

**RECENT RENOVATION OF MECHANISM
AND POLICIES FOR SCIENCE-TECHNOLOGY DEVELOPMENT
AT LOCAL LEVELS AND RECOMMENDATIONS FOR FUTURE**

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Abstract:

The renovation process of mechanisms and policies of S&T development including the ones for S&T development at local levels has been conducted on basis of the country's renovation process. In this process the first lines are for the topics related to the reasoning concepts of the Party to determine the role of S&T and the policies of the State to concretize and realize the guidelines in practice and the impacts of these mechanisms and policies to the local S&T activities. By this way it is possible to identify the impact level of the renovation process of mechanisms and policies of management to S&T activities at local levels and permit us to give proposals and recommendations to push up strongly the S&T activities at local levels in the future time in a more efficient way to meet better its key role for the process of industrialization and modernization of provinces and cities.

1. Recent renovation of mechanism and policies for S&T development at local levels

1.1. Impacts of recent mechanisms and policies of the State to the S&T development

During the recent time the State has issued many mechanisms and policies impacting the S&T development at local levels. Some of them can be listed, namely: Decision No. 175/CP dated 29 April 1981 allowing research institutes and R&D centers to conclude contracts of scientific research and application of research results in production; Resolution No. 51/HD-BT dated 17th May 1983 allowing R&D units to organize the production of their research results which no enterprise to take care of; Decision No. 161-CT dated 13 June 1983 allowing science-technical staffs to take additional works in other organizations; Decision No. 134/HDBT dated 31st August 1987 encouraging all the kinds of links between researchers in a free will framework, allowing partners to fix themselves the price of their research results in suitable manners (including the acceptance of agreed prices for producing-trading organizations to use their own capital resources for S&T activities; Resolution No. 35/HDBT dated 28th January 1992 recognizing

“the rights” of organizations and individuals to conduct S&T activities; Decision No. 419/TTg dated 21st July 1995 indicating clearly that S&T research and application activities are the tasks of S&T organizations at central and local levels, businesses of all economic sectors and social organizations and individuals; Decree No. 119/ND-CP dated 18th September 1999 issuing policies and financial mechanisms to encourage businesses of all economic sectors to invest for S&T activities for technological renovation and improvement, product quality and business efficiency increase; and the S&T Law and Decree No. 81/2002/ND-CP by the Government regulating the implementation of some articles of the Law for release of creativity potentials and the creation of conditions for socialization of S&T activities.

The Law on State Budget promulgated on 16 December 2002 gives the background of the unified National financial management, increases the active role and duties of organizations and individuals in the management and use of the State budget, consolidates the financial discipline and efficient use of the State budget and assets; Decree No. 122/2003/ND-CP by the Government dated 22nd October 2003 regulating the establishment of the National Fund for S&T development; Decision No. 117/2005/QD-TTg by the Prime Minister dated 27th May 2005 on the Standard Charter of organization and activities of the Funds of S&T development of ministries and ministerial level organizations, organizations of the Government, provinces and center controlled cities to encourage organizations and individuals to establish funds for S&T development; Project of renovation of management mechanisms of S&T activities (2004); Strategy of S&T development up to 2010 (2003), Decree No. 201/2004/ND-CP by the Government dated 10 December 2004 regulating the management rules of human-social science activities; Decree No. 115/2005/ND-CP by the Government regulating the self-management and self-responsibility mechanisms of public S&T organizations; Decree No. 80/2007/ND-CP by the Government dated 19th May 2007 regulating the S&T businesses status and rules of renovation of mechanism of S&T organization and activities for the maximal release of research and creation capacities of organizations and individuals in their S&T activities; Decree No. 119/1999/ND-CP by the Government dated 18th September 1999, Decision No. 68/2005/QD-TTg by the Prime Minister, Decision No. 214/2005/QD-TTg by the Prime Minister dated 30 August 2005 encouraging S&T activities to be attached to the market and businesses; the Intellectual Property Law (2005), the Law on Technology Transfer (2006), the Law on Technical Standards and Norms (2006), the Law on Goods and Products Quality (2007), the Nuclear Energy Law (2008), the High Tech Law (2008) contributed to create the favorable environment and legal regulations for the stable and sustainable background of S&T activities.

These legal documents contain many innovative and progressive guiding concepts which have positive impacts to the S&T and socio-economic development in the industrialization-modernization-integration stage of the country.

