SHORTCOMINGS IN THE CLASSIFICATION OF PUBLIC SCIENCE AND TECHNOLOGY ORGANIZATIONS IN IMPLEMENTING THE AUTONOMY AND SELF-RESPONSIBILITY MECHANISM IN VIETNAM

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Summary:

In Vietnam, the implementation of the autonomy and self-responsibility mechanism for public science and technology organizations has gone through two important milestones: (1) Period 2005-2015, implemented according to regulations in Decree No.115/2005/ND-CP dated September 5, 2005 regulating the autonomy and self-responsibility mechanism of public science and technology organizations; and (2) Period 2016-2022, implemented according to the provisions of Decree Decree No.54/2016/ND-CP dated June 14, 2016 regulating the autonomy mechanism of public science and technology organizations. This article will focus on analyzing some shortcomings in classifying public science and technology organizations in implementing the autonomy and self-responsibility mechanism according to Decree No. 115/2005/ND-CP and Decree No.54/ 2016/ND-CP.

Keywords: *Public science and technology organization; Autonomy; Self-responsibility.*

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1. Some related terms

1.1. Public science and technology organizations

According to UNESCO, science and technology organizations are the organizational system consisting of institutes and centers with the function of carrying out scientific research tasks; implementing experiments, and aiming to draw scientific conclusions at different levels: they can be purely theoretical conclusions, but they can also be experimental conclusions, or models of an organizational and management solution, or technical and technological solutions (in the field of technology) (*School of Science and Technology Management, 2016*).

Article 3 of the Law on Science and Technology 2013 explains: A science and technology organization is an organization whose main function is scientific research, experimental implementation, technology development, and science and technology service activities, established and registered to operate by the provisions of law.

In Article 3, Circular No. 02/2021/TT-BKHCN dated March 10, 2021, of the Ministry of Science and Technology *promulgating the criteria for classification, conditions for establishment, merger, consolidation, and dissolution of public*

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science and technology organizations, it is explained: A public science and technology organization is a public professional career unit operating in the field of science and technology, with the main functions specified in the charter of the organization and operation of the unit of doing scientific research, applied research, experimental implementation, trial production, technology development, production, trading of products that are the results of scientific research and technology development, science and technology services, established and registered for operation by the provisions of law.

A country's S&T organization system normally consists of the following components: Scientific research and technological development (R&D) organizations; Universities; and S&T service organizations. Many countries in the world, including Vietnam, have used the above definition of UNESCO to determine the number of S&T organizations.

1.2. Classification of science and technology organizations

There are many ways to classify science and technology organizations depending on the objectives of the management entity. Usually, there are some of the following classifications (*School of Science and Technology Management, 2016)*:

Classifying by function, science and technology organizations include:

- Basic research organizations;
- Applied research organizations;
- Science and technology service organizations.

Classifying by ownership form, science, and technology organizations include:

- Public science and technology organizations;
- Private science and technology organizations;
- Foreign-invested science and technology organizations.

Classifying by field of science and technology activities, science and technology organizations include:

- Science and technology organizations in the field of natural sciences;
- Science and technology organizations in the field of technical and technological sciences;
- Science and technology organizations in the field of medical and pharmaceutical sciences;
- Science and technology organizations in the field of agricultural sciences;
- Science and technology organizations in the field of social sciences;
- Science and technology organizations in the field of humanities.

1.3. Autonomy, self-responsibility

1.3.1. Autonomy

According to the Vietnamese Dictionary (2021), "Autonomy" means to self-manage and control all of one's work, without being dominated by anyone.

"Autonomy" is understood as the right of a science and technology organization to set up plans and seek means to carry out science and technology activities (*Vu Cao Dam, 2017*).

Autonomy, in terms of semantics, can be understood as the right to plan and program its activities and the right to seek funding sources and means to carry out those activities. Also, in terms of semantics, autonomy can be understood as the right to make decisions without being dominated by the management system and external factors.

For public science and technology organizations, developed countries have paid attention to the issue of autonomy very early because it is suitable for the characteristics of science and technology activities (freedom, creativity). The aspects of autonomy here are mainly autonomy in determining tasks and professional plans; autonomy in finance; autonomy in human resources; and autonomy in using research results. Depending on the development of the capacity of the S&T organization, the market demand for the products of the S&T organization as well as the viewpoints and policies of the state, the autonomy given to the S&T organization with different levels (full autonomy or partial autonomy) *(Nguyen Vu, 2015).*

1.3.2. Self-responsibility

"Self-responsibility" is understood as the constraints and commitments of responsibility of science and technology organizations for the science and technology activities that they have "autonomously" carried out. "Autonomy" is always associated with "self-responsibility" as a matter of existence, including the right to self-determination and the need to be self-responsible for that right of self-determination (*Ministry of Science and Technology, 2017*).

