

**HO CHI MINH NATIONAL ACADEMY OF POLITICS**

**NGUYEN THI PHUONG HOA**

**RESOURCES FOR ECOLOGICAL AGRICULTURE  
DEVELOPMENT IN PHU THO PROVINCE**

**ABSTRACT OF DOCTORAL THESIS  
POLITICAL ECONOMY**

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**The thesis will be defended before the Academy-level Thesis Grading  
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*In the back of the house..... hours....., dates..... months..... in 20.....*

**The thesis can be found at the National Library  
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## INTRODUCTION

### 1. Reasons for choosing the topic

In recent decades, global climate change has been complicated, creating enormous consequences for food security, the environment and the Sustainable Development Goals. Facing that challenge, the Food and Agriculture Organization of the United Nations (FAO) has affirmed that ecological agriculture is an inevitable direction. By 2019, the FAO Council has identified 10 core components of agroecology, including: diversity, knowledge sharing and co-creation, reciprocity, efficiency, regeneration, resilience, humanistic social values, culinary and cultural traditions, responsible governance, circular economy and solidity. This is a fundamental change aimed at overcoming the limitations of the previous economist approach to development, which focused only on output and profits, while ignoring environmental, social and cultural factors.

In Vietnam, the agricultural sector has been undergoing a strong transition to modern commodity agriculture, with the application of science and technology, associated with the program of building a new countryside in the direction of green and circular development. These changes have contributed to improving the lives of farmers, reducing poverty, improving labor productivity and promoting internal development resources. However, under the pressure of deep international integration and the requirements of fast and sustainable development, our country's agriculture still reveals limitations such as small-scale production, lack of chain linkage, and low rate of enterprises investing in the agricultural sector (only about 8%). mainly small and micro scale), access to land, capital and policy mechanisms still have many barriers. In particular, according to estimates, the environmental damage caused by agriculture every year puts great pressure on national sustainable development goals. From these inadequacies, it is necessary to have comprehensive solutions to mobilize, organize and effectively use essential resources such as land, capital, labor, science and technology and institutions and policies to serve the development of ecological agriculture in Vietnam.

Phu Tho province, located in the transition area between the Red River Delta and the northern mountainous midlands, is a locality with many potentials and advantages in agricultural development in general and ecological agriculture in particular. According to Resolution No. 60-NQ/TW dated April 12, 2025 of the Central Committee at the 11th Meeting, and approved by the XIV National Assembly at the 9th Session on June 12, 2025, from July 1, 2025, the three provinces of Hoa Binh, Phu Tho and Vinh Phuc will officially merge into a new provincial administrative unit. named Phu Tho province. This merger opens up a large development space, with diverse natural, socio-economic conditions, combining delta, midland and mountainous areas.

In the new province, agricultural land accounts for about 70% of the natural area, and the agricultural sector still contributes over 60% of total income, demonstrating the central role of agriculture in the regional economic structure. At the same time, this region has outstanding advantages in terms of biodiversity,

indigenous knowledge, agricultural culture and long-standing farming traditions, creating an important foundation for ecological agricultural development, harmonizing economic efficiency, environmental protection and sustainable social development.

However, the rapid industrialization and modernization process in recent years has posed significant challenges to the agricultural sector. The area of production land is shrinking due to the conversion of use purposes, environmental pollution is getting worse, agricultural infrastructure is not synchronized, production is fragmented, small-scale, and it is difficult to apply modern technology. In addition, the process of shifting labor from rural areas to industrial and service parks has also created an increasingly pronounced differentiation between rich and poor, increasing the difference in living standards between rural and urban areas.

The core cause of the above problems comes from the limitations, lack of synchronization and inappropriateness in the mobilization and use of resources for ecological agricultural development, especially in the context of large-scale administrative transformation in the locality. Therefore, it is necessary to systematically and scientifically study the current situation of resource mobilization and use in the previous three provinces, consolidating both positive and negative aspects in order to propose strategic, synchronous, feasible solutions in accordance with natural conditions. socio-economy of the new Phu Tho province.

From the reasons mentioned above, the PhD student chose the topic ***“Resources for ecological agricultural development in Phu Tho province”*** as the research direction for his doctoral thesis, majoring in Political Economy.

## **2. Research objectives and tasks**

### ***2.1. Purpose of the study***

From clarifying the theoretical basis and the current situation of mobilizing and using resources for ecological agriculture development in Phu Tho province, the thesis proposes a system of strategic perspectives and solutions to promote the mobilization and use of resources for ecological agriculture development in Phu Tho province until 2035.

### ***2.2. Research tasks***

*Firstly*, systematize and analyze the overview of domestic and foreign research works related to the thesis topic; thereby summarizing the results achieved, identifying scientific gaps and clarifying thesis issues that need to be further researched, additions and developments.

*Secondly*, clarify the theoretical and practical basis for resources for ecological agriculture development in provincial localities in association with the context of transforming the growth and sustainable development model.

*Thirdly*, comprehensively analyze and evaluate the current situation of mobilization and use of resources (human resources, natural resources, scientific and technological resources and financial resources) for ecological agriculture development in the three provinces of Hoa Binh, Phu Tho and Vinh Phuc in the

period of 2021 - 2024. was the time before the merger into the new Phu Tho province.

*Fourthly*, propose a system of views and solutions that are feasible, scientifically and practically based in order to promote the mobilization and use of resources for ecological agricultural development in Phu Tho province until 2035.

### **3. Object and scope of research**

#### ***3.1. Research objects***

The research object of the thesis is resources and the process of mobilizing and using resources for ecological agriculture development in provincial localities, focusing on clarifying the relationship between types of resources (human resources, natural resources, scientific and technological resources, etc financial resources) with the results of sustainable ecological agricultural development in the conditions of restructuring the new economic-administrative space.

#### ***3.2. Scope of the study***

- Scope of research content: The thesis chooses to focus on 04 groups of core resources, including: human resources, natural resources, science and technology resources and financial resources.

- Scope of spatial research: The thesis chooses to focus on researching the current situation of mobilization and use of resources for ecological agricultural development in Phu Tho province before consolidation (including the space of the three provinces of Hoa Binh, Phu Tho and Vinh Phuc) in the period of 2021 - 2024.

- Scope of time: The thesis determines the scope of the research period consisting of two main stages:

- + Current status study period: From 2021 to 2024. This is the period when Phu Tho province before the merger - including the three provinces of Hoa Binh, Phu Tho and Vinh Phuc are still operating independently in terms of administration and economy.

- + Solution-oriented stage: By 2035. This is a period in line with the medium- and long-term development strategies of the new Phu Tho province after the merger.

### **4. Theoretical basis and research methods**

#### ***4.1. Theoretical basis***

The thesis is built on the theoretical foundation of Marxism-Leninism and Ho Chi Minh Thought, combined with a deep understanding of the lines and views of the Communist Party of Vietnam, as well as the State's policies and laws on socio-economic development, especially in the field of agriculture and rural areas.

