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THE POLICY OF BUILDING AND DEVELOPING INTELLECTUALS TO MEET THE NEEDS OF THE INDUSTRIAL REVOLUTION 4.0

A POLÍTICA DE CONSTRUÇÃO E DESENVOLVIMENTO DE INTELECTUAIS PARA RESPONDER ÀS NECESSIDADES DA REVOLUÇÃO INDUSTRIAL 4.0*

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Abstract: In history as well as in the present, intellectuals play a unique role in the process of building and developing the country. The epitaph in Quoc Tu Giam states that "Hiền tài là nguyên khí quốc gia"; This has shown that, historically, the feudal dynasties of Vietnam have attached great importance to the development of intellectuals. Since the Communist Party of Vietnam took power; leading and organizing all country's activities, the intellectuals are increasingly valued. There have been many policies to build and develop this team. Especially, before the impacts of the industrial revolution 4.0; the requirements that need to further improve the quality of intellectuals to meet the requirements of the new era. On the basis of analyzing the current situation of the intellectual team, the achievements, and limitations of the policy on building and developing the intellectual team; this study proposes a number of solutions to improve the policy of building and developing intellectuals; meet the requirements of the industrial revolution 4.0.

Keywords: The policy. Building and developing. The intellectuals. Industrial Revolution 4.0. Vietnam.

Resumo: Tanto na história como no presente, os intelectuais desempenham um papel único no processo de construção e desenvolvimento do país. O epitáfio em Quoc Tu Giam afirma que "Hiền tài là nguyên khí quốc gia"; Isto tem demonstrado que, historicamente, as dinastias feudais do Vietnã têm atribuído grande importância ao desenvolvimento dos intelectuais. Desde que o Partido Comunista do Vietnã tomou o poder; liderando e organizando todas as actividades do país, os intelectuais são cada vez mais valorizados. Tem havido muitas políticas para construir e desenvolver esta equipa. Especialmente, antes dos impactos da revolução industrial 4.0; as exigências que precisam de melhorar ainda mais a qualidade dos intelectuais para satisfazer as exigências da nova era. Com base na análise da situação actual da equipa intelectual, das realizações e limitações da política de construção e desenvolvimento da equipa intelectual; este estudo propõe uma série de soluções para melhorar a política de construção e desenvolvimento dos intelectuais; satisfazer as exigências da revolução industrial 4.0.

Palavras-chave: A política. A construção e o desenvolvimento. Os intelectuais. A Revolução Industrial 4.0. Vietnã.

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1. INTRODUCTION

The Industrial Revolution 4.0 is a combination of technology in the physical, digital and biological fields, which creates entirely new possibilities and has profound impacts on political and social systems. society and economy of the world (An, 2022; Hieu, 2022). Then, a world powered by robots and computers with artificial intelligence could evolve to replace humans in diagnosing and managing complex systems. Therefore, the goal of the annual forum is to build a common understanding of the rapid changes that are "key" to shaping the future.

The Industrial Revolution 4.0 develops with content related to the use of artificial intelligence and soft controls through computers and computer networks to link most areas related to human life. people, such as economy, banking, construction, agriculture, transportation, education, entertainment, household appliances, information, communication technology, etc (Nghia, 2013). The Industrial Revolution 4.0 is attracting attention with its breakthrough applications in fields such as artificial intelligence, robotics, the Internet of things, self-driving cars, 3D printing technology, and more. nanotechnology strongly promotes the world economy's transition to a knowledge-based economy, because its most important development resource is human resources capable of creating technology. Accordingly, a country that possesses a lot of knowledge and high-quality human resources will gain a global competitive advantage. Developing countries have the opportunity to close the gap with developed countries if they know how to approach the Industrial Revolution 4.0 quickly, but they may face the risk of falling further behind if they do not take advantage of the advantages and opportunities from this revolution.