Thus, in parallel with the assignment of autonomy, state management agencies also require science and technology organizations to be responsible for the assigned rights. That is the right to explain to state management agencies about the use of investment resources and facilities that the State has assigned to the unit for management and use. Normally, countries periodically conduct public assessments of the activities of S&T organizations so that S&T organizations can explain their responsibilities in using resources and achieving results according to the assigned level of autonomy and self-responsibility.

1.3.3. Autonomy and self-responsibility for public S&T organizations in Vietnam

In Vietnam, the issue of autonomy and self-responsibility for public S&T organizations was first mentioned in Decision No. 171/2004/QD-TTg dated September 28, 2004, of the Prime Minister approving the Project on reformation of the S&T management mechanism, according to which the autonomy and self-responsibility mechanism for public S&T organizations includes the following contents:

- Autonomy in S&T activities;

- Autonomy in finance;
- Autonomy in personnel management;
- Autonomy in international cooperation.

These autonomous contents were later stipulated in several documents on the management of science and technology organizations and activities, such as Decree No. 115/2005/ND-CP dated September 5, 2005, of the Government regulating *the autonomy and self-responsibility mechanism of public science and technology organizations*, or Decree No. 54/2016/ND-CP dated June 14, 2016, of the Government regulating the *autonomy mechanism of public science and technology organizations*. In Decree No. 54/2016/ND-CP, the autonomy mechanism includes the following contents: Financial autonomy; Autonomy in performing tasks; Autonomy in organizational structure; Autonomy in personnel; Autonomy in management, and use of assets.

2. Classification of public science and technology organizations in implementing the mechanism of autonomy and self-responsibility

2.1. Requirements for classifying public science and technology organizations implementing the mechanism of autonomy and self-responsibility according to the provisions of Decree No. 115/2005/ND-CP

On September 28, 2004, the Prime Minister issued Decision No. 171/2004/QD-TTg *approving the Project on reformation of the management mechanism of science and technology*, in which a breakthrough solution was proposed to develop and improve the effectiveness of science and technology activities, which is "*Reformation of the management mechanism and operation of public science and technology organizations*".

> Decision No. 171/2004/QD-TTg dated September 28, 2004, of the Prime Minister approving the *Project on reformation of the science and technology management mechanism*
>
> Solutions for reformation of the science and technology management mechanism:
>
> *a) Implement the mechanism of autonomy and self-responsibility for state science and technology organizations engaged in basic research, strategic and policy research, research in key science and technology fields, and some other fields as prescribed by the State*
>
> *Autonomy in science and technology activities:* science and technology organizations must be responsible for performing well the tasks assigned by the State; at the same time, they must be autonomous in conducting other science and technology activities according to the provisions of law (association, cooperation, signing contracts for research and science and technology services, technology transfer, etc.).
>
> *Financial autonomy:* The State ensures operating expenses to perform the tasks assigned by the State by the method of allocating salary funds, apparatus operations, and expenses for performing science and technology tasks. These organizations are autonomous in using other sources of revenue from S&T contracts with organizations and individuals of all economic sectors in the country and abroad.
>
> *Autonomy in personnel management:* implementing decentralization and granting autonomy in personnel to State S&T organizations based on implementing the civil servant regime and labor contracts for S&T staff.

Autonomy in international cooperation: stronger decentralization and giving the right for S&T organizations to send S&T staff abroad, hiring foreign experts to conduct research, training, S&T consulting, and taking on management positions in S&T organizations in fields regulated by the State.

The State assigns heads of S&T organizations to exercise autonomy and be responsible for all activities of the organization.

The Ministry of Home Affairs shall preside over and coordinate with the Ministry of Science and Technology to draft a Government Decree on the mechanism of autonomy and self-responsibility of public science and technology organizations (submitted to the Government in the fourth quarter of 2004).

To specify the legal provisions on the mechanism of autonomy and self-responsibility for public S&T organizations, the Ministry of Science and Technology has coordinated with the Ministry of Home Affairs, the Ministry of Finance, and relevant ministries and branches to develop and submit to the Government for promulgation Decree No. 115/2005/ND-CP dated September 5, 2005, regulating *the mechanism of autonomy and self-responsibility for public S&T organizations.* The date of issuance of this Decree is considered an important milestone in the innovation of the management mechanism of public S&T organizations.

The purpose of implementing the mechanism of autonomy and self-responsibility for public S&T organizations as prescribed in Article 2 of Decree No. 115/2005/ND-CP:

(1) Strengthening responsibility and enhancing the proactiveness, dynamism, and creativity of science and technology organizations and their Heads;

(2) Creating conditions to link scientific research and technological development with production, business, and human resource training, accelerating the socialization of science and technology activities;

(3) Creating conditions to focus on concentrated investments for science and technology organizations;

(4) Improving the operational efficiency of science and technology organizations, contributing to strengthening the country's science and technology potential.

