



Research Article

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**A study on the relationship between scientific and technological progress and the construction of harmonious society in contemporary China**

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**ABSTRACT**

*China has attached great importance to the construction of harmonious society under the new situation, and also put the construction of harmonious society and the economic, political, cultural and ecological civilization construction in a prominent position. The science and technology, which is as the intrinsic motivation of developing the advanced productive forces, advanced culture, and realizing the fundamental interests of the masses, plays a very important role in the process of building a harmonious society. This paper firstly discusses the role of progress of science and technology in the harmonious development of man and nature and the transformation of economic growth mode and the political construction of harmonious society; Secondly, elaborating the factors, which are the quality improvement, sustainable development strategies and the government, would guarantee the benign development of the progress of science and technology; Finally, this paper puts forward the countermeasures and suggestions about how to effectively promote and use scientific and technological progress, accelerate the construction of harmonious social development. One is to increase investment in university research and promote scientific and technological innovation; two is to strengthen the scientific and technological innovation, vigorously develop science and technology and alleviate human ecological crisis; three is to strengthen the scientific and technological innovation, and cognize the order of nature and achieve the harmony between man and nature. In short, the progress of science and technology would promote the construction of harmonious society and construction of Socialist harmonious society is also inseparable from the support and promote of science and technology.*

**Keywords:** Science and technology, harmonious society, relationship, strategies

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**INTRODUCTION**

The third scientific and technological revolution, which began in the late 40 's, is based on the widely used of atomic energy, space technology, and computer, has produced the unprecedented effects on the rapid development of productive forces and the profound changes of relations of production. The three revolutions of science and technology have promoted the great development of social productive forces, and create the necessary material conditions for the construction of a harmonious society.

The Fourth Plenum of the 16th CPC has made the important decision of strengthening the ruling ability construction of the Party, and firstly put forward the goal of building a socialist harmonious society. The construction of harmonious society is an important social project, which needs the collaboration of many departments and fields. Nowadays, science and technology increasingly permeates every sphere of social systems today, and science and technology has become the tremendous power to promote the harmonious development of human society.

After the "Building a harmonious socialist society" was proposed, academic scholars, experts in the field have started research and has made a series of achievements, including the background, what socialism harmonious

society is, the development of a harmonious society, and so on. In the background of the research, some experts believe that the construction of socialism has several stages, socialism is in a transition stage, and the construction of harmonious community is faced with new situations and challenges at home and abroad. On the connotation of harmonious society of socialism, different scholars has made a study from a broad connotation, narrow intension, essence; the scholars have focused mainly on the social economy, politics, culture, overall development of society and people-oriented, about the countermeasures which is on how to construct a harmonious society. In the content of study, which mainly study the international and domestic backgrounds, the connotation, the characteristic, significance and the countermeasures and ways of building a harmonious society. In research methods, which mainly used a systematic research methods, and extended from the comprehensive study to single-subject research; the research is on the significance of constructing the Socialist harmonious society theory, meanwhile, on the application value of constructing harmonious society; in the process of research, it has combined the dynamic with static. In terms of research results, the construction of a harmonious socialist society covers many fields, such as environmental science, law, economics, political science, philosophy, sociology areas, and so on. Professor DENG Weizhi, a famous sociologist, believes that starting point of construction of harmonious society is: one is to achieve harmony between the social classes, the second is to use the social organization to carry out the harmonious society, three is to build a harmonious society from the adjustment of social structure, four is mainly in the innovation of system. Professor ZHENG Hangsheng, Chinese President, Renmin University of China said: "theoretically, harmonious society is that all people are well positioned, do their best and live together in harmony in society; in terms of the sociology, which is a benign operation and coordinated development of the society. In practice, the construction of a harmonious society needs to study specific conditions and mechanisms from the interpersonal, resource allocation, social structure, that is, individual, group and society." [1]

From the perspective of dialectical relations, this paper, which is based on the objective facts, would analyze and study the science and technology which has produced the impact and effect on all aspects of a harmonious society; discussing how the innovation and advancement of science and technology could promote the construction of socialist harmonious society, and discussing which factors would guarantee the healthy development of science and technology progress in the process of building a harmonious society; which would lay a firm foundation for people to comprehensive and systematic study the Socialist harmonious society and the role of science and technology.

