cannot handle such difficulties without the active support from the government and the authority levels.

- The state management on farm development still has many insufficient matters. Regimes, policies issued for the farm currently still lack and are not synchronous. In many local areas, policy development still is slow without planning, annual and long term planning for farm development.

Above matters can not be solved by only farms if there is not positive support and help from the State and local authorities.

4.1.2. Planning for agricultural and rural development in the Southeast

The author has presented Decision No. 943/QD-TTg of the Prime Minister on: Approving the master plan for socio-economic development of the Southeast region to 2020 dated July 20th, 2012 (for agriculture, forestry and fishery). This is the basis for the author to orient the development of farms in the Southeast.

4.2. Farm development orientation in the Southeast region

Basing on capabilities, resources and agricultural development objectives and orientations for farm development in The Southeast región, orientation for farm development in the Southeast area up to 2020, vision to 2030 is as follows:

4.2.1. Sustainable development of the farm

Developing farms in line with the regional agricultural and rural development planning. Paying attention to the rapid increase in the number of cattle-breeding and aquaculture farms. Ensuring food hygiene and safety, building agricultural product brands, especially the key products identified by the region.

4.2.2. Development of farm service

It is necessary to promote the development of farm services such as: production and supply of plant and livestock, services of agricultural supplies, mechanical services, rural transport, agricultural extension, veterinary and agricultural consultancy, marketing and product consuming services.

4.2.3. Farm development associated with consumption markets

Developing markets and consumption systems in the "value chain" of agricultural products, meeting consumer demand and participate actively in the export program of the country.

4.3. Farm development solutions in the Southeast region

4.3.1. Sustainable farm development planning

- The provinces and DARDs should direct reviewing and adjustment of developing planning of agriculture, forestry, fisheries and determining the farm development zone matching the overall developing planning of The Southeast region by 2030. Farm development planning must be linked to development of infrastructure system, ensuring that production activities and services of farm development in an intensive, effective manner to meet the requirements of the protection of the ecological environment, food safety and hygiene.

- Departments of natural resource and environment coordinate with department of science and technology as well as related authorities to investigate, assess current status of environment at farms in order to have suitable policies and limit pollution status. Attach standards in environment protection with farm supporting policies. Authorities should propagandize and guide frequently farm owners in applying new technical advances for waste treatment, policies for environment protection, VietGap and GlobalGap standards and technical specifications of products. Issue certifcate and quality assurance certificate, packing and labelling as well as noting clearly origin of products to increase up competition in the market.

4.3.2. Land Solutions

- *Set up the land market in the countryside*

First of all, it is necessary to consider the land of families, private farms as the main supply to make up the land market. The sale must be public and transparent on the trading floor for farmers to take more options and to avoid risks.

- *Promoting the program of gathering and exchanging land lots*

+ Localities need to quickly investigate the current status of the farms' land to plan for the land consolidation.

+ Local authorities should facilitate the issuance of papers related to land consolidation for the farm in accordance with the law. The government should have regulations on hiring land over land limits.

- *Motivate contributing land among farms*

+ Forming link farms between farmers - farmers: A form that families produce according to the general plan of the group on the basis of contribution of all or part of their land.

+ Link Farm between Farm - Farmer Families: A farm contracts with farmer families on the use of the land according to the general production plan. Depending on the size and level of production, farms can only link the production plan and consuming organization of products. The highly qualified farms, linked to expand farms of seed supply, technical transfer, define quality standards and organization of product consumption for farmer families.

- *Promoting land allocation, land lease to develop farms, especially the bordering areas, critical forest areas*

+ In remote areas, remote areas, local governments need to set up projects or allocate the state owned forest plantations, farms, companies providing services for agricultural development with initial investment and design of infrastructure, service providers of production, purchasing, processing to attract people to rent or buy land for long-term production.

+ For government-run agricultural and forestry farms, local government should direct the dissolution and land recovery for the local agricultural and forestry staff and local people bidding for the development of the site.

+ To accelerate the accumulation and expansion of land area, the government should also apply regulations on land flexible rental rates over the limit.

4.3.3. Capital solutions

- *Capital market development in rural areas*

+ To strengthen the operational capacity of the traditional funding channels through Agribank, Bank for Social Policies. Encouraging investment funds, credit funds, People to be involved in rural capital markets in order to create more opportunities for all farm loans.