The subjects implementing the autonomy and self-responsibility mechanism according to the provisions of Decree No. 115/2005/ND-CP are public science and technology organizations including scientific research organizations, scientific research and technology development organizations, and science and technology service organizations. Public science and technology organizations have the right to autonomy in performing tasks, autonomy in financial and asset, autonomy in organizational and human resource management, and international cooperation autonomy.

The rearrangement, classification, and conversion of public S&T organizations are stipulated in Article 4 of Decree No. 115/2005/ND-CP as follows:

(1) Scientific research and technology development organizations and S&T service organizations that are self-funded for regular operations may choose to convert their organization and operations in one of the following two forms:

a) Self-funded S&T organizations;

b) S&T enterprises.

The organizational model, method of operation of S&T enterprises, and the process of conversion into S&T enterprises are stipulated in another document of the Government.

(2) Scientific research and technology development organizations and S&T service organizations that have not self-funded for regular operations must, by December 2009 at the latest, convert their organization and operations in one of the two forms stipulated in Clause 1, Article 4, or merge or dissolve.

(3) Scientific research organizations operating in the fields of basic research, strategic research, and policies serving state management are guaranteed regular operating expenses from the state budget according to assigned tasks; their organizations are reorganized, consolidated, and stabilized to improve operational efficiency.

Thus, according to the provisions of Decree No. 115/2005/ND-CP, the State allows public S&T organizations to transform in one of the following three directions:

First, S&T organizations conduct basic research, strategic research, and policies serving state management, with the budget continuing to ensure regular operating expenses but using them according to the contract method corresponding to the assigned tasks. This type of organization is still "subsidized" by the State as before but with a higher level of autonomy.

The second, a self-funded science and technology organization (abbreviated as a converted organization) is understood as a unit that self-guarantees its regular operating expenses (salary fund and the apparatus operating expenses), after conversion is still a science and technology organization operating under the Law on Science and Technology, continues to receive financial support from the State through tasks and development investment, and at the same time, if there are production and business activities, it enjoys other benefits like a newly established enterprise.

The third, a science and technology enterprise, understood as a multi-ownership enterprise operating in the field of science and technology under the Law on Enterprises, producing and trading new products based on scientific research results, technological know-how, and technology incubation results, enjoying high preferential policies from the State in the early stages of formation and development.

2.2. Shortcomings in classifying public science and technology organizations implementing the mechanism of autonomy and self-responsibility according to the provisions of Decree No. 115/2005/ND-CP

To classify public science and technology organizations implementing the mechanism of autonomy and self-responsibility according to the provisions of Decree No. 115/2005/ND-CP, on April 6, 2007, the Minister of Science and

Technology issued Decision No. 08/2007/QD-BKHCN on *criteria for determining science and technology organizations conducting basic research, strategic research, and policies research serving state management*. Accordingly, public science and technology organizations of this type must simultaneously meet the following criteria:

(1) In the establishment decision in the charter of the organization and operation or the registration of scientific and technological activities must state one of the following four functions:

(i) Basic research;

(ii) Strategic and policy research;

(iii) Research to develop economic and technical norms;

(iv) Scientific research to serve public services.

(2) Have been registered for scientific and technological activities at the Ministry of Science and Technology or the local Department of Science and Technology (in case any organization has not registered for scientific and technological activities but needs to convert according to the provisions of Decree No. 115/2005/ND-CP, it can register for additional activities).

(3) In the last 3 years, the main source of revenue for S&T organizations (over 70%) has been provided by the state budget (including regular operating expenses, basic research project, and topic expenses, strategic and policy research, economic and technical norm development, public service implementation, etc.). The number of staff doing research with university-level and post-graduate degrees accounts for over 70% of the total number of current staff and civil servants.

(4) In the last 3 years, at least 30% of research staff (researcher and engineer codes) have had research results recognized (approved, accepted, or published in journals, etc.) in the following areas: basic research; strategic and policy research; research on economic and technical norm development and public service provision.

To carry out the conversion, it is necessary to clearly define the types of public S&T organizations. Classification of S&T organizations can be carried out according to S&T activities. S&T activities include three large areas: research and development (R&D), S&T services, and technology transfer. Of which, S&T services and technology transfer are regulated by the provisions of the Enterprise Law, while research and development activities are regulated by the provisions of the Law on Science and Technology. Research and development activities are divided into basic research, applied research, and technology development. However, in Vietnam, it is difficult to clearly distinguish between applied research and technology development because many research organizations often conduct both activities at the same time. S&T organizations carrying out these two activities are subject to conversion according to the provisions of Clause 1; Article 4 of Decree No. 115/2005/ND-CP. Basic research is also divided into pure basic research and mission-oriented basic research. In Vietnam, there are very few organizations that

do pure basic research, but only mission-oriented basic research. Mission-oriented basic research is divided into foundational research (basic investigation activities) and thematic research *(Pham Huy Tien, 2006*).