According to scientists, Vietnam is one of the countries most strongly influenced by the Fourth Industrial Revolution (Industry 4.0). Industry 4.0 (essentially the application of technology, data science, and the use of artificial intelligence for production and human life) creates many favorable opportunities for the development of the country, but at the same time, It also poses many difficulties and challenges for Vietnam in the doi moi process. If we do not promptly prepare the necessary conditions (material, spiritual, mechanisms, policies, human and material resources...) to immediately absorb and apply the new technology of Industry 4.0, Vietnam The South may "miss the appointment" with the opportunities brought by the Fourth Industrial Revolution and this will not only lead to lagging developed countries in the region and the world in terms of economy but also in terms of economy. science - technology, security potential, national defense, etc.

So, how can our country take advantage of the achievements created from the Fourth Industrial Revolution to take advantage of the opportunities it brings and at the same time repel the risks, difficulties, and challenges it creates? That depends on many factors, including the great role of Vietnamese intellectuals. More than ever, Vietnamese intellectuals - the elite force of society must be a pioneer, taking responsibility for leading society to adapt and seize the opportunities that Industry 4.0 is creating for the future. develop the country, and catch up with the developed countries in the world (Vuhong, 2022). History will honor or deny the role of Vietnamese intellectuals in the early years of the 21st century, mainly depending on their ability to apply the achievements of Industry 4.0 to the cause of building and protecting the Vietnamese Fatherland. present country (Nghia, 2013).

2. LITERATURE REVIEW

Intellectual models and concepts

The model and concept of intellectuals can only appear when a society with a tight structure is formed, that is when people leave the wildlife to gather together, forming communities. people, in which individuals interact with each other according to rules and rituals recognized by the community, whether written or implicit.

"What is knowledge?" has been a controversial issue for a long time. So far there is no convincing answer. The proof of this is that there are many different definitions of intellectuals that exist side by side, such as intellectuals are intellectuals, intellectuals are learned, and intellectuals are discoverers and spreaders. intellectuals, intellectuals are people who actively participate in social criticism, intellectuals are leaders of society, intellectuals are the conscience of society, intellectuals are people who do not let society sleep, etc. (Trung & Van, 2020) Even the French philosopher Jean-Paul Sartre gave a definition that, although seemingly humorous on the surface, is difficult to disprove: an intellectual is someone who likes to do things that are not his own. ! Therefore, finding a correct and usable definition of knowledge is a necessity. This should start by tracing back to the earliest time the concept of knowledge could have been conceived.

Going back in history, it can be seen that: when humans were still in the hunter-gatherer stage, the concept of knowledge has not yet appeared. The reason is that under such circumstances, such a concept is completely meaningless. When simply reaching out to collect the products of nature to serve life is still heavy on natural instincts, in a self-sufficient way, people are only interested in what can be eaten, and not all. It doesn't matter whether you are intellectual or not.

That leads to a conclusion: the earliest time for the model, and therefore the concept, of intellectuals to appear was when mankind left the life of hunter-gatherers to assemble into societies

with similar structures. closely related, beginning with the invention of agriculture, around 8000-3500 BC, and then moving into cities, not by modern urbanization, but shortly after when agriculture was relatively developed, about 3500-800 BC.

The invention of agriculture required the domestication of certain varieties of plants and animals. Moving into cities requires more advanced organizational and service skills than agricultural life when urban dwellers do not directly produce food. This is a favorable environment for new types of labor, and thus new classes, including intellectuals.

This observation shows that intellectual models and concepts can only appear when a society with a tight structure is formed, that is when people leave the wildlife to gather together, forming communities of people, in which individuals interact with each other according to rules and rituals recognized by the community, whether written or implied. In other words, knowledge is a special product of society.

According to Becerra – Fernandez et al. 2004, Knowledge is "the decoding of a relationship between concepts related to specific fields. Knowledge is an invaluable asset and is the basis of the competitive advantage of enterprises. an organization (Bock, et al., 2005).

With Davenport and Prusak (1998), knowledge is a collection of experiences, values, contextual information, and insights to provide evaluation models, which combine to create new experiences and information. They believe that knowledge originates and is applied right in the human mind. In organizations, knowledge appears not only in documents but also in organizational habits, processes, practices, and standards. In addition, knowledge is the full use of information and data combined with human skills, ideas, intuition, commitment, and motivation.