+ To raise funds to support investment and farm development, in which executive power completely independent from the Government. Financial support for enterprises operating agricultural credit in corporate income tax exemption. To spend preferential credit funds to encourage commercial banks, financial institutions lending to develop agriculture and rural areas, increase support farmers to produce agricultural goods. To diversify credit granting activities to suit the characteristics of the agricultural production of The Southeast region. To apply flexible operating mechanism of exchange rate, closely mornitor market developments, create favorable conditions for the export of agricultural products. To encourage banks and credit institutions to participate in the value chain of farm products, to counsel and supervise process of using loans to limit risk and improper utilization of loans.

+ Depending on the budget, step by step raise the level of support directly to the farm.

- *Improving credit guarantee for farm owners*

+ To review and raise insurance funds for farms; to apply measures supporting farms borrowing funds to join insurance; to set up the mechanisms of credit guarantees for farms instead pledging property or mortgaging certificates of land use rights.

+ To encourage farm families in demand for loans to engage in loan groups.

- *To supplement and perfect the financing mechanisms to support farm development*

+ To strengthen support services to per family: farm owners should consult right from the farms began to build business plans in order to reduce the costs of evaluation and approving for loans, reduce credit risks.

+ To create maximum favorable conditions for farms to access to credit capital under the Government's Decree No. 41/2010/ND-CP on April 12th, 2010 on the investment loan of farm production, business and circular No. 14/2010-NHNN on June 14th, 2010 of the State bank guiding the implementation of Decree No. 41/2010/ND-CP.

4.3.4. Solutions of science and technology application, development of agricultural services

a) Application of science and technology

- The provinces and districts should coordinate with banks to provide farmers preferential loans for procurement of machinery and equipment, scientific and technological innovation for production, agro-processing. Reviewing and raising transfer funds of scientific and technological advances with the participation of the farm owners; well organizing the encouragement of agriculture, forestry and fisheries to support the farms to quickly apply scientific advances into production.

- For public organizations of science and technology, building scientific and technological market in which farmers are considered as main customers.

- On the key areas, to build the scientific and technological clusters linking between universities and research institutes to form the high-tech parks, technology incubators, vocational training centers.

- To merit typical farm models according to types of products with successful scientific application results and hold exhibitions for farmers to visit, research.

b) Development of agricultural services

- *Supply of seeds, livestock and agricultural materials*

+ Soon announce quality standards of seeds, livestock on the list of plant seeds, livestock published quality standards, issued together with Decision No. 61/2002/QD-BNN of the Ministry of Agriculture and Rural and see this as an important basis for farmers to choose appropriate varieties.

+ To encourage enterprises, farm owners, farmers to be involved in producing seeds, livestock to strictly comply with the socialization guideline of seeding and breeding.

+ To promote the research, breeding or importing for many varieties of high quality, suitable for the specific conditions of each place.

+ To reorganize the material supply unit by linking with the state owned production units and other economic sectors, forming supply chains in order to create a material competitive environment for the farmers.

- *Agricultural insurance services*

The Government should task agricultural insurance for the state owned insurance companies. To encourage enterprises to actively invest in the agricultural insurance sector through investment incentives. Developing model of agricultural insurance cooperative by mobilizing contributions from farms and under the control and supervision of farmers.

4.3.5. Improving the quality of human resources for farms

- To invest in vocational training for rural workers.

- To promulgate policies to encourage farmers to apprentices (priorities in loans, collection of land fields, supporting for application of science and technology, agricultural insurance, etc for skillful farmers).

- Rural Development Department should organize training classes farm owners. Additionally, send members of Agricultural Cooperative Management Unit to attend professional training courses on management, operation and issuing certificates.

- To set up the intelligentsia serving rural agriculture.

- Train, improve qualification for technical staffs in local area.

4.3.6. Solution for product quality improvement

Important solution for the Southeast area is to solve synchronously four matters in the chain of production – harvesting – storage – manufacture.

a) Production

- Mandatory standards and regulations for quality to races in each area and supervise strictly usage of cultivation races and domestic animals. Manage strictly usage of agricultural materials (such as food for domestic animals, fertilizer, insecticide, weedkiller, etc).

- Supports from the Government for farmers should be focused on training and improvement of cultivation skills rather than financial supports.

b) Harvesting

Reinforce technical investment for harvesting, including vehicles for harvesting, transportation, storage by tax perferential for companies which supply equipments operating in harvesting agricultural products.

c) Storage after harvesting

The State should support researching institute, universities in researching methods and maintenance substances for agricultural products following with green, clean and friendly orientation with environment and human health, support capital and plans to promote organizations and individuals in domestic and oversea to develop systems of cold storage, dry storage, professional transportation vehicles.

d) Manufacture

At focusal production areas, motivate farms to contribute their capital (The State supports infrastructure and capital) to establish agricultural manufacture companies under the type of joint stock company. Exempt tax for companies investing into agricultural manufacture.