According to the provisions of Clause 3, Article 4 of Decree No. 115/2005/ND-CP, public S&T organizations, if classified into the group operating in the fields of basic research, strategic research, policy research, research on building specialized economic and technical norms, and serving state management, will continue to receive regular operating expenses from the state budget. For this reason, even some large-scale technology research institutes have developed autonomy projects to prove that they are S&T organizations with the function of basic technology research and are subject to conversion according to the provisions of Clause 3, Article 4 of Decree No. 115/2005/ND-CP (*see also Vu Cao Dam, 2014*).

In many reports on the implementation of Decree No. 115/2005/ND-CP of the Ministry of Science and Technology, when mentioning several solutions to promote the autonomy mechanism of public science and technology organizations, the first solution is always: "*State management agencies need to take more drastic measures in implementing Decree No. 115/2005/ND-CP. The Ministry of Science and Technology shall base on specific scientific criteria to submit to the Prime Minister for decision the list of public science and technology organizations that are eligible for full State funding for regular operations; Firmly request science and technology organizations that are not eligible for full State funding for regular operations to change their form of operation or be forced to merge or dissolve*".

Or "*... It is necessary to review and resolutely remove from this group, switch to implementing the mechanism of autonomy and self-financing for S&T organizations that are not the right subjects; Have a roadmap to reduce the number of S&T organizations that receive regular operating funding from the state budget; Gradually change the state budget's allocation of regular operating funding to the implementation of the method of the State ordering, assigning research tasks and funding to perform tasks for S&T activities*".

2.3. Results of implementing Decree No. 115/2005/ND-CP

Results of implementing the autonomy and self-responsibility mechanism of public S&T organizations: According to statistics from the Ministry of Science and Technology, by the end of 2015, out of a total of 642 public S&T organizations, 193 S&T organizations operating in the field of basic research, strategy, and policy have implemented the transformation (accounting for 30%); 295 organizations have switched to self-financing (accounting for 46%); 154 organizations are developing or submitting to competent authorities for approval a project to implement the autonomy mechanism (accounting for 24%).

The above data shows that the implementation of Decree No. 115/2005/ND-CP has resulted in 76% of S&T organizations completing the transformation and operating under an autonomous and self-responsible mechanism. However, compared to the target set by the Government when issuing Decree No. 115/2005/ND-CP, which is

to complete the transformation of all public S&T organizations to an autonomous mode after December 31, 2009, it has not been achieved, with 154 S&T organizations (accounting for 24%) still not completing the transformation.

3. Classification of public science and technology organizations in implementing the mechanism of autonomy and self-responsibility according to the provisions of Decree No. 54/2016/ND-CP dated June 14, 2016

3.1. Requirements for classification of public science and technology organizations implementing the mechanism of autonomy and self-responsibility

Previously, the financial mechanism for public service units in general was implemented according to Decree No. 43/2006/ND-CP dated April 25, 2006, of the Government stipulating the right to autonomy and self-responsibility in performing tasks, organizing the apparatus, payroll, and finance for public service units.

After nearly 10 years of implementing Decree No. 43/2006/ND-CP based on summarizing and evaluating the results achieved as well as the arising shortcomings, on February 14, 2015, the Government issued Decree No. 16/2015/ND-CP replacing Decree No. 43/2006/ND-CP in the direction of regulating general issues, serving as a basis for relevant ministries and agencies to develop separate Decrees regulating each specific field. Decree No. 16/2015/ND-CP demonstrates the goal of comprehensively reforming public service units, promoting the assignment of autonomy and self-responsibility to units totally in terms of task implementation, organizational structure, personnel, and finance.

To carry out the assigned tasks in Decree No. 16/2015/ND-CP, the Ministry of Science and Technology has developed and submitted to the Government for promulgation Decree No. 54/2016/ND-CP dated June 14, 2016, regulating the autonomy mechanism of public science and technology organizations with many new regulations, creating favorable conditions for public science and technology organizations to implement the autonomy mechanism.

Ensuring compliance with the framework provisions in Decree No. 16/2015/ND-CP, Decree No. 54/2016/ND-CP has classified public S&T organizations according to the level of self-insurance for regular and investment expenses of public S&T organizations, specifically according to the following levels:

(1) Public S&T organizations self-insure the regular and investment expenses;

(2) Public S&T organizations self-insure the regular expenses;

(3) Public S&T organizations self-insure a part of regular expenses;

(4) Public S&T organizations whose regular expenses are guaranteed by the State.