According to Nonaka and Takeuchi (1995), knowledge is "the dynamic process of people to demonstrate their personal beliefs about what they consider to be the truth. The evolution of scientific epistemology has formed a hierarchical structure from data => to information => to knowledge, increasing in two directions: understanding, and independence from context (Serban, et al. al., 2002). Data is a collection of discrete, objective facts and facts presented without judgment or without context. Data becomes information when it is classified. , analyze, synthesize and put into a context, and become perceivable to the recipient. Information is data that attaches to a relation or purpose and turns into knowledge when it is used. used to compare, evaluate outcomes, establish relationships, and conduct a dialogue. Information is data in a context that can be used for decision-making. Data is always organized to create meaning for the recipient, be it text, images, video clips, or conversations with others.

Gurteen (1999) argues that knowledge is an intangible product, including ideas, processes, and information, and is increasingly being shared in the global economy in various forms and is an intangible product of society. production economy

Knowledge can be viewed as information that attains clarity, judgment, and values. In many cases, knowledge represents truth, so it provides a reliable basis for action. Knowledge is the storehouse of knowledge and skills created by human intelligence (especially from others).

Knowledge is often confused with information, but in fact, knowledge and information are two completely different concepts (Grey, 2007). Information gathers data for clearly defined purposes while knowledge is seen as a process, motivation, ability, and shared understanding. In fact, people can easily share information, but it is difficult to share knowledge with others. Knowledge is an internal property of human beings, depending on the situation, so it is completely different from the information or data we have. Malhotra (2000) argues that there is a confusion between knowledge and information that leads managers to spend a lot of time, effort, and money on investing in information technology systems (individuals, intellectuals, etc.) but did not yield the expected result. Knowledge is well-defined as an internal human property and is used to react when problems arise. In other words, knowledge is the synthesis of information, data, and experiences.

Jain et al., (2007) argue that knowledge is an important input resource in most organizations because it enables organizations to develop and create their competitive advantages, while Hsu (2006) emphasizes knowledge that helps an organization evaluate employees, helps employees perform their jobs, and creates the organization's ultimate competitive advantage. Therefore, the effective management, exploitation, and use of knowledge help organizations maintain and enhance competitive advantages and is an important factor for the success of an organization.

Martensson (2000) asserts that knowledge is a fundamental factor that helps an organization create innovative products and services with the most common definition of knowledge as "ideas or knowledge possessed by an individual". used to take effective actions to achieve organizational goals".

According to Zack (1999), most knowledge in organizations is hidden, so it is difficult to connect with each other. Because knowledge is always in the brain of the individual, including many cognitive skills such as beliefs, images, intuition, and skills, not documents and documents, it is difficult to interpret or describe in a clear way.

Drucker (1994) believes that knowledge is the main resource for each individual in particular and for the organization in general. Knowledge is considered a resource that is difficult to copy, evaluate and select, but gives its owner a unique and unique "commodity". That shows that knowledge is different from people, money, machines, or materials because knowledge is

difficult to replicate and it is also difficult to develop alternative strategies. In the knowledge economy, neither land nor machinery is the main asset, knowledge, expertise, and innovation are the assets that bring high returns and enhance the competitive advantage of the organization so Knowledge must be managed effectively.

Industrial Revolution 4.0

The term "Fourth Industrial Revolution" has been applied to significant technological developments a few times over the past 75 years, and is for academic discussion. The concept of Industry 4.0 or smart factory was first introduced at the Hannover Industrial Fair in the Federal Republic of Germany in 2011. Industry 4.0 aims to intelligent production and management processes in the industry. make. The advent of Industry 4.0 in Germany has prompted other advanced countries such as the US, Japan, China, and India to promote the development of similar programs to maintain their competitive advantages.

In 2013, a new keyword, "Industrie 4.0" began to emerge from a German government report that mentioned this phrase to refer to the high-tech strategy, of industrial computing. production without human involvement.