In the global renovation context there exist some aspects related to the renovation of mechanisms and policies of S&T development at local levels, namely:

- The first and most important aspect is related to the renovation of mechanisms and policies of S&T development at local levels attached to the process of shift from the center controlled and subsidized mechanism to the socialist oriented market economy under the State management;
- The shift of management mechanism is interpreted as the mitigation of the State controlled management rate and the extension of rights for lower levels. Therefore the management role of S&T activities at local levels would increase. Up to now the management of R&D activities in our country had been conducted according to Resolution 263/CP dated 26 July 1981 by the Government regulating the science-technical activities planning system: all the tasks were regulated by the State plans and only the State owned science-technical organizations are assigned to carry out them;
- With the introduced shift to the socialist oriented market economy the demands and conditions of R&D activities had passed big changes. The new context requires the change of management mechanism of S&T activities. Decision No. 419/TTg dated 21st July 1995 by the Prime Minister stipulated the management mechanism of scientific research and technological development activities. It emphasized the requirement to attach R&D activities to socio-economic realities, ensure and increase the active role of sectors and regions when the S&T tasks are determined;
- The S&T management, in the new mechanism, requires the combination of plans and market factors. The S&T market is an important background to set up plans for S&T activities. Many problems are set up as objectives of research programs by demands of the actual life. And it is the actual life which turns the research results to application and brings the essential benefits to the society;
- The S&T market in Vietnam at the present time is only in the initial stage of establishment. In this context the S&T management authorities at local levels should have active contributions to set up the market regulatory institutions, legal environment, market broker organizations, demand-supply relations and technological goods.

1.2. Renovation of plans and budget estimate setting works for S&T activities

Actually the plans and budget estimate setting works for S&T activities at local levels have clear progresses. The assessment and procedure of budget estimate setting are very close to the required schedule. The activities of scientific research and technological development have many renovations in many localities. Particularly the organization and management of implementation of S&T tasks follow very closely political tasks, socio-economic development indexes and national defense and security requirements of every locality. At the same time these activities are focused also to settle urgent problems, promote strong S&T advantages and potentials, and mitigate negative impacts from natural disasters and epidemics.

Recently every year about 1,300 projects of all the S&T fields are implemented. Many research results get successfully applied giving important contributions to the increase of productivity, quality and efficiency of production-business activities. They are related to the immediate application of technical advances in agricultural fields, the development of new species to fit the actual conditions of the region and the shift of agricultural production structure.

The set up of annual plans for scientific research and technological development activities at local levels is based on the orientations and tasks of socio-economic development and S&T development of the locality in conformity to the guidelines of the Ministry of S&T for setting up of annual S&T plans. Many S&T programs at local levels meet the orientations of S&T development fixed by the provincial and city authorities. It is necessary to remind that the R&D plans and tasks turn really effective if their objectives were set up properly and closely to the real situation.

Many provinces/cities have conducted the selection of organizations and individuals to carry out S&T tasks in open, faire and objective procedures. The order way in the procedure to determine tasks gets attentions. By this way many S&T organizations at center level are positioned better to take part in S&T activities at local levels.

All the provinces/cities already have established and issued the system of guiding documents for management of S&T tasks in conformity to the S&T Law. The guidelines from the central authorities are very necessary to ensure the common application of management procedures at local levels. The actual situations of the plan setting activities are well reflected through this system of guiding documents.

Actually all the provinces and cities have the S&T council of provincial level. Some provincial departments have their own S&T councils. These councils conducted structural changes and they have their experts in professional and managerial fields. Therefore the determination of tasks as well as the acceptance assessment of S&T tasks at local levels is carried out with higher quality.

1.3. Renovation of mechanisms and policies of financial investment for S&T at local levels in the socialist oriented market economy

The financial provision for S&T activities at local levels has many sources. The most basic source is provided by the State budget according to the Law on State Budget.

Before 1996 the financial provision for S&T activities at local levels was based on the plans of S&T activities of provinces/cities which were agreed with the Ministry of S&T-Environment. These plans may be amended and adjusted during implementation stage to meet the S&T requirements at local levels.