With this classification, public S&T organizations will base on the unit's revenue to determine which type of organization they belong to and develop an autonomous project to submit to the competent authority for appraisal, and approval of the organization's autonomy plan. In other words, the level of self-insurance for regular

and investment expenditures of each public S&T organization is the basis for granting autonomy to the organization (in terms of human resources, finance, organizational structure, management, and use of assets). According to this trend, the State grants the highest autonomy to organizations that can self-insure all regular and investment expenditures, while public S&T organizations whose regular and investment expenditures are fully guaranteed by the State are granted the least autonomy by the State.

On the other hand, this regulation is expected to encourage public S&T organizations to strive to attract more financial sources (outside the state budget) to serve S&T activities and production and business activities, encourage organizations to save costs, increase income, improve the efficiency of S&T activities, self-insure regular and investment expenses to be given the most autonomy.

This regulation allows public S&T organizations to self-insure regular and investment expenses to apply financial mechanisms like enterprises or to convert into enterprises, specifically: Public S&T organizations that self-insure regular and investment expenses are organizations that have self-insure all operating costs, have large profits, and can invest in development without using capital from the state budget. Therefore, allowing public S&T organizations to self-insure regular and investment expenses to apply financial mechanisms like enterprises or to convert into enterprises is suitable for the practical situation.

In addition to being granted the highest level of autonomy by the State, public S&T organizations that self-insure their regular and investment expenses enjoy corporate income tax incentives. This also creates incentives for S&T organizations to strive to become organizations that self-insure all operating costs.

With Decree No. 54/2016/ND-CP, the State continues to invest in development to enhance the potential of public S&T organizations. Public S&T organizations are established by competent State agencies to perform functions and tasks assigned by the State, so when implementing the autonomy mechanism, public S&T organizations need to continue to receive State investment and development as before, except for some public S&T organizations that have self-insurance of investment expenses.

In addition to performing S&T tasks using the state budget, public S&T organizations are assigned by the State to perform regular tasks according to their functions and other tasks to perform the functions and tasks of the organization. This will help organizations have strong enough potential and stable funding sources to perform well the functions of scientific research and technology development.

Regarding the implementation process, S&T organizations rely on criteria to classify and develop autonomy plans, and then submit them to the competent authority (the plan form is prescribed in Circular No. 90/2017/TT-BTC dated August 30, 2017). Local departments and branches ask for opinions from the Department of Finance on the autonomy plan of S&T organizations under their management. Ministries and agencies at the central level ask for opinions from the Ministry of Finance on the autonomy plan of S&T organizations under their

management. The Chairman of the Provincial People's Committee approves the plans of the S&T organizations under his/her management; Ministries and central agencies approve the plans of the S&T organizations under his/her management.

3.2. Shortcomings in classifying public S&T organizations implementing the autonomous and self-responsible mechanism according to the provisions of Decree No. 54/2016/ND-CP

Implementing the autonomous mechanism according to the provisions of Decree No. 54/2016/ND-CP, public S&T organizations are classified according to the level of self-insurance for regular expenditures and investment expenditures, including 4 groups: (i) Public S&T organizations self-guaranteeing regular expenditures and investment expenditures; (ii) Public S&T organizations self-guaranteeing regular expenditures (the State guarantees all investment expenditures); (iii) Public S&T organizations partly self-guaranteeing regular expenditures (the State guarantees all investment expenditures); (iv) Public S&T organizations for which the State guarantees regular expenditures (the State guarantees all investment expenditures).

This classification in practice is not suitable for some types of public S&T organizations operating for public benefit, S&T organizations with special characteristics such as consulting, building strategies, and policies to serve state management.

Normally, the operating budget of S&T organizations is mainly formed from the following sources (*Ministry of Science and Technology, 2014*):

(i) Regular expenditure: Funding for salaries and apparatus operations;

(ii) Irregular expenditure: Funding for equipment enhancement, minor construction and repair, international cooperation activities, etc.;

(iii) Funding from research topics and projects: Funding for implementing topics and projects assigned directly, through selection from S&T programs, from funds, from localities, from international organizations, etc.;

(iv) Service funding: Funding collected from S&T service activities, for example, transferring research results, training, etc.;

(v) Funding from other legal sources of income.

However, it should be noted that: (1) The annual allocation of regular funding for public S&T organizations is based on the number of staff, not on the results of S&T activities; (2) Funding for state-level research topics and projects only accounts for about 15% of total expenditure on S&T, so it is only focused on several large S&T organizations; (3) The main source of revenue for S&T organizations is mainly from the state budget and focuses mainly on regular expenditure and research topics and projects directly assigned for implementation. Funding from selected research topics is not much, especially funding from internationally funded research topics and projects is small and from the business sector is insignificant. Funding from S&T service activities, such as technology transfer and commercialization, is still low.