## **2. Scientific and technological progress plays an active role in the construction of a harmonious society.**

Science and technology are the first productive forces, which is got by Comrade Deng Xiaoping who had applied the Marxist to analyze and study the modern science and technology and the economic and social development. Scientific and technological progress, not only solved our problem of food and clothing, and also played an important role in promoting in the construction of our harmonious society

### **2.1. Scientific and technological progress plays an active role in the process of harmonious development between man and nature.**

Science and technology is the intermediary of interconnected man and nature. Mankind, who depends on the revealed knowledge about the natural world by Science and technology, would be able to understand the various properties of natural objects, master the methods of using the natural objects in many different ways; and mankind could change the natural patterns, which is based in the changes of recognizing, finally make the modified object to meet their needs for survival and development. Therefore, science and technology are an important medium for understanding and transforming the nature. Humans, using the intermediary power of science and technology, gradually step away from passive dependence on the nature, and enhance the status of man in nature.

In recent years, on the one hand, due to the development of science and technology, the cognitive and practical level of human has improved greatly, the relationship between man and nature has gradually changed; the Human initiative has gradually come out; human plays an increasingly important role in remodeling the nature and gradually became the dominant force between man and nature, making the human constantly liberated from the natural bondage, from the slave of nature to the masters of nature.

On the other hand, with the rapid development of science and technology, it not only has promoted the high degree of integration of social sciences and natural sciences, the subject is highly integrated and highly differentiated, but also has made human's view shift from local to global, from regional research to research on global issues, achieving the ways of economic growth from high consumption, high pollution and the extensive economic growth mode of low efficiency to low consumption, low pollution and the intensive economic growth mode transformation of high efficiency, so as to provide knowledge support for better dealing with the harmony between man and nature.

## **2.2. Scientific and technological progress plays an active role in the transformation of economic growth mode.**

With the continuous development of science and technology, it has promoted the economic development through diverse paths, in addition to directly improving the efficiency of production, broader impact is to promote the transformation of economic growth pattern.

First of all, scientific and technological development contributes to improving the quality of laborers. Along with the rapid development of science and technology, the labors who is the most positive and active factor in productivity, must constantly learn new scientific and technical knowledge and improve job skills, so as to adapt themselves to the rapid changes in production technologies. It is the practical requirements of social production, lifelong learning has become a generally recognized, fundamental attitude to life in contemporary society.

Secondly, the rapid development of high-new technological revolution, which regards the information technologies as the main indicator, has transformed the high technology into the practical productive forces faster and faster; the proportion of high-tech industries in the whole economy is increasing and promote industrial restructuring and reorganization of the whole economic structure; which leads to the rapid development of information industry, the suddenly rise of the tertiary industry, emergence of the edge industries, technical trading and proprietary trading becoming relatively independent form of trade, the proportion of non-physical increasing in international trade, technology-led international division replacing the resources-led international division.

Finally, the scientific and technological revolution has created new technology economy, results in a new form of production management and organization, promotes the growth of the world economy and lead to the mode of production and operations management becoming further harmonious; such as, the advent of e-commerce, which makes the business of different systems flow smoothly, exchanges safely, and the resources of different sites can be dynamically shared, strengthens the convenience of producer and consumer, Enterprise and inter-enterprise business, makes transactions easier and cost-saving, must be the rational allocation of resources and the new harmony of socio-economic environment

## **2.3. Scientific and technological progress plays an active role in the construction of politics.**

With the coming of "big science, hi-tech" era, science and technology, which is as the endogenous factors of social system, has become increasingly closed to the political civilization. The rapid development of science and technology are not only increasingly depends on support from the political system, but also makes the political function of science and technology become increasingly prominent.