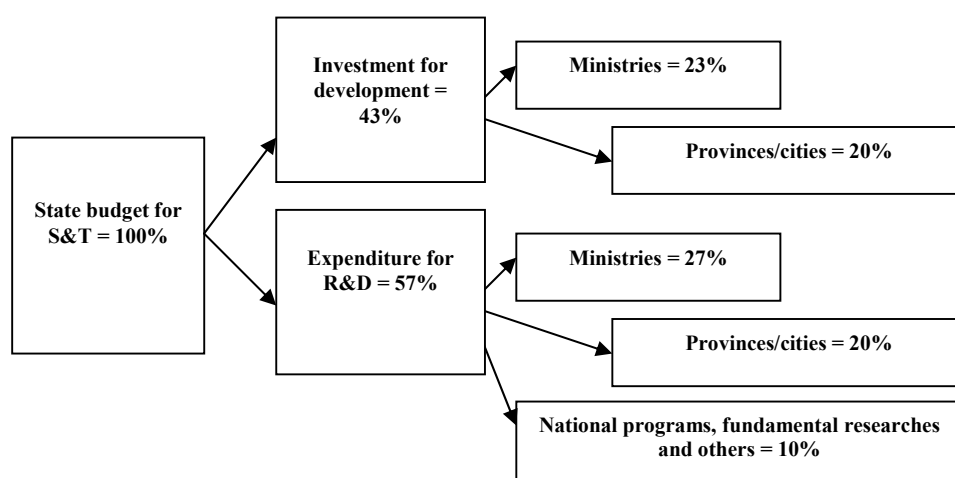
According to the Law on State Budget - 1996, the financial provision for S&T activities at local levels is agreed between the Ministry of S&T, the Ministry of Finance and the People's Committees for their allocation. The People's Council of provinces/cities is responsible to decide the estimates and allocation of local budgets, approve the final settlement of local budgets, decide the guidelines and measures for implementation of local budget, decide the amended budget estimates in necessary cases (Article 25, the Law on State Budget - 1996). In addition, the Law on State Budget - 1996 stipulates *the additional allocation of the budget from higher level to lower level to ensure the impartiality and balanced development of regions*. This additional volume is taken from the budget collection of lower level organizations. In the case when the State authorities of higher level assign the duties of budget expenditure to the subordinate authorities the allocated budget must be transferred to the latter for implementation of these tasks (Term 2 and Term 3, Article 4).

Implementing the Resolution of the 2nd Session of the Central Committee of the Party, the S&T Law and the Law on State Budget - 1996 were amended where the important amendments were related to the categories of development expenditures and regular expenditures. These expenditures have the concrete norms for education-training and S&T fields (Point b, Term 3, Article 15). The amendment was related also to the estimate for local budgets including the total budget for development and regular expenditures of the actual level and subordinate levels. These expenditures have the concrete norms for education-training and S&T fields (Point c,

Term 1, Article 25). Article 4, however, had been also amended to prevent the use of the budget of one level for the realization of tasks of other levels, except the particular cases fixed by the special regulations by the Government (Point h, Term 2, Article 4).

Therefore, since 2004 it was impossible to add or balance the budget for S&T tasks at local levels.

Up to now, in addition to the State budget, the local authorities almost did not sum up the actual investments and supports from other financial resources for S&T activities at local levels.



The structure of the allocation of the State budget 2% for S&T activities at local levels is as follows:

In addition to the State budget for S&T activities, the local authorities can encourage businesses to make S&T investments. Term 1 and Term 2, Article 17 of the Corporate Income Tax Law - 2008 stipulate: “Businesses established and operating according to the Vietnam Laws can keep up to 10% of the taxable income to establish the Fund for S&T development of their businesses. During 5 years since the establishment if the Fund is not used or used at rate less than 70% or used for other purposes the businesses have to reimburse these amounts including the interests“.

On 27th May 2005 the Prime Minister had promulgated Decision No. 117/2005/QĐ-TTg on the regulations of setting up and operation of the Fund for S&T development of ministries, Government agencies, provinces and center controlled cities.

Implementing the S&T Law, Decree No. 81/2002/ND-CP by the Government to guide the implementation of the Law stipulates the establishment of the

Fund at province/city level. Due to many reasons including the socio-economic conditions, production level, needs of S&T activities, concepts of subsidized administrative management and etc. at the present time only 20 provinces/cities had established the Fund (namely: Hochiminh City, Da Nang, Vinh Phuc, Hai Duong, Binh Duong, Nghe An, Binh Dinh, Tien Giang, Thai Binh, Quang Tri, Quang Binh, Ha Tinh, Gia Lai, Bac Lieu, Dong Nai, Kien Giang, An Giang, Thanh Hoa and Binh Thuan).