Agreeing with the above viewpoint, in another study conducted by the Ministry of Science and Technology in 2019 (*Ministry of Science and Technology, 2019b*), it was also affirmed that normally a public S&T organization has many sources of funding, including (1) Regular expenditures (including salaries and apparatus operations): provided by the governing body to ensure the annual operation of the public S&T organization. This funding is provided annually; (2) Funding from research topics and projects: is the funding that a public S&T organization receives from research topics and projects that are directly assigned or selected in the competition process to receive funding from funds and other funding agencies; (3) Funding from service provision, training, transfer, and commercialization or other activities depends on the ability of public S&T organizations to generate income from research results, education and training, commercialized products and services, etc.

Depending on their main goals and tasks, public S&T organizations can mobilize different sources of funding at different levels. For example, a public S&T organization conducting basic research activities usually receives most of its funding from the parent ministry or funds (for example, from the NAFOSTED Fund). However, a public S&T organization conducting applied research, following the model of a research enterprise, must generate its funding through research contracts, technology transfer, commercialization, S&T services, or from other sources, for example, research projects ordered by enterprises and non-governmental organizations.

One of the difficulties and obstacles in the process of autonomy is the specific difficulties of each sector. The process of autonomy does not mean that we must socialize and escape from financial subsidies, leading to the need to reduce spending and streamline staff at any cost, in some cases, even some units need to increase investment. For sectors such as science and technology, education, and health, it is necessary to carefully evaluate which units are autonomous and can attract socialization. In science, some things can be socialized, and things that cannot be socialized. For example, the private sector is not interested and where does the money come from to invest in space research[2]?

Determining the level of autonomy of public science and technology organizations according to the classification prescribed in Decree No. 54/2016/ND-CP is very difficult and unfeasible. In principle, any S&T organization that can self-ensure more financial resources will be given more autonomy (in terms of tasks, organizational management, human resource management, financial management, assets, etc.), and vice versa, any S&T organization that can ensure fewer financial resources will be given less autonomy. Many research projects conducted in the recent period do not agree with this point of view and affirm that S&T activities are activities with many unique characteristics, different from other social activities. Therefore, autonomy in S&T (in terms of tasks, organizational management, human

[2] Opinion of Mr. Bui Si Loi, Deputy Chairman of the National Assembly's Committee on Social Affairs at the meeting of the Working Delegation of the State Steering Committee on Renewing the Operating Mechanism of Public Non-business Units with the Ministry of Science and Technology on June 1, 2017

resource management, financial management, assets, etc.) of organizations and individuals must be thoroughly granted, regardless of the ability to ensure financial resources and regardless of the subjective will or administrative orders of any organization or individual *(Vietnam Center for Science and Technology Evaluation, 2017).* Besides, according to many scientists, autonomy following the financial access approach is not completely suitable with the characteristics of S&T activities, which are activities aimed at satisfying the knowledge needs of the whole society, in which every state always plays the most generous midwife role *(Ministry of Science and Technology, 2017).*

Studying the international experience on the autonomy of public S&T organizations shows that the implementation of the autonomy mechanism of public S&T organizations needs to clearly define the target. It is necessary to distinguish between (*1*) autonomy to improve the operational efficiency of public S&T organizations and (*2*) autonomy to transform public S&T organizations to reduce investment from the state budget (*Hoang Xuan Long, 2016*). For countries with centrally planned economies, the finance to ensure the operation of the research system mainly comes from 2 sources (*Ministry of Science and Technology, 2004*): The main financial source is the state budget; The secondary financial source is the enterprise supply. Within the framework of the allocated financial resources, the research organization has no other source, even bank loans are not eligible for loans.

Thus, financial autonomy should not be understood as financial self-assurance or self-sufficiency in science and technology, leading to maximum cuts in the state budget and a reduction in the number of science and technology organizations receiving regular operating funds from the budget. According to international practice, public research institutions must be guaranteed important basic investment sources from the state budget in addition to other legal revenues encouraged from sources of association and cooperation with enterprises, and domestic and foreign research funding sources[3].

On June 21, 2021, the Government issued Decree No. 60/2021/ND-CP *regulating the financial autonomy mechanism of public service units*, accordingly Decree No. 54/2016/ND-CP will expire on August 15, 2021. Although Decree No. 60/2021/ND-CP has resolved some shortcomings of Decree No. 54/2016/ND-CP, the new current regulations on the autonomy mechanism under Decree No. 60/2021/ND-CP when applied to public S&T organizations reveal some contents that are not suitable for the field of S&T activities, especially regarding financial autonomy. Therefore, on September 5, 2022, the Government issued Resolution No. 116/NQ-CP on the plan to classify the autonomy of public service units in 2022 while Decree No. 60/2021/ND-CP has not been amended or supplemented. According to Resolution No. 116/NQ-CP, public science and technology organizations continue to implement the financial autonomy plan according to Decree No. 54/2016/ND-CP until the end of 2022, and at the same time, develop a

[3] Source: https://vnexpress.net/bo-truong-huynh-thanh-dat-tao-he-sinh-thai-dua-khoa-hoc-cong-nghe-but-pha-4596240.html

financial autonomy plan according to the provisions of Decree No. 60/2021/ND-CP and Circular No. 56/2022/TT-BTC dated September 16, 2022 of the Minister of Finance guiding several contents on the financial autonomy mechanism of public service units; Handling assets and finances when reorganizing and dissolving public service units to be implemented from 2023.