In addition, the thesis selectively approaches and inherits modern theoretical perspectives on sustainable development, ecological economy, circular economy, theory of resources and integrated agricultural development models.

#### ***4.2. Research methods***

The thesis applies a combination of many research methods of Political Economy, ensuring the combination of the scientific abstract methodology of Marxist-Leninist Political Economy and specific methods in theoretical and practical analysis. The methods used include: Scientific abstraction methodology; Analytical - synthesis methods; Logical-historical method; Statistical and comparative methods;

Methods of collecting secondary data; Practical investigation methods through in-depth interviews; Context analysis methods.

## **5. New contributions of the thesis**

### ***5.1. Theoretical contribution***

*Firstly*, the thesis develops and clarifies the concept of “Resources for ecological agricultural development” from the perspective of Political Economy, including 04 main groups of resources: human resources, natural resources, scientific and technological resources and financial resources. At the same time, the thesis proposes a set of criteria for evaluating the mobilization and use of these resources in the development of sustainable ecological agriculture.

*Secondly*, on the basis of synthesis and theoretical analysis, the thesis has summarized the advantages and limitations in the process of mobilizing and using resources in Phu Tho province before the consolidation, in the period of 2021 - 2024; thereby pointing out the basic causes leading to these inadequacies, both from the State management entity and the policy implementation mechanism and capacity of local economic actors.

*Thirdly*, the thesis contributes to supplementing the theoretical system of strategic planning for ecological agricultural development by proposing a system of views and a framework of policy solutions with a solid theoretical basis, serving the organization, regulation and promotion of mobilization, using resources in Phu Tho province until 2035. These contributions can be referred to and applied in localities with similar natural, social and institutional conditions.

### ***5.2. Practical contribution***

*Firstly*, the research results of the thesis provide a valuable practical basis for Phu Tho province in developing a strategy to effectively promote resources for ecological agricultural development in the new context after consolidation. The analyses and proposals in the thesis contribute to the concretization of the province's ecological agriculture development goals and policies to 2035.

*Secondly*, the solutions proposed in the thesis can be flexibly applied in localities with natural and socio-economic conditions similar to Phu Tho province, especially the northern midland and mountainous provinces that are in the process of restructuring the agricultural development model associated with ecological conservation and building a new and improved countryside.

*Thirdly*, the thesis is a valuable reference for postgraduate students, doctoral students and researchers in majors such as Political Economy, Development Economics, Political Science, Leadership, Public Policy; at the same time, it is also useful for managers and those interested in the field of ecological agriculture development - a development trend sustainable development is being prioritized in Vietnam.

## **6. Structure of the thesis**

In addition to the introduction, conclusion, and list of the author's published works related to the thesis, the list of references and the attached appendices, the thesis is structured into 4 chapters and 12 sections.

## Chapter 1

### OVERVIEW OF THE RESEARCH SITUATION

#### 1.1. OVERVIEW OF RESEARCH WORKS RELATED TO THE THESIS TOPIC

##### 1.1.1. Research works related to resources for socio-economic development in general and resources for agricultural development in particular

###### *1.1.1.1. Research works related to common resources for socio-economic development*

Projects in this direction mainly focus on exploiting the concept of resources, classifying resources from many different perspectives. The projects all affirm that resources play a key role, determining the development capacity and competitiveness of each country as well as each locality. In particular, some typical authors can be mentioned such as: Nguyen Van Phuc, Mai Thi Thu (2012), Nguyen Vinh Thanh, Ta Thi Doan (2018) in-depth analysis of the role of human resources. The authors emphasize that the effective harness of human resources is the key to the success of countries. Unlike capital, technology or resources, people are living resources that need to be trained and developed continuously. These theses highlight the central role of humans in transforming development paradigms, which are particularly useful in the study of human resources for agroecological development.

###### *1.1.1.2. Research works related to resources for agricultural development*

A number of foreign studies by Miguel A. Altieri, Fernando R. Funes-Monzote and Paulo Petersen (2012), Stephen R. Gliessman (2014) have laid a comprehensive theoretical foundation for understanding and building sustainable food systems through the lens of agricultural ecology. The authors analyze in depth the ecological and resource factors that affect crops, livestock, and the complex structure of agricultural ecosystems, from genetics, landscapes, transitions to sustainability indicators.

Domestic studies have shown that the mobilization and effective use of resources in terms of land, labor, capital and science and technology are decisive in increasing added value and improving income for producers. In particular, emphasizing the role of rural labor resources. However, the quality of this resource still has many limitations, notably: low rate of trained workers; the quality and structure of training are not reasonable, there is still a bias between vocational training and university and college levels; rural workers are also affected by outdated production thinking, lack of strategy, passivity and fragmentation.

##### 1.1.2. Research works related to agroecology and resources for agroecological development

###### *1.1.2.1. Research works related to ecological agriculture*

Many research works have focused on clarifying the role, characteristics, benefits and development orientation of the ecological agriculture model in the global context towards sustainability, such as the research of Angelika Hilbeck, Bernadette Oehen (2018), Linh Pham, Gerald Shively (2019), Harri Ram Prajapati (2020).

In Vietnam, especially since the concept of "ecological agriculture" was officially introduced in the documents of the XIII Congress, issues related to the development of ecological agriculture have received the attention of many scientists. In particular, the author Cao Duc Phat (2022) affirmed: To develop ecological agriculture in order to meet the requirements of sustainable development, efficient use and protection of natural resources, ensuring the harmony of interests between generations. Author Nguyen Minh Quang et al. (2021) put forward the concept of ecological agriculture, contributing to suggesting an approach to the thesis.

#### ***1.1.2.2. Research works related to resources for agroecological development***

Foreign and domestic projects have discussed a number of resources for ecological agriculture development such as human resources, scientific and technological resources, especially the application of biotechnology, information technology and digital technology to production, management and agricultural value chains. According to the authors, special attention should be paid to innovating and improving the quality of vocational training for farmers, thereby developing high-quality rural human resources.

In addition, there have been a number of research works referring to job creation for rural workers, exploiting the potential and advantages of key agricultural products, as well as the application of high technology in agricultural production in Hoa Binh, Phu Tho and Vinh Phuc by the authors Bui My Linh (2020), Le Tat Khuong, Nguyen Kim Tuan, Vu Van Dam, Nguyen Van Tien, Chu Huy Tuong (2021) and Do Duc Quan (2022). These studies show the first step in approaching and explaining issues related to resources for ecological agricultural development.