The general concept to diversify the investment sources for S&T activities is considered as one of the important financial solutions to reduce the burden of the State budget for S&T activities. Up to now the financial source from the State budget stops being the only investment source for S&T activities because the mobilization of investments from various economic sectors and businesses demonstrates the initial results. The rate of S&T investment of the private sector increases considerably¹. Research organizations can use their incomes generated from contracts and cooperation activities for their own S&T activities. Businesses can keep up to 10% of before-tax incomes to establish the Fund for S&T development². Ministries and local authorities are allowed also to establish the Fund for S&T development to carry out research activities and support technical and technological application activities. The renovation of financial mechanism is oriented also to improve the procedure of financial allocation, provision and management at macro level as well as to renovate the financial regulations of scientific research organizations on self-management basis.

In 2008 the National Fund for S&T development starts to operate. Other State funds (such as the National Fund for technological renovation, the Venture Capital, etc.) would be established. They are important financial channels to support S&T activities in addition to the traditional State budget for S&T programs and projects. They are to diversify the modes of financial management of S&T activities and give chances to access various financial sources for scientific research and technological development activities.

1.4. Renovation of mechanisms and policies for development of S&T human resources

The State administration of S&T management at local levels actually has 4,140 staffs. 3,138 of them are full time staffs. 2,627 of them (making

¹ According to updated statistic data, the rate of mobilization of social sources contributed for S&T activities is about 43% of the total State budget allocated for S&T activities.

² Only the Funds for S&T development set up from 10% of before-tax income will make the financial source of about VND12,500 billion for S&T activities.

63.5%) hold the university and college grade and 269 of them (making 6.5%) hold the post-graduate grade.

The average number of staffs of the S&T provincial departments of the North Vietnam mountainous region is the lowest, only 46.6 persons. The South Vietnam region has the highest average number of 102.3 persons and the North Delta region and the North Middle Vietnam region are second ranked with 71-72 persons.

The S&T human resources at local levels are set up from various formation-training sources. They do not have the integrated professional structures. Only few of them for R&D activities and their level does not meet requirements of local socio-economic development.

According to survey data gathered from 366 local S&T organizations among the total 9,616 staffs only 4,890 persons (making 50.85%) keep the permanent position and the remaining part of 4,726 persons (making 49.15%) keep interim/additional positions. The number of professors and associate professors keeping the permanent position is 25 and the ones keeping interim/additional positions are 78. The number of doctors and doctors of sciences keeping the permanent position is 85 and the ones keeping interim/additional positions are 108. The number of post-graduate grade staffs keeping the permanent position is 286 and the ones keeping interim/additional positions are 193. The number of graduate grade staffs keeping the permanent position is 2,834 and the ones keeping interim/additional positions are 1,699. The number of college grade staffs keeping the permanent position is 179 and the ones keeping interim/additional positions are 247. The number of vocational training grade staffs keeping permanent position is 1,190 and the ones keeping interim/additional positions are 1,739. And the remaining part of the staffs keeping the permanent position is 391 and the ones keeping interim/additional positions are 662.

The R&D staffs at local levels still have the limited capacities in determination of tasks of research and implementation activities for local socio-economic developments, organization of implementation works for local S&T tasks, set-up and organization of realization of S&T strategies, master plans and projects, organization and supervision of implementation of mechanisms and policies.

The structure of technical human resources is found unbalanced, namely the situation of the surplus of directing staffs and the lack of working staffs. The rate of scientific staffs/technicians/technical and qualified skill workers is 1/1.04/0.86.

The capacity to absorb the transferred technologies of local businesses is very low. Only a limited number of staffs with limited qualification works in the agricultural promotion system.

Actually more attention is paid to the training activities of S&T human resources, particularly since the promulgation of the S&T Law. The facilities to train and to upgrade the qualification of S&T staffs are built up and strengthened. The training courses are upgraded and held regularly to meet practical needs and requirements of trainees. These activities are oriented to cover the gap in the structure and qualification of human resources and meet better the demands of local S&T activities.

The links and coordination between the central and local S&T organizations in the training activities for S&T management give the motivating successes.