At the 46th World Economic Forum (WEF), which was officially opened in the Swiss city of Davos-Klosters, with the theme "The 4th Industrial Revolution", the President of the World Economic Forum gave a new definition, more extensive than the German concept of Industry 4.0. Humanity is on the verge of a new industrial revolution that could radically change the way we live, work, and relate to each other. The scale, scope, and complexity of this transition are unlike anything humanity has ever experienced.

Specifically, it is "a glossary of organizational technologies and concepts in the value chain" associated with physical systems in cyberspace, the Internet of Things (IoT), and the Internet of Things. services (IoS).

Currently, Industry 4.0 has gone beyond the German project framework with the participation of many countries and has become an important part of the fourth industrial revolution.

The essence of the 4th Industrial Revolution is based on digital technology and integrates all smart technologies to optimize production processes and methods; Emphasizing the technologies that are and will have the greatest impact are 3D printing, biotechnology, new material technology, automation technology, robotics, etc.

The 4th Industrial Revolution or Industry 4.0, is the current trend of automation and data exchange in production technology. It includes physical networks, the Internet of Things, and cloud computing.

The 4th Industrial Revolution is not only about smart and connected machines and systems but also has a much broader scope. Simultaneously are waves of further breakthroughs in fields ranging from genetic engineering to nanotechnology, from renewable energies to quantum computing.

Industry Revolution 4.0 facilitates the creation of "smart factories" or "digital factories". In these smart factories, cyber-physical systems will monitor physical processes, creating a virtual copy of the physical world. With IoT, these virtual-physical systems interact with each other and with people in real-time, and through IoS, users will be involved in the value chain through the use of these services.

3. RESULTS AND DISCUSSION

Assess the situation of intellectuals in Vietnam today

The important contributions of the intellectuals in the cause of national renewal:

Since the August Revolution, Vietnam has formed a group of intellectuals with outstanding characteristics coming from all classes and social classes, especially workers and farmers. The majority of mature intellectuals in the new society are formed from many domestic and foreign training sources, including a part of overseas intellectuals (An, 2022). Through practical activities, Vietnamese intellectuals have made great contributions to the cause of national liberation, defense, and construction. In the process of growth and development, the intellectuals have always had passionate patriotism, national pride, attachment to the working people, attachment to the revolutionary cause led by the Party, the will to strive to improve professional qualifications and perfect personality, better meet the new requirements of the national development (Linh, 2018). Many young intellectuals show dynamism, creativity, quick adaptation to the market economy, and international economic integration (Vuhong, 2022).

The intellectual team is growing rapidly in quantity and improving in quality; made great and important contributions to the victory of the two resistance wars against the imperialist aggressors, in the cause of national construction and defense. In the case of doi moi, the intellectuals have directly contributed with the whole people to bring the country out of the socio-economic crisis lasting for many years, step by step getting rid of underdevelopment, and improving the quality of life. people's lives (Duchiep, et al., 2022).

The intellectuals have actively contributed to the building of scientific arguments for the formulation of guidelines, guidelines, and policies of the Party and State, contributing to clarifying the development path of the country; training human resources, raising people's knowledge, and fostering talents; creating works of ideological and artistic value; step by step raise the science and

technology level of the country, reach out to the regional and world level, create many high-quality and competitive products on the domestic and international markets. world (Luongngoc & Vuhong, 2022). The majority of Vietnamese intellectuals abroad always look to the Fatherland. Many people have returned home to work and work effectively in the fields of science and technology, education and training, economy, culture, and society, contributing to the general development of the country (Linh, 2018).

The limitations and weaknesses of the current intellectual team:

The quantity and quality have not met the requirements of national development. The structure of the intellectual team still has unreasonable aspects in terms of occupation, age, gender, and distribution in the areas. The elite and talented departments are few, leading experts are lacking, and the team is next to them.

In the country, there are not many strong scientific collectives. Scientific research activities lack close ties and have not met the diverse and abundant requirements of production, business, and life.

