

Studying the System of Policy Documents on Science and Technology in Agriculture in Vietnam

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Summary

Policies on science and technology in agriculture in Vietnam are reflected in the guidelines, policies and laws of the Party and the Government. Based on that document system, this paper analyzes the policy content related to innovation policy for research organization, and support policy for the transfer and application of science technology in agriculture. The paper also discusses the appropriateness and adequacy of the science and technology policy system for the practice of agriculture in Vietnam.

Problem statement

In recent decades, agriculture continues to grow at a high speed towards the direction of commodity production, enhancing productivity, quality and efficiency; ensuring strong national food security; some export commodities accounting for a high position in world market. It is the result of a period of economic reform started under market mechanisms which are regulated by the State. There are many different views on reform policy in Vietnam but the above results were evidenced for the correctness of the Government policy in recent years. One of the success of the agricultural sector is due to the large contribution of technology policy in the agricultural sector.

Science and technology policy in Vietnam in recent years has been constantly adjusted to suit with each development stage of agricultural production and have a positive impact on agricultural production. Science policy in agriculture has shown the fundamental reform perspective from policy guidelines and reform in research systems and extension systems to the supported forms in the application and transfer of technologies. This paper aims to share experiences on science and technology policy in Vietnam which is on the way to promote better integration with advanced countries in the region and the world.

The paper consists of four parts: (1) Major policies in development of science and technology in agriculture; (2) Reform of research organizations and transfer of science and technology in agriculture; (3) Policy in transfer of science and technology in agriculture; (4) Policy to support the application of science and technology in agriculture.

1. Major policy in development of science and technology in agriculture

In August 5, 2008, the Conference of the Central Executive Committee No 7, X session issued the Resolution No. 26-NQ/TW on agriculture, farmers and rural affairs. Accordingly, on October 28, 2008, the Government issued Resolution No. 24/2008/NQ-CP promulgating the action plan of the Government to implement the Resolution on agriculture, farmers and

rural areas. It affirms that science - technology development must become a breakthrough for the development of modern agriculture and the restructuring of the rural economy.

Rapid development in applications of biotechnology in high-tech agricultural production; focusing on the breeding development of agricultural crops, forestry, livestock and fisheries. Capacity building and mechanisms and policy reform for science and technology management to enhance quickly research efficiency and rapid transfer of scientific and technological advances into production. The specific contents are: to increase investments in research, transfer and application of science and technology, human resources training, to create a breakthrough in the agriculture modernization and rural industrialization.

1.1. Increase investments in scientific research, technology transfer and application of science and technology in agriculture

Specific policies are: increasing investment budget for research, transfer of science so that the agricultural sector can soon achieve the equivalent level of advanced countries in the region; investment priorities in biotechnology applications to select, create more crop seeds, livestock breeding and aquaculture production, preservation, processing, creating breakthroughs in productivity, quality and production efficiency.

Developing adequate support policies to efficiently exploit and promote science and technology resources - encourage all economic sectors to participate in research, transfer of science - technology; attract the youth to work in rural areas, especially in agriculture, health, education and culture. Strengthening the capacity of the extension system to promote agriculture, forestry, fishery, animal health, plant protection and other services in rural areas; developing the safety and high tech agricultural production areas.

Good implementation of the above policies brought following results: In cultivation and plant protection field, there are research and transfer of many new plant varieties in production. In veterinary field, the level of investment in research was limited but it also created 48 technical processes, seven kinds of new vaccines which can be applied in practice. In the forestry sector, there are research and applications for 158 new varieties and several technological processes. The fields of irrigation, agriculture environmental protection have created the very practical products for application in major national projects.

1.2. Enhance the training of scientific and technical knowledge on advanced and modern agricultural production for farmers

Specific policies are: To enhance the training on scientific and technical knowledge in advanced agricultural production for farmers; vocational training for farmer's children to change careers, labor export; simultaneously focusing on training to improve knowledge for management and staff local staff. To form a national target program on vocational training, human resource development, ensuring annual training for about 1 million rural laborers. Effective implementation of the socialization in vocational training.

Implementing those above policies, on November 27, 2009, the Prime Minister issued Decision 1956/QĐ-TTg approving the project "Vocational training for rural workers to 2020". The objective of the project is that by 2020, there will be over 10 million rural workers have been trained and a minimum of 70% of them having jobs. So far, after 3 years (2010-2012) of implementation, the provinces have supported vocational training for 1,086,979 rural laborers according to the policy of the project "Vocational training for rural

workers in 2020" which reached 77.6% of the plan and 16.6% of 11-years implementing the project, training for 177,069 officers.

2. Innovation of research organization and transfer of science and technology in agriculture

2.1. Innovation of science and technology research organization

On September 5, 2005, the Government issued Decree No. 115/2005/ND-CP regulating the autonomy and self-responsibility mechanism for public science and technology organization with the aims to: (i). Strengthen accountability and enhance a the positive, proactive, creative spirit of the scientific and technological organizations and leaders of scientific and technology organizations; (ii). Facilitate the linkage of scientific research and production technology development, business and human resource training, accelerate the process of socialization in scientific and technology activities; (iii). Facilitate key investment on the science and technology organization; (iv). Improve the operational efficiency for science and technology organization, thus contributing to enhance scientific and technological potential of the country.