4.3.7. Solution for development of agricultural consumption market

- *Expand agriculturall consumption market:*

+ Plan development of agricultural market system, sales points of agricultural products and exempt and reduce tax and fee for agricultural traders. Build up agricultural markets at strong developed farms.

+ To set up agricultural markets in places where farms are located.

- *Organizing sales on network by increasing links in the value chain of agricultural products*

+ To reorganize agricultural product merchants

+ To kink farm activities and tourism

- *Improvement of conclusion of contracts for consuming agricultural products*

+ To establish and facilitate cooperatives of share services. This object has legal status, is eligible to collect information, gather a large number of products and is capable of expanding business relations to more distant markets. This is the good agricultural marketing channel.

+ To improve methods of contracting with farmers, ensure equality, fairness, should discuss with farmers through representative organizations, may be production associations founded by farmers or local join stock service cooperatives. In addition, farm owners can authorize banks to make loans where farmers borrow funds to act as representatives.

+ To strengthen the discipline of economic contracts.

+ To strengthen support for the investment rate, the interest rate for enterprises operating in the agribusiness sector.

- *Stepping up marketing activities*

+ To positively set up brands of goods, promote products

+ To popularize market information, production-orientation for farmers

CONCLUSION

1. Through two decades of development at the Southeast area, farms contribute importantly into development of the agriculture as wel as general economy. It helps exploiting effectively natural, economic and social potential and advantages, create up modern trading agriculture. It contributes positively into transferring structures of cultivation and breeding, transferring production method from small and self-sufficient scope to big production scope with markets, etc and then open out ways to enrich for farmers, create up more jobs, increase income and improve living standards. It has been also contributing in creating new production relationships at rural area, building new rural areas. It affirms by itself that this is one high effective and advanced production organization in the agriculture.

2. The Southeast area has convinient geographic location in receiving positive impacts from science-technology and consumption market. The Southeast area also has advantages in human resource and potential strength of science and technology, has advantages in approaching, applying scientific and technological achievements for farm development. Moreover, infrastructure and technical and physical facilities are correlatively completed and are being improved more and more. This is an important factor in promoting farms to develop following with commodity production. The Southeast area has advantages from natural conditions and natural resources which offers good conditions for farm development following with commodity production under big scope with high quality. The Southeast area has many positive policies to promote agricultural and rural development, especially policies relating directly to farming.

3. Factors affecting results of business and production at farms in the Southeast area are not land scope, they are selections of business forms and management qualification of farm owners. Currently, breeding domestic

animals, fowls, cultivating fruits and long term industrial trees still are the most effective orientations for farm owners.

4. Farms in the Southeast area develop at different successful levels however collect high output value over one area unit, form big commodity production models. Many farms come into commodity production and alternation of crops, apply high technology and produce big commodity and safe agricultural products.

5. In order to achieve development targets up to 2020, vision to 2030 which are sustainable and stable farm development at the Southeast area, regional farm should focus on main solutions which are farm planning and development following with sustainable orientations, solutions for insufficient matters about land, capital, speed up scientific and technological applications, develop agricultural services, improve quality of human resource for farm, increase product quality and develop consumption markets.

LIST OF PUBLISHED WORKS

1. La Thuy Huong (2012), *Farm economic development in Ho Chi Minh City*, Science Journal of Pedagogy University of HCMC, in April, 2012, p.99 - 107.
2. La Thuy Huong, Pham Xuan Hau (2012), *Building a linking model for consumption of commodities in the agricultural farms in Ho Chi Minh City*, Saigon University Magazine, August, 2012, p.111 - 118.
3. La Thuy Huong (2014), *Agricultural development in Binh Duong by high-tech investment*, the 8th National Geographic Scientific Conference Report, Vietnam Geographic Science in innovation, integration and development strategy, the 1st and 2nd, p. 606-615.
4. La Thuy Huong (2016), *Development Status of rubber trees in Binh Phuoc Province*, Saigon University Magazine, July, 2016, p. 82-89.
5. La Thuy Huong (2016), *The development of cattle-breeding farms in the Southeast*, The report of the 9th National Geological Sciences Conference, Geosciences of Vietnam with green economy development, p. 692 – 701.
6. La Thuy Huong (2016), *Factors affecting farm development in the Southeast*, The report on the 9th National Geological Science Conference, Geosciences of Vietnam with green economy development, p. 139 – 146.