### **1.2. OVERVIEW OF THE RESULTS OF THE RESEARCH WORKS REVIEWED AND THE ISSUES OF THE THESIS THAT CONTINUE TO BE RESEARCHED**

#### **1.2.1. Overview of the results of the research works**

Through the overview of domestic and foreign research works related to the topic, it is possible to summarize the results in some of the following main aspects:

*Firstly*, a number of works have focused on explaining theoretical issues of resources for socio-economic development in general and for agricultural development in particular. These studies clarify the role of each type of resource in growth and development, especially emphasizing that human resources are the decisive factor, scientific and technological resources are important driving forces in addition to other resources such as capital, mechanisms, policies and management institutions. In addition, many international works have analyzed theoretical issues on ecological agriculture, contributing to clarifying the concept, content, characteristics and role of ecological agriculture for sustainable development.

*Secondly*, a number of in-depth research works analyze the current situation of resources for agricultural development in Vietnam in general and resources for agroecological development in particular in both aspects of advantages and limitations.



*Thirdly*, some projects have proposed orientations and solutions to promote resources for agricultural development, but in-depth research on overall solutions for ecological agricultural development is still few.

*Fourthly*, a number of initial projects have been researched and developed agriculture and ecological agriculture in localities such as Hoa Binh, Phu Tho and Vinh Phuc provinces (before merging into the new Phu Tho province).

### **1.2.2. Gaps in previous research and thesis issues that continue to be studied**

On the basis of inheriting the results of published scientific works, and at the same time deriving from the research orientation of the thesis, in order to contribute to narrowing the identified gaps, the thesis aims to solve the following basic contents:

*First*, the thesis will clarify the theoretical and practical issues of resources for ecological agriculture development in provincial localities, especially clarifying the need to synchronously promote resources (human resources, natural resources, etc scientific and technological resources, financial resources) in the context of sustainable development and green transformation. At the same time, the thesis will also analyze the interaction and complementary relationship between resources, thereby building an integrated theoretical framework for the effective promotion of resources in the development of ecological agriculture in the locality.

*Secondly*, in practical terms, the thesis will comprehensively analyze and evaluate the current situation of mobilizing and using resources for ecological agricultural development of the three provinces of Hoa Binh, Phu Tho and Vinh Phuc in the period of 2021 - 2024, before merging into the new Phu Tho province. On that basis, the thesis focuses on clarifying the results, limitations and causes of limitations in the process of mobilizing and using resources in each locality as well as evaluating the combined effectiveness of the coordination between these resources for ecological agricultural development.

*Thirdly*, the thesis will analyze the new context after the merger of the three provinces into the new Phu Tho province, assess the opportunities and challenges affecting the mobilization and use of resources for ecological agricultural development. On that basis, the thesis proposes feasible views and a system of solutions, ensuring the synchronous and effective promotion of resources, promoting sustainable development of ecological agriculture by 2035.

*Fourthly*, in terms of approach, the thesis will study the issue of promoting resources for ecological agriculture development from the perspective of political economy, thereby considering the interaction between institutions, policies, economic interests and social actors. in order to ensure harmony between economic growth, social justice and ecological environment protection.

*Fifth*, the thesis will supplement new practical evidence, through surveys, in-depth interviews and analysis of local actual data, in order to clarify the role and impact of each resource, and at the same time propose specific policies, suitable to the characteristics of the northern midlands and mountainous regions.

## Chapter 1 Synopsis

In chapter 1, the PhD student conducted an overview of the scientific works related to the thesis topic in two main aspects: (1) Research works on resources for socio-economic development in general and agricultural development in particular; (2) Research works on ecological agriculture and resources for ecological agricultural development. On the basis of the overview, the thesis has summarized the main results that previous research works have achieved, clearly identifying the issues that the thesis will focus on clarifying, including: completing the theoretical basis of resources for ecological agricultural development at the provincial level; analyze the current situation of mobilization and use of resources in localities; propose a system of views and solutions to effectively promote resources for ecological agricultural development in Phu Tho province until 2035.

## Chapter 2

### THEORETICAL BASIS AND PRACTICAL EXPERIENCE OF RESOURCES FOR AGROECOLOGICAL DEVELOPMENT IN PROVINCIAL LOCALITIES

#### 2.1. BASIC THEORIES OF RESOURCES FOR AGROECOLOGICAL DEVELOPMENT

##### 2.1.1. Definition and characteristics of ecological agriculture

##### 2.1.1.1. *Concept of ecological agriculture*

Inheriting domestic and international research achievements, and thoroughly grasping the Party's orientation on building ecological agriculture, modern countryside, and civilized farmers, the thesis determines: *Ecological agriculture is a model of agricultural development based on the rational exploitation of regional advantages and natural potentials. combined with the application of modern science and technology and innovation towards sustainable development; ensuring the harmony between economic efficiency, ecological safety and socio-humanistic values.*

The essence of ecological agriculture is expressed through three pillars: i) Optimization of natural resources and indigenous knowledge; ii) Applying technology to improve productivity, quality and added value; iii) Establishing a balance between people - nature - society, contributing to building a safe and resilient food system to climate change.

##### 2.1.1.2. *Characteristics of ecological agriculture*

The thesis summarizes some typical characteristics of ecological agriculture as follows: Development based on regional and regional advantages; Ability to integrate technology and innovation; Towards sustainable and circular development; The harmony between economic and social values; Emphasizing the role of subjects and community connection.

These characteristics not only reflect the nature of ecological agriculture as a new production model, but also show a fundamental difference from traditional agriculture.

## **2.1.2. Definition and characteristics of resources for agroecological development**

### **2.1.2.1. Concept of resources for agroecological development**

The thesis clarifies two core concepts that have fundamental significance for the approach and analysis of research content:

*(1) Resources are the total of conditions, capacities and material and spiritual strengths that the subject can mobilize and use to achieve development goals in a certain period.*

*(2) Resources for ecological agriculture development are the sum total of material and non-material conditions and factors that can be mobilized and used effectively by entities in order to build, operate and expand the ecological agriculture model in a sustainable direction.*

### **2.1.2.2. Characteristics of resources for agroecological development**

In the context of agricultural development in the direction of sustainability, adaptation and environmental friendliness, resources for ecological agricultural development are not only the input factors of the production process, but also integrated conditions, close interaction and long-term orientation. In order to ensure the efficient operation of the entire agroecological system. The outstanding features of resources in this model include: Integration and multidimensionality; Cohesion and reciprocity; High localization and adaptability; Renewability, circularity and sustainable development orientation; Dynamic and dependent on organization and administration.

## **2.2. REQUIREMENTS FOR THE MOBILIZATION AND USE OF RESOURCES FOR AGROECOLOGICAL DEVELOPMENT**

### **2.2.1. Nature of mobilization and use of resources for ecological agriculture development**

Mobilizing and using resources for ecological agricultural development is understood as a unified and continuous process, in which mobilization creates an input premise, while the use determines the effectiveness of output. These two contents have a close relationship, have a mutual impact and work together towards the goal of developing ecological agriculture in the direction of economic efficiency, social justice and environmental sustainability.

