

A Brief Study on Current Situation and Optimization Suggestions to the Geoscience Development in China

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Abstract: Geoscience is an important new branch of science, almost covering every aspect of the physic science, from geology to ocean, from atmosphere to hydrology, as well as physic science, chemical sciences, geology, space physics, information sciences, science of space times and so on, and which is closely related to human lives. It is of great era significance for our social development and the earth's sustainable development to analyze and study the current development of geoscience. There are many problems needed to be studied and dealt with by geoscience, for example, how people get to know the nature, how people utilize and transform nature reasonably, how people coexist harmoniously and how people develop sustainably with nature. Modern geoscience research has put forward more questions on how to solve problems of resources, environment and disasters caused by economic and social development. This paper mainly discusses the current situation of geoscience development and puts forward several optimization suggestions on the development of geoscience, aiming to provide suggestions for geoscience research and help fellow researchers.

Keywords: Geoscience; Sustainable development; Current situation; Optimization suggestions

1. Introduction

The earth is the environmental foundation and physical resources on which human beings depend for survival and development. And the human's researches on geoscience system have never stopped. With the development of our society, the earth is changing, and the earth science research itself is also developing and changing, as well as the pace of human exploration on earth science. In the field of world geoscience research, some western countries have taken the lead. However, with the rising of the East modern economies, there also appears a rapid development in scientific research in the East economics. China has taken a place in the world in terms of research results and influences in the field of geoscience research. With the changes of the earth, human beings as well as the social and economic development of our society, geoscience research development gives us more serious problems. Meanwhile, it also means we are ushering in the new opportunities and new era of development. It is the huge task we are facing now to further study and develop the geoscience by tracing the pace of the times under the innovation of science and technology and the guidance of the strategies of the geoscience and sustainable development, and combining the space time technology, time technology and digital information technology of the new era.

2. An analysis on the current situation of geoscience in China

2.1 It is China's serious challenge in the geoscience to explore the interior of the earth at present

Just as the development of science and technology promotes human progress, the development of geoscience will promote the development of human's systematic researches on the earth. The new era has started a new journey on space exploration. We manufactured powerful aircraft and all kinds of dazzling telescopes by using the existing and continuously developing science and technology. And we also have made some achievements in space development, for example, developing space stations and continuously launching satellites. At the same time, with the launch of Jiaolong, our exploration in the ocean has entered a new stage of development. With the deepening of the dive, we are accumulating new scientific data and statistics for the exploration of the ocean. Although we can go up to the heavens and down to the seas, our exploration on the interior of the earth still has a long way to go. We should continue to study the origin and evolution of the earth, the composition of the earth and the unknown exploration below the crust. It is still obscure for us to know some conceptions concerned to the interior of the earth, and there are also no scientific evidences and no formed scientific consensus. Thus there are many urgent problems for the researchers to solve, for example, whether the volcanoes, earthquakes and landslides are associated with the movement in the depths of the earth's crust, and how they are closely related, and what the driving mechanism of earth plate motion is. As the revealed complex nature of the earth, our former simple scientific model shall be turned over at any times. Therefore, the detection of the interior of the earth is becoming the challenge of geoscience development in the new era.

2.2 Resource consumption and ecological environment deterioration as well as the changing of the earth are influencing our scientific research.

Reality forces us to admit that the development of human beings is a process of damage to the earth, which leads to the deterioration in the earth's ecological system and environment. In early time, human activity was single and simple with low damage frequency, and which is only a small part of natural dynamics. However, with the process of the world industrialization and modernization, human is making the earth developing toward bad directions step by step. The developed process of western developed countries has caused a great destruction on the water, mineral and other natural resources on the earth. However, we developing countries are following their steps, and this is necessary results of development. The sequela of industrial manufacture has influenced many fields such as agriculture, forestry, livestock husbandry, fishery and so on. With the huge consumption and utilization of all kinds of resources, the balance of ecosystem was broken, which lead to a warming climate of our global, pollution of underground water sources and coastal waters and a changing atmospheric chemistry. All those will bring serious threats to the survival of mankind. In recent years, the world trended to change this worsening, and which made a lot of countermeasures. But we have to admit this is a problem that we must face in the development of the geoscience, and we must put forth a solution to it. Since there is only one earth and there is only one planet like the earth, the earth is the only home we live on.