Firstly, scientific and technological progress, from the party's ideological building and promoting the Party's governing capacity improved, would promote the construction of the ruling party. Secondly, the scientific and technological progress would promote the development of democratic politics. On the one hand, science and technology, which serves as an intermediary, could promote the democratic development by two paths of economic development and cultural education. On the other hand, science and technology itself has a political function, directly affects the process of democratic development through applying the scientific and technological achievements into the political activities, such as public administration of government, citizens' political participation, democratic choice. Finally, scientific and technological progress would promote the construction of rule of law. On the one hand, with the rapid development of science and technology, it not only improves the development level of social productivity, and enhances the people's quality significantly, along with the enhancement of people's awareness of the law and the concept of rule of law. The other hand, advances in science and technology also continues to enhance people's ability of understanding and changing the world, meanwhile, it also constantly push people to create new areas of activity. And the social relationships are changing along with the constant innovation activities.

## **3. The construction of Socialist harmonious society guarantees the benign development of scientific and technological progress.**

Science and technology is like a double-edged sword, as well as in promoting the development of human society, and also brings a range of negative effects, such as environmental pollution, ecological imbalance, energy and resource depletion, high-tech crime, high-tech modern warfare have increasingly become an acute problem. Therefore, through improving the human self-awareness, social concepts and value pursuit to regulate and guide people using the scientific and technological achievements reasonably, which would make the harmonious society create a good social environment and the correct value guide for the healthy development of science and technology in the process of building a harmonious society.

**3.1. The national quality improvement is the root causes of safeguard the healthy development of science and technology.**

Scientific and technological activities are essentially human social activity, which are produced and developed by the requirement of social need, and also rely on the community to provide the necessary material conditions and the ways of thinking. The themes, goals, and direction of scientific and technological activities are closely related to social needs and social values, social relations, and the interests of society; while, the scientific research, invention and application would be affected by the subjects of scientific and technological activities, such as scientific and technological researchers, the managers of scientific and technological activities, the users of scientific and technological achievements. People, as subjects of scientific and technological activities, the level of its quality is directly related to whether the scientific and technological achievements would be applied to some aspects which could boost the social development. In 2013, the gross enrollment rate of senior middle school education in China (including high schools, adult high schools, secondary professional schools) has got to 85%, which is one percentage points higher than the previous year; while the gross enrollment rate of higher education has reached 34.5%, which has reached the level of moderately developed countries of the world. China has realized the first step of the educational development, which is from education in less developed countries to education in a medium level of development in developed countries [2]. By 2010, the average years of education, among the 25-64 years of working-age people, has soared from 7.97 years in 2000 to 9.1 years in 2010, which made the overall level of education of the working population jump over 9 years' stage; the proportion with college degree or above in the marketing personnel also increased from 10% in 2010 to over 23.4% in 2013[3].

These data indicate that the continuous improvement of people's quality would enhance the quality of subjects of scientific and technological activities, to a certain extent, would directly or indirectly reduce the degree of damaging the interests of others, the social interests and the interests of mankind as a whole, such as, the war which uses the scientific and technological achievements, without restraint in the development and utilization of nature by means of science and technology, the pollution and destruction of the natural environment, and other phenomena and that are unfavorable to the development of people and society.

**3.2. The sustainable development strategy is the guidelines of the scientific and technological innovation.**

Scientific and technological progress, as a driving force of sustainable development, has played a huge role in promoting the construction of the harmonious society, meanwhile, the sustainable development also has pointed out direction for the content of scientific and technological innovation. First, meet the reasonable needs of human development and improve human well-being. Second, population health, food security, human settlements environment, and cultural progress are the main aspects of basic human needs and development needs; the construction of harmonious society would eliminate the bottlenecks of resource and environment, and ensure the continuity of production activities. For example, extending and space of survival and development in the ocean and the sky, saving and recycling the resources, protecting the environment and improving the ecological improvement, are the keys to solve the challenges of sustainable development. Third, the sustainable development would support the development of strategic emerging industries and consolidate the material foundation of the national economy. New energy, new materials and green manufacturing, information technology and other industries have special significance for the sustainable development in the global competitive environment. Finally, the construction of harmonious society would boost social progress and cultural development process, enhance the soft strength of development, which has played a positive role in forming the advanced environmental ethics and development concept, building the innovation system of national-cultural-trinity of country, improving the scientific level of strategic decision-making and management, exploring new road of industrialization and urbanization [4].