### **2.2.2. Specific requirements, suitable to the nature of the mobilization and use of resources to achieve the objectives of ecological agriculture**

#### **2.2.2.1. Requirements for human resources**

Human resources in ecological agriculture include farmers, technical staff, experts, scientists, enterprises and State management agencies. Each subject has its own role in mobilizing and effectively using these resources to promote ecological production in a modern, efficient and sustainable direction. Farmers are the core force, directly producing and operating the ecological agriculture system. The requirement for the mobilization and use of human resources in ecological agriculture is the comprehensive development of qualifications, skills, ecological

thinking, community organization capacity and the spirit of innovation. When people are placed at the center of the system that is empowered, trained, supported and connected, then agroecology can truly be effective, develop sustainably, and spread widely in practice.

#### ***2.2.2.2. Requirements for natural resources***

Natural resources such as land, water, climate and biodiversity are essential foundations in the development of agroecology. The requirement is to exploit natural resources economically, efficiently and responsibly. Specifically: Land needs to be cultivated in an ecological direction: prevent erosion, protect fertility, restore the microflora and regenerate soil structure; Water sources must be integrated management, application of economical irrigation techniques and circular exploitation; Biodiversity needs to be conserved and promoted through indigenous varieties, adaptive trees, offspring and biological production chains; Resource planning needs to be suitable for each ecological region, avoiding encroachment on forests, wetlands or sensitive ecosystems.

#### ***2.2.2.3. Requirements for scientific and technological resources***

In the context of ecological agriculture, the requirement for technology is not only modernity, but also environmentally friendly, ecologically adaptable and suitable to local practical conditions. Technology needs to be aimed at optimizing natural resources, improving farming efficiency, minimizing negative impacts on ecosystems and ensuring food safety.

The main technologies include: biotechnology (production of organic fertilizers, microbial preparations, disease-resistant varieties), circular technology (recycling of agricultural by-products), economical irrigation systems, biological control and digital technology (IoT, AI, Big Data) to monitor the farming environment, etc traceability, pest warning and market connection.

#### ***2.2.2.4. Requirements for financial resources***

Finance is the foundational resource to ensure the process of investment, technological innovation, infrastructure upgrade, human resource training and building an ecological production model along the value chain. In ecological agriculture, production characteristics require large initial investment, long recovery time, and high risk, so the requirements for financial resources lie not only in scale, but also in accessibility, stability and allocation efficiency. To meet this requirement, it is necessary to expand diversified and sustainable financial channels.

### **2.3. EVALUATION CRITERIA AND FACTORS AFFECTING THE MOBILIZATION AND USE OF RESOURCES FOR AGROECOLOGICAL DEVELOPMENT**

#### **2.3.1. Criteria for evaluating the mobilization and use of resources for ecological agriculture development**

The thesis develops three groups of core criteria:

*Criterion 1:* Assessment of characteristics, current status and potential for development of resources for ecological agricultural development.

*Criterion 2:* Evaluation of the results of mobilization and use of resources for ecological agricultural development.

*Criterion 3:* Evaluate the results achieved by ecological agriculture from the mobilization and use of resources.

### **2.3.2. Factors affecting the mobilization and use of resources for ecological agriculture development in provincial-level localities**

The main factors include:

*First*, the impact of natural, socio-cultural conditions on the mobilization and use of resources for the development of ecological agriculture at the provincial level.

*Second*, the impact of climate change and natural disasters on the mobilization and use of resources for ecological agricultural development at the provincial level.

*Third*, the impact of the global trend of organic and ecological agriculture on the shift and mobilization of resources for ecological agriculture development at the provincial level.

*Fourthly*, the guidelines and policies of the Party and the State affect the mobilization and use of resources for ecological agricultural development.

*Fifth*, the impact of market demand on the mobilization and use of resources for ecological agricultural development at the provincial level.

## **2.4. EXPERIENCES OF SOME PROVINCIAL-LEVEL LOCALITIES IN MOBILIZING AND USING RESOURCES FOR ECOLOGICAL AGRICULTURAL DEVELOPMENT AND LESSONS LEARNED FOR PHU THO PROVINCE**

### **2.4.1. Experiences of some provincial-level localities in mobilizing and using resources for ecological agricultural development**

#### ***2.4.1.1. Hanoi's experience***

With diverse natural, ecological and cultural conditions, and a favorable geographical location in regional connectivity, Hanoi has many outstanding potentials and advantages for the development of ecological agriculture. The planning of rural areas associated with ecological agricultural development is identified by the City as the right policy, of strategic significance, towards sustainable agricultural and rural development and improving people's lives.

Hanoi's important experiences are: (1) Identifying farmers as the central subject of ecological agricultural development; (2) Closely linking the development of ecological agriculture with the restructuring of the agricultural sector and the construction of a new countryside; (3) Promote the role of the Farmers' Association and social forces in improving the quality of rural human resources; (4) Science and technology transfer associated with digital transformation in agriculture.

#### ***2.4.1.2. Experience of Son La province***

As a mountainous province in the Northwest region, Son La has actively transformed its production model in the direction of ecological agriculture, considering this as an inevitable and sustainable direction.

In mobilizing and using resources for ecological agriculture development in Son La province, the following experiences can be drawn: (1) Exploiting and

effectively using natural resources associated with green transformation and digital transformation in agriculture; (2) Promoting the role of the State and the new cooperative model in organizing and linking the production and consumption of ecological agricultural products; (3) Combining the development of key crops with the processing industry, creating a sustainable agricultural product value chain.

#### ***2.4.1.3. Experience of Tuyen Quang province***

Tuyen Quang province with its diverse terrain helps form many different ecological sub-regions, suitable for organic agricultural production, circular farming and livestock development in a natural direction, associated with the conservation of indigenous landscapes and ecosystems.

Practical research in Tuyen Quang province can draw some experiences in mobilizing and using resources for ecological agricultural development, including: (1) Promoting natural resources in selecting advantageous pine trees; (2) Focus on training human resources, attracting investment capital from enterprises; (3) Supporting ecological agricultural production through financial resources creates an important motivation for cooperatives and production households to boldly transform farming methods, build organic models associated with processing, commercialization and develop brands of ecological agricultural products in the province.

#### ***2.4.1.4. Experience of Lam Dong province***

Lam Dong is a mountainous province in the southern Central Highlands, divided into three distinct ecological zones (less than 500 m; from 500 to 800 m and from 800 to 1,500 m). Currently, the area of high-tech agricultural production reaches about 62,000 hectares, bringing an average production value of 180 million VND/ha/year; especially vegetables reach 400-500 million VND/ha/year, flowers reach 800 million to 1.2 billion VND/ha/year. This is a clear demonstration of the outstanding efficiency of the high-tech ecological agriculture model.