After a pilot implementation period under Decree No. 115/2005 / ND-CP, a number of arising problems that needs to be adjusted. On 20 September 2010, the Government issued Decree 96/2010 ND-CP amending some articles of Decree No. 115/2005/ND-CP on autonomy, self-responsibility mechanism of public scientific and technology organizations. Focus of revised content is on operational organizing form, funds from the state budget, salaries, tax incentives, fees, and a number of related issues.

2.2. Innovation of state extension system organization

In 2005, the Government issued Decree No. 56/2005/ND-CP on agriculture and, fishery extension. At the central level, the National Extension Center was established (separated from the Department of Agricultural and Forestry Extension) under the Ministry of Agriculture and Rural Development; The Fishery Extension Center of the Ministry of Fisheries. By 2008, when MARD and Ministry of Fisheries became a same government agency, National Center for Agriculture and Fishery Extension Center was incorporated into the National Agricultural and Fishery Extension Center. On 8 January 2010, the Government issued Decree No. 02/2010/ND-CP on extension replacing for Decree No. 56/2005/ND-CP, the official central extension agency is the National Extension Centers under the Ministry of Agriculture and Rural Development.

In local provinces, the agriculture and fishery extension organizations have also been developed and perfected from provincial to district, commune and village levels. Currently, in 63 provinces and cities under central management, they all have Extension Centers belonging to the Department of Agriculture and Rural Development; 596 districts and towns (accounting for 95.5% of districts and towns in the whole country) had extension stations (or the Agriculture and Fishery Extension Station). At the commune level, 51 provinces and cities have grassroots extension network, in which, local agricultural extension staff are responsible for 1-2 people/commune, every village has one collaborator extension (part-time working); There are nearly 700 commune extension clubs with the participation of nearly 20,000 participants.

3. Policy on the transfer of science and technology in agriculture

On November 29, 2006, the National Assembly of the Socialist Republic of Vietnam XI session adopted the Law on Technology Transfer. According to this law, the State's policy on technology transfer activities, includes the ff:

- Ensure the rights and legitimate interests, create favorable conditions for organizations and individuals working in technology transfer to serve the needs of rapid and sustainable socio-economic development of the country.
- Prioritize the development of high technology, advanced technology; development of technology human resources together with investments in technological innovation.
- Develop strongly the technology market; encourage and promote technology incubators, technology business incubators; promote the transfer of research results into production and business.
- Focus on improving the quality and effectiveness of technology transfer in rural and mountainous areas; encourage and create favorable conditions for technology transfer activities in the areas with difficult socio - economic conditions and in the areas with special difficult socio - economic conditions.
- Improve the efficiency of international cooperation and create favorable conditions for organizations and individuals in international cooperation on technology transfer activities.

To implement the science and technology transfer activities in agriculture, on January 8, 2010, the Government issued Decree No. 02/2010/ND-CP on Extension. Content of extension activities under this Decree include: training for producers and extension staff; information and communication; demonstration and model replication; advisory and extension services; international cooperation on agricultural extension.

4. Policies to support the application of science and technology in agriculture

4.1. Policies to support science and technology application in agricultural extension programs

On January 8, 2010, the Government issued Decree No. 02/2010/ND-CP on Extension. According to this Decree, small farmers, poor farmers are supported with 100% training material cost and 100% cost of travel and accommodations to attend the training; commercial production farmers and large farm owners, members of cooperative groups and cooperatives, state agriculture and forestry farm's workers are supported with 100% cost of training materials and 50% cost of travel and accommodations to attend the training; Small and medium-sized enterprises operating directly in the field of agricultural extension are supported with 50% of training material cost to attend the training.

The state supports 100% cost for information dissemination on extension activities for organizations and individuals which have information and communication project approved by the competent authorities and supports 100% cost for organizing competitions, fairs, exhibitions, extension forums approved by the competent authorities.

4.2. Support science and technology application in difficult areas

To help eliminate hunger, reduce poverty, increase incomes and improve livelihoods for producers in disadvantaged areas through extension activities; contribute to economic development, political - social stability, maintain security and defense in disadvantaged areas; contribute to the construction of the local extension system facilities in disadvantaged areas, on December 4, 2008, the Prime Minister issued Decision No. 162/2008/QĐ-TTg on policies on agriculture, fishery extension in disadvantaged areas. Accordingly, the contents of the extension policy in difficult areas include:

- Support for the development of demonstration: Support 100% cost of seed and other essential inputs for the demonstration of local extension programs and projects at local and central levels performed in difficult areas.
- Support for training: Support 100% cost of materials, travel, meals, accommodation for producers and extension workers in disadvantaged areas to attend training classes organized by central and local extension organizations.
- Support for information and propaganda activities: Supplement the Article 2 of Decision No. 975/QĐ-TTg dated July 20, 2006 by the Prime Minister on the provision of a number of newspapers and magazines for ethnic minorities, mountainous, and particularly difficult areas: providing newspapers "Vietnam's Agriculture" of the Ministry of Agriculture and Rural Development for commune extension in the difficult areas.
- Support for organizations providing services in disadvantaged areas: Local government gives priority for organizations providing agricultural services in disadvantaged areas in terms of renting land for production, business and other farms of support.