**3.3. The Government has played a role in invention and use of science and technology**

In the process of building a harmonious society, government and the progress of science and technology are playing an extremely important role in the development of the society, while the conjunction between science and technology and government is not natural, after a lengthy historical process, gradually attracted each other and came together.

Firstly, the reforming of the scientific and technological management system has established the position of government, made the function of government change from "direct organization of scientific and technological innovation activities to macro-control, creating a good environment and conditions, providing policy guidance and services, promoting the exchange and cooperation between international and the various elements, and then simplified the government procedures, reduced the unnecessary rules and regulations, finally improved administrative efficiency, and reduced the burden on enterprises." [5]

Secondly, the legislation, which the government has set up, in the aspect of scientific and technological innovation, would guide the direction for scientific and technological innovation. On the one hand, the government has set up

the regulation about what science and technology can be invented, what science and technology cannot be invented, which would make inventors have with a clear consciousness, know the consequences of the inventions, and then would avoid some harmful technical inventions to produce the negative effect on humans. On the other hand, the publicity and education of the law of scientific and technological innovation, would raise the legal awareness, make the law become people's belief, form the social atmosphere of respecting and protecting intellectual property rights.

Finally, the government plays an oversight role in scientific and technological innovation. On the one hand, the government would regard the implement of the law as an important standard of measuring the performance, through the establishment of appropriate reward and punishment system, and timely detect harmful technology to human survival and development, and ultimately achieve the purpose for the benefit of mankind; for example: the discussion is about the limitations of human cloning technology, and the nuclear proliferation issues, and so on. On the other hand, the government, which enhanced the oversight of scientific and technological research, would constantly improve the quality of inventors, and make the inventors consciously avoid possible negative effect of science and technology in the research stage and the process of use.

#### **4. How to effectively promote and use of scientific and technological progress to speed up the pace of development of building a harmonious society.**

In the process of building a harmonious society, people should exert the advantage and avoid the disadvantages of science and technology; On the one hand, people should make constraints and restrictions on the progress of science and technology, on the other hand, scientific and technological progress should be channeled, seek advantages and avoid disadvantages, and rely on scientific and technological progress and innovation to realize the sustainable development of society, and then serve for the construction of the harmonious society, so it could keep the benefit of mankind for the benefit of future generations.

##### **4.1. Increasing investment in scientific research and further promoting scientific and technological innovation**

With the deepening of the reform of higher education, universities and colleges have played an important role in the activities of scientific research, while, it still failed to fundamentally solve the problem of dislocation between science and technology and economy, failed to address the situation of insufficient investment in university research funding, which not only caused the low conversion rate of scientific research achievements, but also to a certain extent, constrained the development of independent innovation of science and technology. Currently, insufficient funding is the bottleneck of independent innovation, the transformation of scientific and technological achievements. Therefore, in the process of building a harmonious society, the university and college should be financed through more channels and to support the scientific and technological innovation and promote the transformation of scientific and technological achievements.