Under Resolution No. 100/2023/QH15 dated June 24, 2023, of the National Assembly at Section 2, Point 2.3 "*Building a mechanism of autonomy and self-responsibility of public S&T organizations by the characteristics of S&T activities*", the Prime Minister issued Official Dispatch No. 627/TTg-QHDP dated July 7, 2023, assigning the Ministry of Science and Technology to take the lead in performing the above tasks. Currently, the Ministry of Science and Technology is drafting a Decree regulating the mechanism of autonomy and self-responsibility of public S&T organizations to submit to competent authorities for approval (*Ministry of Science and Technology, 2023*).

3.3. Results of implementing Decree No. 54/2016/ND-CP

Results of approving the plan and implementing the autonomy mechanism according to the provisions of Decree No. 54/2016/ND-CP (*Ministry of Science and Technology, 2019a*):

a) According to reports from ministries and branches, out of 314 public S&T organizations, 175 S&T organizations have been classified and approved for autonomy, of which:

- 03 organizations self-guarantee all regular and investment expenses;
- 18 organizations self-guarantee all regular expenses;
- 103 organizations partially guarantee regular expenses;
- 51 organizations have all regular expenses guaranteed by the State.

(*139 organizations under central agencies have not had their autonomy plans approved, especially 99 level 3 and level 4 organizations under level 2 units*).

b) According to reports from provinces, out of a total of 146 public S&T organizations, 121 organizations have had their autonomy plans approved, of which:

- 02 organizations self-guarantee regular and investment expenses;
- 30 organizations self-guarantee regular expenditures;
- 66 organizations self-guarantee part of regular expenditures;
- 23 organizations have all regular expenditures guaranteed by the State.

(25 S&T organizations under the provincial local agencies have not yet had their autonomy plans approved).

4. Overview of the evaluation of public science and technology organizations in Vietnam in recent times

In the world, the evaluation of public science and technology organizations that receive state funding is used by many countries. In Germany, the evaluation of science and technology organizations is carried out regularly and quite systematically, to continuously improve the structure of the system of science and technology organizations, improve the efficiency of investment in science and technology, improve the productivity and quality of research activities to achieve national goals on science and technology development. Germany is also a typical example of the diversity of evaluation methods, criteria, and evaluation goals. All major research institutes funded by the Government must be regularly evaluated and choose their evaluation methods. Evaluation criteria are adjusted depending on the type of research. The Council for Science and Humanities (Wissenschaftsrat) is an advisory body to the Federal Government of Germany and the Länder governments. The Council analyses and makes recommendations on the competitiveness and development orientation of research institutions and universities and of the science system in the Federal Republic of Germany. These analyses include the results of evaluations of different research institutes, research rankings, and recommendations for evaluation methodologies applied in science and technology *(Nguyen Thi Ha, Pham Quynh Anh, 2021).*

Resolution No. 11-NQ/TW, the 5th Central Conference of the 12th tenure dated June 3, 2017, on improving the socialist-oriented market economic institution, also affirmed the importance and requirements of the evaluation of public service units: "*Improving institutions, reforming, and improving the operational efficiency of public service units. Granting full autonomy and self-responsibility to public service units regarding the scope of operations, organizational structure, payroll, personnel, and finance associated with an independent evaluation mechanism*".

Awareness of the role of evaluating S&T organizations is also mentioned in many reports summarizing the implementation of the autonomy and self-responsibility mechanism of the Ministry of Science and Technology such as "*It is necessary to fully assign autonomy to the heads of public S&T organizations, associated with accountability in the management and use of finance, assets, and management of S&T human resources, while strengthening inspection and examination*" (*Ministry of Science and Technology, 2019a*).

Evaluation of science and technology organizations is a task serving state management in the field of science and technology. The evaluation work has been specifically regulated in Articles 16, 17, and 18 of the Law on Science and Technology 2013. Implementing the Law on Science and Technology, the Ministry of Science and Technology issued Circular No. 38/2014/TT-BKHCN dated December 16, 2014, *regulating the evaluation of science and technology organizations*. After 5 years of implementation, to resolve the remaining problems when implementing the evaluation of science and technology organizations, on December 10, 2019, the Ministry of Science and Technology issued Circular No. 18/2019/TT-BKHCN *regulating the evaluation of activities and service quality of public service organizations in the field of science and technology.*

To implement Circular No. 18/2019/TT-BKHCN, on September 17, 2020, the Ministry of Science and Technology issued Decision No. 2584/QD-BKHCN on the Implementation Plan of Circular No. 18/2019/TT-BKHCN dated December 10, 2019, of the Minister of Science and Technology regulating the assessment of activities and service quality of public service organizations in the field of science and technology. Accordingly, every year, from 2021, public service organizations in the field of science and technology will update information on the activities and service quality of public service organizations in the field of science and technology and will be assessed every five years or at the request of competent authorities. Thus, Vietnam has a basic legal framework to assess public science and technology organizations in the entire system.