4.3. Applications in the field of high technology agricultural development

On November 13, 2008 the National Assembly of the Socialist Republic of Vietnam XII, 4th session passed the Law on High Technology. According to this law, the State encourages agricultural enterprise to apply high tech with following incentives and support: a) To receive the highest incentives in accordance with the law of the land, corporate income tax, value added tax, export tax, import duties; b) To be considered in research funding support, testing, training, and technology transfer from funds of the national program on development of high technology.

Subsequently, to implement the Law on High Technology, on December 31, 2010, the Prime Minister issued Decision No. 2457/QĐ-TTg approving the national program on high-tech development until 2020. The aim of the program is that up to 2015, CNC should be applied to increase the value of CNC industrial production, which accounts for about 30% of total industrial production. The targets to 2020 is 40% and the proportion of the agricultural production value with CNC applications increasing twice compared with 2015, creating new service with high value-added, addressing the key tasks in the socio-economic, security and defense fields.

4.4. Policies to support the application of good agriculture practice in agricultural production

On 9 January 2012, the Prime Minister issued Decision No. 01/2012/QĐ-TTg on a number of policies to support the application of good agriculture practice in the fields of agriculture, forestry and fishery. Under this decision, when meeting two conditions: (i) VietGAP application (good agriculture practice) in production and primarily processing of products; (ii) having farming contracts and product sales plans, then the organizations, individuals, households can receive public support from the Government as follows:

- State budget investment:

The State invested 100% fund for basic survey, topographic survey, soil, water samples, air samples analysis to determine the concentration producing regions to implement projects in agricultural, forestry and fisheries production applying VietGAP approved by the competent authorities.

- State budget support:

(a) No more than 50% of the total investment capital in the construction and renovation for: roads, irrigation systems, pumping stations, low voltage, waste treatment systems, water supply systems of the concentration production areas to match the technical requirements of VietGAP;

(b) Training for manager, technical staffs, extension staff at all levels; vocational training for rural workers applied VietGAP in production and safety primarily product processing; compilation and printing of documents and forms to serve the training;

(c) Support one time funding for hiring organizations to certify and assess to get certificates of safety products;

(d) Application of new technical advances in the use of pest-resistant varieties, biological plant protection substances, plant protection substances having biological origin and application of integrated pest management (IPM), Integrated Crop management (ICM);

(e) Support trade promotion activities in accordance with Decision No. 72/2010/QĐ-TTg dated 15 November 2010 of the Prime Minister on promulgating regulations on construction, management and implementation of national trade promotion program.

After years of implementing the above policies, agriculture production has gained much success, opening up a clean production trend, toward the needs of the market, protecting consumers rather than chasing yield and output as the previous time. Up to now, all provinces have implemented agricultural production under VietGap standards. However, during the implementation process, there are also limitations, certain difficulties, therefore they have not applied all in accordance with the standards, but only at the selection of appropriate techniques for each type of product to produce better quality products with higher production efficiency.

Conclusion

The Vietnam government considered science and technology in agriculture as a focused area in its macro policies of Vietnam. The investment priorities, support for science and technology are emphasized within the Party Resolution and Action Plan of the Government. The result is that this field has made a positive contribution in socio-economic development, improving product quality and the efficiency of agricultural production.

In recent years, the Vietnamese focus on innovation in scientific research and technological development. The government has implemented innovations from research organizations in accordance with Decree No. 115/2005/ND-CP to enhance the autonomy for science and technology organization to improve the operational efficiency of the scientific research

organizations. Besides, Vietnam has taken efforts to implement the restructuring of state extension system under Decree No. 56/2005/ND-CP in order to improve the efficiency of science and technology transfer in agriculture.

Science and technology transfer policy in agriculture is still being implemented according to law on technology transfer since 2006. In which, the emphasis is on the development of science and technology market and encouragement of biotechnology development, the high technology in agriculture. The law also focuses on improving the quality and effectiveness of science transfer in difficult rural areas and mountainous areas.

Vietnam also has many policies to encourage the application of science and technology in agriculture, such as policies to support the application of science and technology in national extension program; programs supporting to agricultural sciences in the disadvantaged areas. Besides, there are also policies supporting the application of high-tech agriculture development and the Government issued the Law on High Technology in November 2008.

Currently, Vietnam also focuses on clean agricultural production, improving agricultural product quality, safe products for consumers. Therefore, the government is trying to support the provinces in agricultural production under VietGap standards, a good practice in agriculture. This program has been implemented throughout the country and achieved some results, and thanks to this, competitiveness of agricultural products has been increased and the products have been exported to high quality requirement markets such as the US, Japan and Europe.

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