In natural science and technology, there are still many delays and inadequacies. The number of works published in prestigious journals worldwide and the number of inventions registered internationally is still too small, and it is still far from many countries in the region and the world (Party Central Committee, 2008).). In the social sciences and humanities, theoretical research lacks the predictive and directional ability, has not answered many problems posed by practical innovation, has not had great creative works, and many works still remain unanswered. summary, copy. In culture and art, there are few works of value commensurate with the glorious achievements of the country, and the great creativity, and sacrifice of our people in the cause of national construction and defense; literary and artistic criticism is still limited (Communist Party of Vietnam, 2006 & 2011).

The level of intellectuals in many research institutions and universities lags behind the development requirements of the country and some advanced countries in the region, especially in terms of creative capacity, practical ability, etc. practices and applications as well as the ability to communicate in foreign languages and use information technology (Party Central Committee, 2008).

A part of intellectuals, including those with a high level of education, still lack confidence, are afraid of being blamed for their views, and avoid issues that have much to do with politics. Some decrease in professional ethics, lack of sense of responsibility and self-esteem, lack of honesty and cooperation, etc (Party Central Committee 2008 & 2018).

A part of young intellectuals run after immediate economic benefits, lacking the will to strive for professional advancement. Partly, due to the sense of self-cultivation and poor training, plus the negative effects of the market economy mechanism, propaganda and distorting arguments, and the manipulation of hostile forces, etc. there are signs of deviation, wrong views, lack of passion and enthusiasm for the profession, lack of sense of civic responsibility and a departure from the Party's ideals (Party Central Committee, 2021).

Policy on building and developing intellectuals

While leading the revolution, the Communist Party of Vietnam always paid attention to and had many guidelines, solutions, mechanisms, and policies to build a contingent of Vietnamese intellectuals. The Seventh Conference of the 10th Party Central Committee issued Resolution No. 27-NQ/TW (2008) "On building a contingent of intellectuals in the period of accelerating industrialization and modernization of the country". The resolution sets out the goal: "By 2020 to build a strong intellectual pool with high quality, reasonable quantity, and structure, to meet the development requirements of the country, step by step to be on par with Vietnam's level of intellectuals of advanced countries in the region and the world". At the 12th National Congress (2016), our Party also set out the direction and task of developing intellectuals for the 2016-2020 period as: "Building a growing, high-quality intellectual pool to meet the needs of the intellectuals. development needs of the country, etc.". After nearly 10 years of implementing Resolution No. 27-NQ/TW, the term of the 12th Congress (2016) determined: Vietnamese intellectuals have developed rapidly in quantity, improved in quality, and formed a contingent of intellectuals. powerful knowledge, accounting for a particularly important proportion of the social class structure in Vietnam.

Stemming from that situation, to meet the requirements of the current Industry 4.0, the 13th Party Congress affirmed: "Building an increasingly strong and high-quality intellectual pool to meet the requirements of land development. country in a new situation" (Communist Party of Vietnam, vol 1, p. 110), "has a breakthrough mechanism to attract and utilize talents, vigorously apply science and technology, especially members achievements of the Fourth Industrial Revolution, promoting innovation, creating new impetus for rapid and sustainable development of the country" (Communist Party of Vietnam, vol 1, p. 167).

Vietnamese intellectuals come from many social classes and classes, especially workers and farmers; most of them grew up in the new society, formed from many training sources both at home and abroad. Our country's intellectuals have a patriotic spirit, a deep sense of pride, and national pride, and are always attached to the revolutionary cause led by the Party. Through creative

activities, our country's intellectuals have made great contributions to the cause of national construction and defense.

The correct guidelines and policies issued by the Party and the State in recent years have created very positive changes, creating motivation for the development of the intelligentsia, so that the intelligentsia can better contribute to the renewal process and development of the country. The contingent of Vietnamese intellectuals has constantly been growing, with dynamism and creativity increasingly evident in each step of the country's upward progress. This is evidenced by the continuous improvement of Vietnam's global innovation index, by 2019 it was ranked 42 out of 131 ranked countries and territories, a sharp increase compared to its previous position of 71st place of 2014.