5. Conclusion

(1) to improve the quality and efficiency of public S&T organizations, in recent times, the Government has issued two important management documents, namely Decree No. 115/2005/ND-CP dated September 5, 2005, *regulating the autonomy and self-responsibility mechanism of public S&T organizations* and Decree No. 54/2016/ND-CP *on the autonomy mechanism of public S&T organizations*.

During the implementation process, the change from determining and classifying the level of autonomy according to the field of operation of public S&T organizations as stipulated in Decree No. 115/2005/ND-CP, to determining and classifying the level of autonomy according to the financial autonomy level of public S&T organizations as stipulated in Decree No. 54/2016/ND-CP has shown the special attention of management agencies to this issue. However, the fact that the Government had to repeatedly extend or postpone the implementation time limit of the two important Decrees mentioned above also shows the difficulty and complexity of implementing the autonomy and self-responsibility mechanism in public S&T organizations in practice.

(2) Both methods of classifying public S&T organizations according to the provisions of Decree No. 115/20025/ND-CP and Decree No. 54/2016/ND-CP are not popular and widely applied methods of classifying organizations in the world. In other words, this is a specific method of classifying public S&T organizations to serve the purpose of deploying the above two normative documents.

(3) In Vietnam, the issue of autonomy and self-responsibility of public S&T organizations is placed in the following context: 1) Vietnam has undergone many transformations, adjustments, and restructurings of the system of public S&T organizations. Typically, in 1992, with Decision No. 324-CT dated September 11, 1992, of the Chairman of the Council of Ministers (now the Prime Minister) *on reorganizing the network of scientific research and technology development agencies*; and in 1996, with Decision No. 782-TTg dated October 24, 1996, of the Prime Minister *on the arrangement of the system of R&D agencies in our country*,... However, due to many different objective and subjective reasons, it was not successfully implemented. 2) Implement the policy of restructuring, streamlining the apparatus, and merging according to Resolution No. 19-NQ/TW dated October

25, 2017, of the 12th Central Committee on "*Continuing to reform the organization and management system, improving the quality and efficiency of public service units"*.

In this context, the application of the autonomy and self-responsibility mechanism for public S&T organizations is essentially the State's reorganization of the S&T organization system, then it is followed by different policies to respond to different types of public S&T organizations at different levels of autonomy. However, due to the lack of clear (explicit) identification of the type of public S&T organizations that the state budget will continue to invest in (basic research, public research, etc.) as it is in practice in many countries. So, the mechanism of autonomy and self-responsibility for public S&T organizations in Vietnam is considered one of the solutions to convert the state-owned public S&T organizations to other forms of ownership.

(4) In the world, in many countries, the issue of autonomy and self-responsibility of public S&T organizations is resolved synchronously with the determination of their missions, roles, and assignment of tasks to public research organizations, along with regulations on evaluating the results of S&T activities of this type of organization. From the experience of these countries, to effectively implement the autonomy and self-responsibility of public S&T organizations, Vietnam needs to carry out the following tasks:

- Identify the types of public S&T organizations that the State needs to prioritize and focus on to invest and develop[4];
- Develop charters/regulations on the management of S&T organizations and activities of public S&T organizations, including regulations on the rights, obligations, and responsibilities of the heads of public S&T organizations;
- Develop tools to periodically evaluate the performance of public S&T organizations openly and strictly./.

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[4] In order to determine the type of public scientific and technological organizations that the State needs to focus on investment and development, it can be based on a number of important documents issued by the Party and the State over the past time such as: Resolution of the 13th National Congress of the Party; 10-year socio-economic development strategy 2021-2030; Resolution No. 23-NQ/TU dated March 22, 2018 of the Politburo on *orientations for formulating national industrial development policies to 2030, with a vision to 2045*; Resolution No. 52-NQ/TW dated September 27, 2019 of the Politburo *on a number of guidelines and policies to actively participate in the 4th Industrial Revolution*; Resolution No. 50/NQ-CP dated April 17, 2020 of the Government promulgating *the Government's Action Program to implement Resolution No. 50/NQ-CP*; Decision No. 569/QD-TTg dated May 11, 2022 of the Prime Minister on promulgating *the Strategy for the development of science, technology and innovation to 2030*;...

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