1.5. Renovation of modes of structure and activities of S&T organizations

Recently one of the most decisive and breaking-through solutions in the restructuring attempts of Vietnamese S&T organizations is the implementation of self-management mechanism and the set up of S&T businesses which are marked by two important documents: Decree No. 115/2005/ND-CP and Decree No. 80/2007/ND-CP by the Government. This solution permits to promote maximal capacities of research and creation of organizations and individuals in their S&T activities, to remove the thinking way of scientists and scientific organizations to be subsidized by the State. They create new chances and challenges and then new motivations and favorable environment for the creativity, increase of technological level and capacities, increase of potentials and efficiency of S&T investments.

The nature of establishment of S&T businesses is the creation of a new and advanced producing force where the tasks of application of new technologies is focused on and oriented to the service of the community of businesses in order to optimize the commercialization of technological products, create the chances for establishment and development of sectors of high technological level. In addition, S&T organizations, if they can operate under businesses status, can get the business registration, can transfer under business status, can bring fast the research results to production, can use their intellectual assets as capital contribution and gain benefits immediately from the application of their S&T products. It is a

change of the thinking way which had been proven by practice and appreciated by the local community of businesses and S&T organizations³.

In addition to research institutes the universities get also increased investments to combine training and research activities and support the direct cooperation of universities, research institutes and businesses. The implementation of integrated investments would set up strong S&T collectives and organizations to carry out important S&T tasks at international level and create breaking-through directions in driving economic fields. They also train high qualification scientists and engineers at international level.

1.6. Renovation for development of technological market and technology transfer

The Project of development of technological market had been approved by the Government in its Decision No. 214/2005/QĐ-TTg dated 30 August 2005. The purpose of the project is to complete the system of regulatory documents of technological market, create the healthy environment for competition, push up and support the businesses to renovate their technologies and increase the number and quality of technological transactions. The target of the later is to have the annual increase of 10% of technological transactions during 2006 - 2010 period.

The Techmarts for technologies and equipment which has been recently organized include three national events, namely Hanoi in 2003 (VND 1,200 billion transacted value), Hochiminh City in 2005 (VND1,700 billion transacted value and Da Nang City in 2007; and six regional events (VND1,000 billion transacted value) and 20 province/city events (tens billion VND/event). In 2006 the E-transactions (to support introductions, presentations, searches and negotiations of technological deals) has been introduced to operation in Hochiminh City, Hanoi, Dong Nai, Hai Phong and they attracted the large participation of local and overseas technological investors (South Korea, China, USA, Russia, Taiwan, Israel and etc.).

The Techmarks observe a tendency of increasing popularity and transacted value. The Center of Technological Transaction had been established on 15 June 2006 and located in the National Center of Science-Technological Information. The Center becomes the focused address for technological transactions. The virtual Techmarts were also introduced.

³ Recently some businesses appear with strong development under the self-management model such as BKIS, BKMech, Center of industrial nuclear application, Technical Center No. 3, Research Institute of Mining and Metallurgy, Mechanical Research Institute, Institute of Machines and Industrial Tools, Hai Phong Paint Company, Quang Trung mechanical Enterprise, etc.

The social awareness, however, of the role of industrial property remains still low in comparison to urgent needs of the market economy system and international integration. Many famous Vietnamese trade marks get lost because we are late to file the registration, namely Vinataba, Trung Nguyen Coffee, PetroVietnam, etc.

The large problem is that the legal enforcement of IP rights is not strict and just, administrative measures are late and ineffective, enforcement staffs are low qualified. In addition, there is no mechanism to bind the benefits of creators, users and the entire society in this field.

Over 5 recent years in Vietnam only about 200 inventions were filed (making 2.5% in 1996 and 7.2% in 2000 of the total number of inventions filed in the National Intellectual Property Agency), the figure being very far from the ones of the countries in the region.

One important aspect in the legal enforcement of IP rights is the fact that this right toward intellectual assets is absent in the Vietnamese traditional practice. It is a great miss in our culture. Japanese, Chinese and other nations with the Confucianism background had transferred gradually their countries to the land of technologies. Vietnamese are not used to receive, keep and exploit the intellectual assets and then make riches from these assets. The provision of intellectual assets is assigned, in great part, to the State. Really it is time to set up the market of intellectual assets and then the market will govern the development of Vietnamese intellectual values. The production of intellectual assets, first of all, is the common concern of the entire society where the State plays the crucial role in the protection of intellectual assets. It is the key to set up the fundamental conditions required for the S&T market development.