After nearly 10 years of implementing Resolution No. 27-NQ/TW, the whole country has increased by more than 3.7 million people with college and university degrees or higher. The number of Vietnamese intellectuals has increased by about 2.8 million people. The field of literature and art has more than 43,000 writers and artists, most of which have undergone professional training and retraining; Many artists have high qualifications, creating good social effects. In special fields such as defense, compared to 2008, the number of intellectuals has increased by 68%, there are units such as the Military Industry-Telecommunications Group that have increased by 200%, etc. In addition to domestic intellectuals, there are more than 400,000 overseas Vietnamese intellectuals (including more than 6,000 doctorates and hundreds of highly regarded intellectuals (Hieu, 2022). advice, suggestions, and criticisms on major decisions of the Party and State, in building and perfecting guidelines, guidelines, policies, planning socio-economic development strategies of the Party and the government At all levels from central to grassroots levels, there are active contributions of intellectuals.

In the past time, the education-training sector has played an important role in performing the task of raising people's knowledge, training and fostering intellectuals, and making a significant contribution to the cause of construction and development. protect the country. It can be seen that the formation of a system of high schools for gifted students, elective classes, and high-quality classes has made a significant contribution to increasing the number and quality of excellent students, actively contributing to the discovery and fostering giftedness and talents in high school students, providing high-quality enrollment sources for universities to continue training into a team of intellectuals serving the development needs of various fields and professions in the world. country.

In higher education, with a pioneering role and leading the education of the country, the University of Natural Sciences under the Vietnam National University, Hanoi has piloted training

talented bachelors of science, units other training programs in Vietnam National University, Hanoi, and some major universities, such as Vietnam National University, Ho Chi Minh City, Hanoi National University of Education, Hanoi University of Science and Technology, etc. opened high-quality, talented bachelor's training programs. This is an advanced model of training talented human resources, suitable for Vietnam's conditions and well-suited to international integration. The initial successful experience of the model of training talented human resources at undergraduate and graduate levels has suggested the idea of building and piloting a synchronous and continuous process through many stages: discover, train, foster, and use talented human resources in the fields of leadership, management, science, and business technology to serve the cause of industrialization and modernization of the country (Hang & Van), 2020).

The Party and the State of Vietnam have made great efforts to train intellectuals who are scientists, technology, leaders, and managers. In recent times, every year hundreds of students, graduate students, and doctoral students are sent abroad to study under programs and scholarships sponsored by foreign governments or organizations. In 2000, the Government approved Project 322 - "Project on Training scientific and technical staff at foreign institutions with the state budget", recruited and sent 5,833 people to study, of which 2,951 doctorates, 1,603 masters, 260 trainees, and 1,019 universities in the period 2000 - 2013; In addition, Project 165 - Project "Training and fostering overseas leaders and managers with the state budget" of the Central Organization Department has spent hundreds of billions of dong per year to send research students, graduate students, and university students to study abroad. In the period 2009 - 2013, the project was fostered to improve foreign language skills for 11,690 turns of officials. Of the 941 people who went to study for a master's or doctorate degree, there were 158 PhDs and 444 masters trained overseas, and 339 masters trained in the form of an associate. Currently, Vietnamese intellectuals have been trained in many places, such as Russia, France, Japan, the United States, Australia, New Zealand, Canada, and the Netherlands" (Hieu, 2022; Van, 2022).

However, compared with the development requirements of the country, the development of Vietnamese intellectuals still faces many limitations. Vietnam is lacking high-caliber management leaders, good experts, scientists who are really passionate about their profession, and civil servants in the government apparatus at all levels who are professional and meet the increasing demands of the industry. high in public service ethics (National Assembly of the Socialist Republic of Vietnam, 2015 & 2019). Remuneration mechanisms and policies for intellectuals are still spread out, not in the right focus, focus, low salaries and allowances, and do not really meet the requirements of modern life (Government, 2020). Vietnam's mechanism of recruitment, treatment, and talent

attraction is still limited and inadequate. The guidelines and policies of the Party and State towards the intellectuals are still lacking, inconsistent, or not meeting the requirements of reality.