Some of the experiences of Lam Dong province have a profound significance for Phu Tho province in mobilizing and using resources for ecological agricultural development are: (1) Harmonious combination of natural advantages and application of science and technology in ecological agricultural development, organic, circular; (2) Associating agricultural development with agricultural tourism, forest economy and ecological services, forming a green and multi-benefit economic value chain; (3) Promote the role of local institutions and policies in supporting the transition to ecological agriculture, ensuring sustainable development in terms of economy, environment and society; (4) The development of ecological agriculture should be placed in regional linkages.

### **2.4.2. Lessons learned for Phu Tho province in mobilizing and using resources for ecological agricultural development**

From the experiences mentioned above, the thesis draws six main lessons:

*Firstly*, to mobilize and integrate resources to create a resonant thrust for ecological agricultural development.

*Secondly*, people are the center, science and technology are the driving force for innovation for ecological agricultural development.

*Thirdly*, develop indigenous agricultural models to maximize regional advantages for ecological agricultural development.

*Fourthly*, the grassroots political system is a strategic lever to support and promote the role of the people as the subject for the development of ecological agriculture.

*Fifth*, promote regional linkages and public-private cooperation to expand the scale and add value to ecological agricultural development.

*Sixth*, digital transformation is the foundation for building circular, green and sustainable agriculture for ecological agricultural development.

### **Chapter 2 Synopsis**

On the basis of inheriting and developing theoretical arguments, this chapter has developed an analytical framework on the mobilization and use of resources for ecological agricultural development, including four main resources: human resources, natural resources, scientific and technological resources and financial resources. The assessment of resources should simultaneously consider the internal potential and the level of mobilization and exploitation in practice, especially when compared with the traditional agricultural model.

In addition, chapter 2 has pointed out practical experiences from a number of localities in the country and drawn lessons for Phu Tho province to take an overall and flexible approach; putting people at the center; consider technology and green thinking as the driving force; at the same time, build a model to adapt to the characteristics of the mountainous midland locality.

## **Chapter 3**

### **CURRENT SITUATION OF MOBILIZATION AND USE OF RESOURCES FOR ECOLOGICAL AGRICULTURE DEVELOPMENT IN PHU THO PROVINCE BEFORE CONSOLIDATION**

#### **3.1. NATURAL AND SOCIO-ECONOMIC CONDITIONS AFFECTING THE MOBILIZATION AND USE OF RESOURCES FOR AGROECOLOGICAL DEVELOPMENT IN PHU THO PROVINCE BEFORE CONSOLIDATION**

##### **3.1.1. Natural conditions**

With stratified terrain, mild climate, abundant land resources and abundant water source system, it has created a solid foundation for the previous three provinces to effectively mobilize natural resources for ecological agricultural development. When Phu Tho province was newly established, those conditions became a strategic advantage if scientifically planned and invested in the right direction to transform the potential into real competitiveness in ecological production.

### 3.1.2. Socio-economic conditions

Before the merger, the three provinces of Hoa Binh, Phu Tho and Vinh Phuc all possessed complementary and reciprocal socio-economic characteristics, creating a favorable foundation for the development orientation of ecological agriculture of the new Phu Tho province. The economic growth rate remained stable (7.5% on average), creating a favorable financial foundation for the province to mobilize investment resources for ecological agriculture, both from the budget and the private sector. The labor force in the field of agriculture - forestry - fishery accounts for a large proportion, which is an important condition for reorganizing production, transforming farming models and expanding the scale of forms of ecological agriculture. The diversity of local ecosystems and products allows the province to develop specialized production areas associated with the specific strengths of each region, thereby improving the efficiency of land use and natural resources. In particular, the rich folk culture with many intangible heritages has become a soft advantage, helping to associate production with experiential tourism, creating new capital flows and adding value to ecological agricultural products.

## 3.2. CURRENT STATUS MOBILIZATION AND USE OF RESOURCES FOR ECOLOGICAL AGRICULTURE DEVELOPMENT IN PHU THO PROVINCE BEFORE CONSOLIDATION

### 3.2.1. Current status of mobilization and use of human resources for ecological agricultural development

In order to effectively mobilize labor resources for ecological agricultural development, the provinces of Hoa Binh, Phu Tho and Vinh Phuc have issued and implemented many specific guidelines and policies on vocational training, focusing on improving professional qualifications and skills for rural workers.

Promote the central role of agricultural cooperatives in reorganizing production in the direction of ecology and sustainability. Through the development of new cooperative models, many localities have gradually transformed from small-scale and dispersed production to concentrated, large-scale and environmentally friendly production - in line with the orientation of ecological agricultural development in the new period.

**Table 3.5: Number of agricultural cooperatives in Phu Tho province before consolidation, period 2021 - 2024**

*Unit: Cooperative*

Year	Hoa Binh Province	Phu Tho Province	Vinh Phuc Province	Total
<b>2021</b>	317	370	264	<b>951</b>
<b>2022</b>	322	321	290	<b>933</b>
<b>2023</b>	355	414	344	<b>1.113</b>
<b>2024</b>	422	435	402	<b>1.259</b>

Source: The author compiled from the report of the Department of Agriculture and Rural Development Hoa Binh, Phu Tho and Vinh Phuc provinces in the period of 2021 - 2024



In addition, thanks to the positive changes in the guidelines and policies of the province, there is an increasing participation of large enterprises in investing and supporting farmers to develop ecological agriculture.

### **3.2.2. Current status of mobilization and use of natural resources for ecological agricultural development**

The merger of the three provinces of Hoa Binh, Phu Tho and Vinh Phuc not only marks an important turning point in the adjustment of administrative boundaries, but also opens up opportunities to restructure the socio-economic development space in the direction of sustainability and inter-regional cohesion. In this context, ecological agriculture has emerged as a pillar of strategic development, based on the mobilization and effective use of a rich natural resource system, which has been formed through the development practices of the three provinces in the period of 2021 - 2024. Specifically: Geographical location and terrain are the foundation for inter-regional ecological connection; climate and hydrology are ideal conditions for ecological production; soil resources with ecological differentiation are the potential for diversified farming; forest ecosystems and biodiversity create production spaces associated with conservation; water resources and irrigation systems contribute to ensuring water security for sustainable development; connecting ecological - cultural - tourism spaces to create a unique regional value chain.

### **3.2.3. Current status of mobilization and use of scientific and technological resources for ecological agricultural development**

Before the merger, Phu Tho province (including the three provinces of Hoa Binh, Phu Tho and Vinh Phuc) made many efforts in mobilizing and applying scientific and technological resources to promote the development of ecological agriculture. However, the level of application is still clearly differentiated between regions and production scales, mainly concentrated in areas with support from programs and projects.