2.3 Demand provides new engine for development, and the new technologies and methods promotes geoscience research

The research goal of geoscience is to make rational utilization of the earth, and make a virtuous, harmonious and balanced circulation of our common home to prolong its vitality. We should establish a systematic research direction for earth science and clearly understand the various elements in the earth system as well as the mutual relationships. We should comprehensively study the development laws and changing rhythms of earth. We should explain the mutual relationships among the biosphere, atmosphere, water and rock layers and so on. These are our final demands, and all of these rely on new sustainable technologies. There are plenty of driving forces for the development of geoscience, namely, the development of the space physics, information technology and digital intelligence, as well as the demand of human sustainable strategy. The demand brings development, and development in return brings opportunity and economic boom and social progress. The combination of new method and new technology provides the internal driving force for the development of geoscience research and dynamic transducer.

3. Optimization suggestions on the geoscience development in China

3.1 Paying attention to the strategic development of the sustainable development

The earth is developing and changing since its birth, and the living environment of human beings is changing and developing according to it. Due to its significant and trans-formative meaning of the sustainable development, it is of great importance to implement sustainable development strategy in the development of geoscience research. The sustainable development involves many aspects such as the ecological environment of the geoscience, atmosphere, population, resources, disasters and social economy. Thus it is the research priority in the new era to establish a balanced and steady programme for the sustainable development. Due to its various, multi-level and pluralistic demand of sustainable development, it is the practical problem for the sustainable development in the society, and it bears great practical importance to make the society processing toward a virtuous direction and establish a more harmonious, more natural and more balanced natural social relations and social economic relations. The researchers claim that relevant staff can effectively combine the conception of sustainable development to rationally practice and further explore the geoscience research in China by positively changing and improving the conception of academic research, which has a good guide value for the overall development of China's geoscience talents.

3.2 Vigorously carrying forward and implementing the concept of an integrated earth

It is easy to find from the past research that the global change is remote but related in reality, and our earth is a whole without backups. And a slight move in one part may affect the situation as a whole. In the contradiction of human development and resource exhaustion, no one can be righteous alone in a community where the general moral is low. Activities human once done to meet necessity of survival such as removing mountains to fill seas, lumbering to make fields, all brings indelible consequences for human beings. The research finds the disaster in the earth is increasing, the environment pollution is increasingly serious, the balance of the ecology is breaking and the vicious circulation is aggravating. However, some nations' behavior to destroy the ecological environment for their own interests will not remit the pressure of the earth, which in turn proves the importance to implement the conception of the global village. Only when we see the earth as a whole, can we make progress in geoscience and make scientific plan for the sustainable development of the entire earth. Practices show that a good preach and popularization of the conception of the integrated earth is of great importance for the development of geoscience in China. Firstly, it is helpful to guide the researchers to fully explore relevant contents in geoscience. Secondly, it will promote the full development of geoscience enterprise in China. Thirdly, it is conducive to boost the all-round development of geoscience research in China. Fourthly, it will efficiently guide and promote value in protecting the reasonable ecological environment. Last but not the least, it is vital for the full development of geoscience enterprise in China.

3.3 Continually training modernized geoscience research talents

Talent training plan has always been an important basis for scientific research and the development of geoscience relying on new scientific research talents with new technology. China is the world's great powers in geoscience development, but there are still certain distances compared with some developed countries in some direction, which requires us to constantly cultivate and develop scientific talents to meet the requirements of the development. Because of the wide range of the geoscience, it requires the geoscience researchers to have a higher level of technology. Modern scientific research needs modern talents, and only by constantly investing in personnel training shall we avoid the failure of talents. On this issue, the researchers point out that the education workers can better realize the comprehensive promotion in the research of geoscience in China through effectively promoting the cultivation of talents in geoscience, which have a good guidance value to the virtuous development of the geoscience in China and will be helpful to improve the comprehensive level of geoscience in China.

4. Conclusion

In recent years, with the promotion of social development, geoscience research has gradually become the focus concerned by the public. Hereto, the researchers point out that the relevant staff should fully focus on the geoscience work in order to effectively implement the relevant work. In general, the geoscience is a subject with strong vitality and great practical significance, and its systematic development also has positive practical significance. The development of geoscience has constantly improved human's scientific cognition. In modern times, people have already known how does the earth move and work through the existing technology. With the progress of science and technology, human's exploration will reach a new height, and their cognition will leap to a higher level, reaching to an unprecedented new level. In the new era of the 21st century, geoscience will go out of the category of disciplines and cooperate with other subjects, to provide new scientific basis for the common destiny of human and new decision-making power for the prosperity of human economy and society in accordance with the principle of earth integration.

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