The above limitations make the contributions of the intelligentsia to the country's socio-economic development still modest, not commensurate with the great potential of Vietnamese people and Vietnamese values. We are in dire need of great intellectuals, and leading industry experts who can undertake valuable works and projects for a lifetime. In addition, the force of female intellectuals and intellectuals working in remote areas; The intellectuals in the enterprise account for a relatively small proportion. Scientific research and technology transfer in research institutes and universities still face many difficulties and limitations. A part of Vietnamese intellectuals is still limited in terms of freedom and creativity and is still passive about development issues that the country requires to solve.

The requirements of the 4.0 revolution for building and developing a team of intellectuals

In all historical epochs, knowledge has always been the foundation of social progress and intellectuals have always been the core force in creating and spreading knowledge. Born and raised in the heart of the nation, Vietnamese intellectuals are always attached to the nation, always making great and important contributions to the cause of nation-building, defense, and national development (Trung & Van, 2020). Many generations of intellectuals, many intellectuals have become shining examples of patriotism, love for the people, and wholeheartedness for the country for the people. Therefore, the people have credited and honored the intellectuals: "Hiền tài là nguyên khí quốc gia".

Deeply aware of the position and role of intellectuals and the power of scientific and technical progress in development, the Communist Party of Vietnam affirms: Vietnamese intellectuals are a creative workforce. especially important in the process of accelerating industrialization and modernization of the country and international integration, building a knowledge economy, and developing an advanced Vietnamese culture imbued with national identity. Building a strong intellectual team is directly raising the intellectual level of the nation, and the strength of the country, improving the leadership capacity, the Party, and the operational quality of the political system. Investing in building a team of intellectuals is an investment for sustainable development (Communist Party of Vietnam, 2016 & 2021).

Thus, building a team of intellectuals to meet the requirements of the scientific-technological revolution, promoting industrialization and modernization of the country and international integration is important and urgent, especially in the context of the impact of

industrial revolution 4.0. This industrial revolution (with both advantages and disadvantages, opportunities and challenges) always places high demands on promoting the role of intellectuals. In other words, building and developing a team of intellectuals in the industrial revolution 4.0 is reflected in the following main points:

Firstly, the force of science and technology intellectuals pioneers in research, learning, and deeply grasps the industrial revolution 4.0 with all its nuances and impacts; its opportunities and challenges for the development of the country. On that basis, propagate and disseminate knowledge about the scientific-technological revolution in general and the industrial revolution 4.0 in particular to all classes of people (workers, farmers, entrepreneurs, students, students, etc.) members, etc.); make them understand the "opportunities" and "threats" brought by the industrial revolution 4.0 so that they voluntarily prepare the necessary conditions, participate in the programs and projects of "starting up, starting a business", applying new technology to life.

Secondly, the force of science and technology intellectuals is not only pioneering in researching and disseminating knowledge about science and technology but also exemplary and passionate in applying for revolutionary advances. Industry 4.0 into life (production, business, service, life organization, environmental protection, social management, health development, culture, education - training, security - defense, etc.)

Third, the force of scientific and technological intellectuals takes the lead, taking on the historical mission of orienting and leading the society to adapt to industrial revolution 4.0 and seize and realize the opportunities created by the industrial revolution. 4.0 brought to bring the developed country close to the group of developed countries in the world.

Discussion and some issues raised

Faced with the new requirements and tasks of the period of industrialization and modernization of the country, when the world is conducting the Fourth Industrial Revolution, intellectuals in general, including intellectuals in science and technology play a driving role, taking the lead in researching and applying for scientific and technological advances, receiving and transferring technology in many fields. To continue building and developing this team, serving the cause of innovation, first of all, contributing to the implementation of the Resolution of the XIII Congress (2021) of the Party coming here with a vision to 2030, and 2045 for Vietnam. To be strong and prosperous, it is necessary to pay attention to the following basic contents:

Firstly, the development of a national strategy for the development of intellectuals for the period 2021-2030. The formulation of this strategy is based on the requirements of each sector, field, and locality, in line with the country's socio-economic development strategy in the new development period, focusing on industries and sectors. the sector is lacking, unbalanced and

irrational in structure; prioritizes the development of ethnic minority intellectuals and female intellectuals. Continue to do well in sending cadres, civil servants, young scientists, ethical students, and prospects for international awards to study abroad.