*In Hoa Binh*, the application of microbiological technology in livestock production and waste treatment has been implemented in a number of localities such as Lac Thuy and Mai Chau, initially bringing positive effects in reducing pollution and improving livestock efficiency. *In Phu Tho*, models of biotechnology application in organic tea cultivation have been implemented in Thanh Son, Tan Son; using probiotics and organic fertilizers to replace chemical fertilizers in the cultivation of vegetables and fruit trees in Lam Thao, Phu Ninh. Some high-tech agricultural models, such as greenhouses - net houses for safe vegetable production, are also piloted in suburban areas such as Viet Tri city. *In Vinh Phuc*, science and technology application activities are mainly concentrated in the delta and economic centers such as Vinh Tuong and Lap Thach with a closed chain production model, using high-yield hybrid breeds and digital technology in production process management.

Not only that, the province also performs scientific and technological tasks to support the development of ecological agriculture. This is also a policy of in-depth

development, using science and technology to improve output and product value, creating competitive agricultural products in the market.

#### **3.2.4. Current status of mobilization and use of financial resources for ecological agricultural development**

Localities have issued many policies and incentive mechanisms in accordance with practical conditions, focusing on supporting rural infrastructure investment, technical transfer, preferential credit and agricultural and forestry extension.

Notably, financial resources from local budgets, along with support from the central budget and national target programs, have been allocated for specific activities such as: developing organic agriculture models, circular agriculture, waste treatment in livestock, etc restore rural ecosystems and build a sustainable production demonstration model.

*In Phu Tho*, mountainous areas such as Tan Son, Yen Lap, and Thanh Son have been prioritized to allocate capital for the development of organic tea areas, medicinal herbs under the forest canopy and ecological VAC models. *Vinh Phuc* focuses on supporting the development of high-tech agriculture, especially in the field of safe vegetables and fruit trees in Vinh Tuong, Tam Duong. *Hoa Binh* allocates resources for the development of ecological agriculture models in ethnic minority areas, the application of microbiological technology and environmental treatment in livestock in areas such as Mai Chau and Da Bac.

However, the overall scale of financial resources is still limited compared to practical needs, and the mobilization of non-budget capital still faces many difficulties, especially in attracting enterprises to invest in ecological agriculture. The mechanism for managing and supervising capital allocation in some places is still inflexible, not really creating long-term motivation for producers and entities participating in the sustainable agricultural value chain.

### **3.3. ASSESSMENT OF THE CURRENT STATUS OF MOBILIZATION AND USE OF RESOURCES FOR AGROECOLOGICAL DEVELOPMENT IN PHU THO PROVINCE BEFORE CONSOLIDATION**

#### **3.3.1. Results achieved from the mobilization and use of resources for agroecological development in Phu Tho province before consolidation**

Resources for ecological agricultural development do not exist separately from each other but have a reciprocal relationship and interaction with each other. The mobilization and use of each resource itself has its own results, but it also brings common results for the development of ecological agriculture in Phu Tho province before consolidation in recent years.

*Firstly, the province has implemented ecological agriculture models in accordance with the unique advantages of each locality.*

Some typical ecological agriculture development models in the provinces such as: (1) Beef cattle breeding model on the basis of biological bedding, with a scale of 1,300 heads; (2) Model of application of sensor system to control aquatic environmental factors in high-intensive freshwater fish farming with a scale of 06

hectares of water surface with a total of 60,000 fingerlings; (3) Straw straw treatment model on rice plants on a scale of 10,000 hectares, supporting 280,000kg of straw treatment preparations; (4) Production model of tray plating and rice transplanting by machine on a scale of 100 hectares; (5) The model of linking production and consumption of bananas in Ha Hoa, with a scale of 110 hectares; (6) The model of organic rice production and rice product processing in Hung Viet commune (Cam Khe) with a scale of 200 hectares is certified by VietGAP.

*Secondly, about the results of ecological agricultural production in Phu Tho province before consolidation.*

The development of ecological agriculture in Phu Tho province has achieved many positive results. Agricultural production has gradually shifted in the direction of safety, concentration and increase in the value of goods; The average growth rate of the whole industry is estimated at about 3.6%/year. The province has formed concentrated specialized production areas such as: over 56 thousand hectares of high-quality rice, 4.2 thousand hectares of safe vegetables and 15.6 thousand hectares of organic fruit trees, VietGAP. In addition, livestock farming is planned according to the model of concentrated and environmentally friendly farms and livestock, with the size of the pig herd reaching 454.4 thousand heads, the chicken herd about 5.3 million heads and the cow herd nearly 13.9 thousand heads. These results show that the trend of transitioning to ecological agriculture is being implemented in the right direction, contributing to improving production efficiency and environmental protection.

*Third, increase the number of products that meet OCOP standards and products that are supported to meet VietGAP standards.*

The increase in OCOP products from 3 stars or more in Hoa Binh, Phu Tho and Vinh Phuc in the period of 2021 - 2024 shows that localities are promoting standardization, improving production quality and focusing on ecological factors such as traceability, clean production, etc organic.

In addition, products that meet good agricultural practice standards play a role in both promoting agricultural economic development, contributing to environmental preservation and ensuring sustainable social factors. According to statistics, Phu Tho province before the consolidation had 3.9 thousand hectares certified by VietGAP; 153 hectares of GlobalGAP certification; 1.9 thousand hectares of RA certification; 108.6 hectares have been certified organic and 732 planting area codes have been granted with a total area of 9.1 thousand hectares. Forming 219 safe agricultural, forestry and fishery food supply chains; chain of production, consumption and export of grapefruit and bananas; dairy farming. This is an important premise to expand the development of ecological agriculture in the province in the coming years.

*Fourth, increase people's income by participating in ecological agricultural production models.*

The implementation of the ecological agriculture model in Hoa Binh, Phu Tho and Vinh Phuc provinces has brought significant economic benefits to the people,

when production is organized according to safe processes, improved product quality and greater added value. Thanks to the application of sustainable farming techniques, the use of good varieties and probiotics, input costs are used more efficiently, and productivity and the proportion of commodity products are increased. The linkage between farmers and cooperatives and businesses also helps to ensure stable output, reducing price and market risks. In many localities, this model is also combined with the development of community tourism and the exploitation of cultural identity, creating more ancillary revenues. As a result, the income of participating households not only increases directly from production but also is sustainably consolidated in the long term.

*Fifth, promote environmental protection and waste management in agriculture.*

Environmental protection in agricultural production is increasingly being paid attention to and implemented synchronously by the three provinces of Hoa Binh, Phu Tho and Vinh Phuc. Provinces continue to strengthen leadership and direction in propagating and widely disseminating the Law on Environmental Protection to organizations and individuals participating in agricultural production. At the same time, the Scheme on collection and treatment of post-use pesticide packages and plastic waste in crop production in the period of 2021 - 2024 has been issued to reduce pollution, protect the agricultural ecosystem and move towards safe and sustainable agriculture.