2. Recommendations for renovation of mechanisms and policies for S&T development at local levels in future

2.1. Renovation of financial mechanisms and policies for S&T activities at local levels

First of all, the local administrations would pay attention to the trials of renovation of financial mechanisms of S&T activities. The new mechanism would replace the actual administrative mechanism and create new motivations for S&T organizations to change to the self-management status. It is necessary to remove difficulties in mobilization of resources for S&T development in provinces and cities, namely the strict application of the Law on State Budget in the allocation and release of the annual State budget for S&T activities (including the budget for scientific works and the capital for

development investment), the set up of the Fund for S&T development and favorable conditions for its effective operation, the set up of mechanism to encourage and to force businesses to implement Article 17 of the Corporate Income Tax Law (the set up of the Fund for S&T development of businesses). It is necessary also to reinforce the proactive role of the provincial departments of S&T as well as determine their S&T tasks to meet programs and objectives of local socio-economic development.

At the central level the State should conduct the studies for amendment of the Law on State Budget in order to increase investments, to focus the rights and duties of the State management agencies in S&T fields of national key importance. They would set up the inter-regional, inter-sectorial objectives and have the breaking-through influences for the socio-economic development of the country.

2.2. Policies for development of S&T human resources and organizations

The local administration should implement strictly and fully Resolution No. 27-NQ/TW on the development of the intelligentsia. It is necessary to implement concrete measures for use of S&T staffs, more particularly local S&T staffs and for training and development of S&T staffs. It is necessary also to renovate the activities of mobilization of S&T staffs, particularly the local ones, to implement local S&T tasks as well as to pay attention to coordinate research activities between central and local agencies and staffs for local R&D activities. The mobilization of center controlled, but locally based, S&T organizations is also important.

It is also important to assign the work to develop the local S&T human resources to local administrations.

It is possible to develop the local S&T potentials through application of various measures, namely planning the system of S&T organizations, guiding the set up of capacity building projects, increasing the technology transfer capacity of S&T organizations, setting up mechanisms to link centers of S&T application and centers of industrial-agricultural promotion, renovating the functions and duties of S&T organizations to make them more close to production-business enterprises in their efforts for technological renovation and transfer.

2.3. Policies for development of technological market

It is necessary to build up the unified system of criteria and the system of methods for evaluation of technological level, provide local S&T staffs with technological information to keep them informed of the renovation of technologies in the country and the world, make the local administrations

proactive to issue their own policies for public management activities in their localities, pay attention to the training work for local S&T management staffs.

It is necessary to set up core S&T intermediate organizations or reinforce the existing ones in direction of specialization, commercialization and socialization, provide incentive financial measures and procedural supports to encourage the economical sectors to do investments in the field of S&T intermediate services, particularly the services of technological evaluation, appraisal and examination, set up a suitable technological market management organization.

It is necessary to set up suitable and effective mechanisms and policies to support businesses in their efforts to renovate technologies, upgrade the technological level, particularly for SMEs. Businesses should be located in the center of efforts for development of technology transfer and application of S&T advances.

It is necessary to have policies to support and encourage the links and cooperation between businesses, research institutes and universities in their efforts to renovate technologies, products and set up of new S&T businesses.

2.4. Reinforcement of coordination and cooperation in S&T development activities

The local administration should push up the establishment of plans for S&T development for the 2011-2015 period. The attention should be paid to summarizing and analyzing practical activities, giving in-time forecasts of the actual situation and development tendencies of the region and the country, interpreting the practical problems and providing scientific backgrounds for guidelines, policies and plans of socio-economic development, renovating the financial mechanism of S&T activities to replace the administrative one, integrating objectives of S&T development and objectives of socio-economic objectives of the provinces/cities.

The links and coordination between the provincial Departments of S&T, Planning and Investment, Finance, Agriculture and Rural Development, Industry and Trade should be reinforced. These links and coordination are oriented to the integration of objectives of S&T development and programs, projects of socio-economic development, and the higher efficiency of mobilization of resources for S&T development.

The provincial Departments of S&T and the Ministry of S&T should coordinate the training courses of S&T management works, issue decisions, regulations, guidelines for S&T management at local levels, coordinate the

investment and construction of infrastructure of S&T management at local levels, particularly the construction of facilities for the system and centers of measurement, test, analysis and examination.

The Ministry of S&T should reinforce the coordination with the People's Committees of provinces/cities to guide the S&T activities at local levels, reinforce the control and supervision of the allocation and use of financial resources for S&T activities, guide the Departments of S&T to summarize and multiply good practice and experiences in management of S&T activities at local levels./.

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