Second, change the perception of party committees, authorities, Fatherland Front, and mass organizations at all levels about the role, position, and importance of intellectuals in sustainable development, ensuring national defense and security. Periodically organize meetings and work with intellectuals to listen to their opinions and have dialogues with intellectuals on important socio-economic issues of the locality or unit. Creating a working environment that really promotes democracy and encourages intellectuals to be creative in research and creation; equity in academia, research, creativity, scientific application implementation, etc.

Third, continue to improve the system of legal documents, create a favorable legal corridor and organize many forums to encourage and protect the rights and responsibilities of intellectuals when participating in private activities. consultation, criticism, and social assessment of the country's socio-economic development undertakings, policies, and projects. Honoring good and talented intellectuals who have made great contributions to the country.

Fourthly, organizations of intellectual's associations need to actively research and propose to authorities to drastically innovate contents and modes of operation, gather the strength and wisdom of intellectuals, and develop and mobilize intellectuals in the new situation. Actively detect, attract and gather young intellectuals and intellectuals in enterprises into associations.

Fifth, the intellectuals themselves need to improve their responsibilities, obligations, and professional ethics. Constantly learning, exploring, cultivating professional skills, having courage and ambition, and making worthy contributions to the cause of renovation, national construction, and defense. Overcoming the phenomenon of political-ideological deterioration in part of today's intellectuals.

Sixth, to develop and implement policies on training, fostering, appreciating, rewarding, and honoring science and technology staff, especially good experts who have made many contributions to the country. Improve the capacity, qualifications, and quality of science and technology managers in all branches and levels. Building and developing a team of intellectuals integrated into the formulation of strategic plans for socio-economic development, national defense, and security.

Seventh, renewing and strengthening the Party's leadership in building the intellectual team, accelerating the institutionalization of mechanisms and policies to bring into full play the creative capacity of the intelligentsia; raising political awareness, and upholding the role and responsibility of intellectuals to the country.

Determining the right position and role of intellectuals in the cause of innovation, the Party and State have set forth many correct guidelines and policies to train and foster intellectuals, use them, and honor and respect them. using intellectuals and talents, etc. so that, in the doi moi period, Vietnamese intellectuals are constantly growing in both quantity and quality, better and better meet the requirements of industrialization, modernizing the country as well as initially meeting the requirements set forth for this team in Industry 4.0.

However, compared with the requirements of Industry 4.0, the current Vietnamese intellectuals also reveal many limitations and shortcomings, such as The structure of the intellectual team is unbalanced in terms of occupations, ages, regions, and genders. ... In particular, the contingent of intellectuals in the field of science and technology (a force that plays a particularly important role in Industry 4.0) is still limited in both quantity and quality; the number of leading experts in the industry is still small, there are not many strong scientific groups with high reputation in the region and the world; the number of scientific works published in prestigious journals in the world, the number of internationally registered inventions is still quite modest; the number of intellectuals who have no job is still a lot, etc.

4. CONCLUSION

The modern scientific and technological revolution, especially the industrial revolution 4.0, has brought to Vietnam both great advantages and opportunities for development, as well as significant difficulties and challenges in development. In this condition, history has given the Vietnamese scientific and technological intellectuals the mission of orienting and leading society to adapt to the industrial revolution 4.0 and seize the opportunities it brings to bring the world to the life of the country to develop rapidly and sustainably.

However, the construction and development of intellectuals in our country in recent years still has many limitations, not really meeting the requirements of innovation and international integration of the country. Many guidelines and policies on intellectuals are not synchronized and are slow to come to life. The organization and implementation of building a team of intellectuals are still weak. Lack of a basic and long-term strategy in planning training and fostering intellectuals. In order to keep pace with the development and changes of the world today, especially with the fourth industrial revolution, making strategic decisions in building and developing a team of intellectuals is becoming more urgent than ever.

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