### **3.3.2. Limitations from the mobilization and use of resources for agroecological development in Phu Tho province before consolidation**

*First*, limitations from the mobilization and use of human resources: In recent years, although the level of labor resources in Hoa Binh, Phu Tho and Vinh Phuc provinces has generally improved significantly, mainly labor in the industrial sector, services. The level of agricultural workers is still slow to improve. Currently, the level of farming and production technology of the majority of farmer households (especially those with high-tech applications) in the province is generally low. The role of farmer households in linkage chains in agricultural production and business is still small and weak and unsustainable. Cooperatives and associated groups in some cases have not fully promoted their role as "organizational subjects" of ecological agricultural production relations.

*Secondly*, limitations from the mobilization and use of natural resources: The shrinking of agricultural land area, climate change, natural disasters, and environmental pollution are major problems posed for the use and promotion of natural resources for ecological agricultural development in all 03 provinces in the current period.

In addition, agricultural land in many places in the provinces is also divided by roads, houses, or abandoned, not cultivated or cultivated. Moreover, land management policies still have many inadequacies, which are a barrier to large-scale agricultural development, reducing the ability to apply technical and high-tech advances to production.

*Thirdly*, limitations from the mobilization and use of scientific and technological resources: Reality shows that although the development of ecological agriculture in Hoa Binh, Phu Tho and Vinh Phuc provinces has achieved good results, the application of science and technology to production has not really been widely and deeply. There are not many models of high-tech agriculture, which have only been deployed at some stages in the entire production chain, have not yet reached processing, while people are still passive in approaching new technologies. The technological infrastructure and data infrastructure for ecological agricultural management have not been built synchronously. Science and technology research and transfer activities have not really come from the specific needs of ecological agricultural production and market requirements in the context of integration.

*Fourth*, limitations from the mobilization and use of financial resources: Budget capital for ecological agriculture is mainly integrated in target programs or projects with a short term. Financial resources from the social sector for ecological agriculture development in the locality are still limited, and have not created a strong impetus to promote ecological agriculture development in depth. Financial resources for infrastructure investment in service of ecological agriculture and natural disaster prevention and control are still limited, scattered and not given proportionate priority.

### **3.3.3. Causes of the current situation of mobilization and use of resources for ecological agricultural development in Phu Tho province before consolidation**

#### ***3.3.3.1. Causes of the results of mobilization and use of resources for agroecological development in Phu Tho province before consolidation***

The initial results in the mobilization and effective use of resources for ecological agricultural development in Phu Tho province before the merger (including the three provinces of Hoa Binh, Phu Tho and Vinh Phuc) come from three main groups of causes:

*Firstly*, localities have seriously grasped and effectively implemented the Party's views and orientations on ecological agricultural development in association with the construction of modern countryside and civilized farmers.

*Secondly*, the provinces have promulgated many appropriate mechanisms and policies to mobilize, allocate and effectively use financial, land, human and scientific and technological resources for ecological agriculture.

*Thirdly*, localities have well exploited socio-cultural values to integrate them into ecological agricultural development.

#### ***3.3.3.2. Causes of limitations from the mobilization and use of resources for agroecological development in Phu Tho province before consolidation***

Despite achieving some initial results in ecological agricultural development, Phu Tho province before the merger (including Hoa Binh, Phu Tho and Vinh Phuc) still faced many limitations stemming from the following basic reasons:

*First*, inadequacies in the land policy system and agricultural investment support mechanism.

*Second*, competition between economic sectors and urbanization diminishes the role of agriculture.

*Third*, limitations on awareness, qualifications and thinking of agricultural production in rural population.

### **Chapter 3 Synopsis**

In chapter 3, the thesis affirms that, from 2021 to 2024, implementing *Resolution No. 19-NQ/TW* of the 13th Party Central Committee “on agriculture, farmers and rural areas to 2030, with a vision to 2045”, Phu Tho province before the consolidation (including three provinces of Hoa Binh, Phu Tho, Vinh Phuc) has issued many guidelines and policies to restructure the agricultural sector in the direction of substance and efficiency, exploiting and promoting the advantages of tropical agriculture. The thesis has analyzed the current status of mobilization and use of 04 resources: human resources, natural resources, scientific and technological resources and financial resources for ecological agricultural development in Phu Tho province before the consolidation. From there, the results achieved from the integrated mobilization of these resources for ecological agricultural development in the area are evaluated. However, the mobilization and use of resources for the development of ecological agriculture in the province also have many limitations, and practical and effective solutions are needed to better promote resources for ecological agriculture development in the new Phu Tho province in the coming time.

## **Chapter 4**

### **VIEWS AND SOLUTIONS TO MOBILIZE AND USE RESOURCES FOR ECOLOGICAL AGRICULTURE DEVELOPMENT IN PHU THO PROVINCE AFTER CONSOLIDATION**

#### **4.1. THE CONTEXT OF PHU THO PROVINCE AFTER CONSOLIDATION AFFECTS THE MOBILIZATION AND USE OF RESOURCES FOR ECOLOGICAL AGRICULTURAL DEVELOPMENT**

##### **4.1.1. Advantages of Phu Tho province after consolidation to create conditions for mobilization and use of resources for ecological agricultural development**

From July 1, 2025, Phu Tho province will officially operate after the merger of three provinces: Hoa Binh, Phu Tho and Vinh Phuc. After the consolidation, the development position of Phu Tho continues to be raised, the natural area ranks 15th in the country, the population ranks 11th in the country, the GRDP scale ranks 6th in the country and ranks first in the Northern Midlands and Mountainous regions, is a

bridge between the Capital region and the vast Northwest region. There is still a lot of room and space for development,... have opened up favorable opportunities for the province to develop strongly and make breakthroughs in the coming time.

In the detailed planning for agricultural development, Phu Tho province determines the development of agricultural production in the direction of high-tech application, safe and organic production, production of high-value products along the value chain, circular associated with the construction of a new modern countryside, civilized. Focus on developing areas specializing in the cultivation of large, high-quality goods associated with deep processing, raising the value of agricultural products, focusing on investing in post-harvest technology, building brands for agricultural products typical of the region and localities. Promote digital transformation, application of digital platforms and digital data in agricultural and rural development.

#### **4.1.2. Difficulties of Phu Tho province after consolidation affecting the mobilization and use of resources for ecological agricultural development**

In addition to the rapid, complicated and unpredictable changes of the world context, the challenges for the new Phu Tho province after the merger of the three provinces are the difference in development level and economic orientation between regions; increasing pressure from the urbanization process, industrialization throughout the province leads to fierce competition in land use; with the expanded geographical space, it has led to fragmented socio-economic infrastructure, lack of inter-regional and intra-provincial traffic connections; the economic openness is large, the quality of growth and state budget revenues are not really sustainable, depending on the foreign investment sector; the scale of the private economy is still small; mobilizing resources that have not met development needs; many problems from the previous period must be focused on solving; the level of socio-economic development, living standards, and quality of human resources between regions have large differences and differences,...