In addition to the national support of fund and management to the University, the university and college should also be encouraged to establish a number of venture capital firms exist side by side. As a special financing activity of the venture capital investing, venture capitalists are willing to take high risks for high returns, especially in terms of transforming of scientific and technological innovations, and a number of innovative and market potential high-tech projects, not only in the early stages of the project will be given a certain amount of funds, but also can promote the scientific and technological achievements from the lab to the market. If China's colleges and universities could introduce the ideas of venture capital into the university's scientific research investment and the transformation of science and technology achievements, combining the comprehensive scientific and technological advantages of universities with the scientific and technological demand of enterprises, social economy, venture investment will actively promote the scientific and technological achievements of colleges and universities to be combined with market demand, carry out the research surrounding the economic construction and the demands of industrial development, so as to result in more high-tech projects of market prospects, which could attract more venture capital to enter, and the significantly increase in research funding of universities.

##### **4.2. Strengthening the scientific and technological innovation, developing the science and technology, and alleviating the human's ecological environment crisis.**

In order to solve the contradiction between the unlimited human needs and the limitation of natural resources, vigorously developing science and technology, and taking the road of scientific and technological innovation, increasing resource utilization, has become one of the most effective measures to alleviate the ecological crisis. On the one hand, through scientific and technological innovation, people could develop the new materials and new forms of energy. Through scientific and technological innovation, people could develop more advanced equipment to protect the environment and reduce pollution, and gradually treat and recover the environment which has been destroyed and polluted; through scientific and technological innovation, people could further boost the capacity of country's independent research, and increase the of self-developed products, while the higher of the scientific and technological content, the demand for natural resources become less, hereby laying the foundations for sustainable

development. On the other hand, the practice of scientific and technological innovation is the innovation projects of national implementation, the adopted policies of innovation, carried out the innovation activities. Practices should be guided by the theory, and also in line with the objectives of sustainable development. According to the requirements of building a harmonious society, people should make a innovation in protecting the ecological environment, in the fully rational utilization of resources and energy, in the peace and development of mankind.[6]Therefore, the government should set up appropriate support and incentive measures towards the development of green technology, and raise public awareness through the news media, the Internet platform, so that scientific and technological progress plays an important role in promoting the process of building a harmonious society.

#### **4.3. Strengthening the scientific and technological innovation, and further making a cognition of nature, realizing harmony between human and nature**

Only by continuously strengthening scientific and technological innovation, China would further improve the capabilities of monitoring and forecasting for the dynamic of resources, environment, climate, disaster, and the analysis capability of social interaction system. On the one hand, human beings as the subjects of practice, from the date of birth, have regarded oneself as the main body of nature, and regarded the nature as his opposite. And as the continuous progress of science and technology, the human deeply have realized the law of nature, the rules of interaction between people and nature, not only have changed the concept of "man can conquer nature", but made people deeply know that men and nature are partners. Through the use of advanced science and technology, humans can not only acquire their own needs from nature, but also constantly repair and build the nature, consciously and timely adjust the relationship between man and nature, and then promote the sustainable development of human and nature. On the other hand, through the use of advanced science and technology, the human deeply have realized the current situation and the trend of the resources and environment, the laws of the evolution and regulation of economic and social complex system; thus enable humans to focus on what the practice affects the nature, sustainable management of ecological system, environmental health, the overall behavior of the earth system, and the interaction between layers; and give priority to the development of environmental technologies and the technology in rational exploring and sustainably using the resources of surface, deep, and marine resources, so as to better protect the natural resources and biodiversity. Only in this way can we people achieve more harmonious development between man and nature.

### **CONCLUSION**

The development view of modern science and technology is the pursuit of the harmony, which is an advanced concept of development, not only improves the ability of humans to understand nature, enhances the means of transforming the nature, but brings mankind a huge material wealth. Meanwhile, the harmonious society is not only a concept of social development, but our pursuit of social status. The construction of a harmonious society would provide a strong impetus to the development of science and technology, at the same time, but also create a harmonious social atmosphere and social environments for the development and application of science and technology; and also provide conditions for displaying the multiple values of science and technology, and make the science and technology healthily develop under the harmonious society ideas and the norms and guidance of value pursuit. In short, the scientific and technological progress would promote the construction of harmonious society and the construction of socialist harmonious society is inseparable from the support and promote of science and technology.

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