#### **4.2. VIEWPOINTS ON MOBILIZING AND USING RESOURCES FOR ECOLOGICAL AGRICULTURE DEVELOPMENT IN PHU THO PROVINCE TO 2035**

In order to mobilize and effectively use resources for ecological agricultural development in Phu Tho province by 2035, it is necessary to base on the following main viewpoints:

- (1) To place the development of ecological agriculture in the overall socio-economic development of the province, the region and the whole country.
- (2) Respect the ecological and cultural characteristics of each region in the mobilization and use of resources for ecological agricultural development.
- (3) Specialized farming zoning, regional linkage in the mobilization and use of resources for ecological agricultural development.

(4) Mobilizing and using resources for ecological agricultural development on the basis of combining the orientation, support and supervision of the State and the administration with the self-awareness of farmers.

### **4.3. SOLUTIONS TO MOBILIZE AND USE RESOURCES FOR AGROECOLOGICAL DEVELOPMENT IN PHU THO PROVINCE BY 2035**

#### **4.3.1. General solutions in mobilizing and using resources for ecological agriculture development in Phu Tho province by 2035**

The commune thesis defines three groups of general solutions:

(1) Combining propaganda with strict handling of land and environmental violations affecting the mobilization and use of resources for ecological agricultural development.

(2) Implementing planning, reviewing planning and arranging production in the direction of ecological agricultural development.

(3) To build a rural infrastructure system to meet the requirements of ecological agricultural development.

#### **4.3.2. Solutions in mobilizing and using each resource for ecological agriculture development in Phu Tho province by 2035**

##### ***4.3.2.1. Solutions to mobilize and use human resources for ecological agriculture development***

(1) Promote propaganda and education to raise farmers' awareness of the advantages of ecological agricultural development.

(2) Promote training and retraining in association with consultancy and orientation for farmers in ecological agricultural development.

(3) Creating sustainable livelihoods to attract and stabilize labor in ecological agriculture

(4) Enhancing the role and position of farmers in the agroecological value chain.

(5) Strengthen the role of cooperatives as "organizational subjects" of human resources.

##### ***4.3.2.2. Solutions to mobilize and use natural resources for ecological agricultural development***

(1) Regional planning for ecological agricultural development associated with the restructuring of the agricultural sector based on the advantages of each region.

(2) Transforming the structure of crops and livestock in accordance with natural advantages, market-oriented and adapting to climate change.

(3) Strengthen environmental protection measures in ecological agricultural production in the province.

(4) Improve land management policies in the direction of creating conditions for ecological agricultural development.



#### ***4.3.2.3. Solutions to mobilize and use scientific and technological resources for ecological agricultural development***

(1) Promote scientific research, application of technology and innovation in the organization of production and restructuring of crops and livestock in the orientation of ecological agriculture.

(2) Building technological infrastructure and agroecological data infrastructure for value chain governance.

(3) To step up research and application of science and technology in the development of ecological agriculture on the basis of learning and absorbing experiences and good practices of localities in association with learning from international experiences in order to adapt to the process of international integration of agricultural products.

#### ***4.3.2.4. Solutions to mobilize and use financial resources for ecological agriculture development***

(1) Continue to mobilize capital from the State Bank for ecological agricultural development.

(2) Create a mechanism to attract private capital and enterprises for ecological agricultural development.

(3) Prioritize investment in renovating, upgrading and building new infrastructure for ecological agricultural production, improving the capacity of natural disaster prevention and mitigation.

(4) Renovating the financial mechanism for science and technology associated with the agroecological value chain

### **Chapter 4 sub-finale**

After the merger, with a natural area of more than 9,361km<sup>2</sup>; the population is nearly 4 million people; there are 148 commune-level administrative units, of which agricultural land accounts for more than 73.7% of the natural area, Phu Tho province after the consolidation has many potentials and advantages for agricultural development, including high-tech agriculture and ecological agriculture.

Chapter 4 proposes a system of synchronous views and solutions in mobilizing and using resources for ecological agriculture development in Phu Tho province after the consolidation, including a group of general solutions and a group of specific solutions in the mobilization and use of each resource (human resources, natural resources, scientific and technological resources and financial resources). Those solutions will contribute to the realization of the goal that by 2030, Phu Tho province will become one of the provinces with sustainable agriculture, ecological agriculture, large-scale commodity production, high added value, closely associated with domestic and foreign markets. have a modern agricultural product processing and preservation industry.

## CONCLUSION

In the context of the world with many rapid and complex changes, natural resources are increasingly scarce and depleted; In which, the demand of people to use clean and safe products is increasing, and the development of ecological agriculture has become an inevitable requirement. Ecological agriculture is not a completely new agriculture but was formerly organic agriculture, green agriculture, and high-tech agriculture, but if the above agriculture either focuses only on the origin of products, or only focuses on the technologies used, ecological agriculture is multi-value agriculture. there is an integration of both economic value (profit) and social value (transparency, cooperation, sharing), environmental value (sustainability, harmony).

Phu Tho province has many advantages and a long tradition in agricultural development. Implementing the Party's policy at the 13th National Congress, especially in *Resolution No. 19-NQ/TW* “on agriculture, farmers and rural areas to 2030, with a vision to 2045” (June 16, 2022), Phu Tho is also one of the leading provinces in thoroughly grasping, deploying and promoting the development of ecological agriculture through the mobilization and development of ecological agriculture using basic resources. On the basis of the Political Economy approach, the thesis has clarified the theoretical and practical issues of resources for ecological agricultural development in provincial localities, affirming the mobilization and synchronous use of resources (human resources, natural resources, etc scientific and technological resources and financial resources) are prerequisites for promoting sustainable development of agriculture. As a result, Phu Tho province has gradually transformed from traditional agriculture to ecological agricultural development, increasing productivity and value of agricultural products, increasing income for people and initially becoming one of the leading provinces in the Red River Delta region with many innovative models in ecological agricultural development. However, these are only the initial results because there are still many barriers and difficulties in the development of ecological agriculture in Phu Tho province.

In the following years, the demand of people and the market for agricultural products of safe origin, eco-friendly, crystallizing both economic and socio-cultural values is increasing, so ecological agriculture in Vietnam in general and in Phu Tho province in particular has many opportunities for development. Moreover, in the context of promoting the application of science and technology, innovation and digital transformation, the development of ecological agriculture has also become an inevitable trend. However, climate change, environmental pollution, scarcity and depletion of natural resources as well as the downside of the process of industrialization and urbanization are also one of the major barriers to the development of ecological agriculture in Phu Tho province. Therefore, it is necessary to have practical and feasible solutions to promote human resources, natural resources, scientific and technological resources and financial resources for ecological agricultural development in Phu Tho province. The solutions proposed by the thesis on the basis of clarifying theoretical issues and analyzing and evaluating the current situation should be of significant reference to Phu Tho province in promoting resources for ecological agricultural development until 2035.

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