Preface

The year 2009 celebrated the 60th anniversary of the founding of the People's Republic of China. During the past 60 years, great progress has been achieved in science and technology in China. We are now in an important period of greater development from a new starting point. Chinese President Hu Jintao pointed out that "the development of science and technology has never made such deep impact on our society, production and life like today; it has never had such deep impact on people's ideas and ways of living like today; and it has never made such deep impact on the fate of our country and nation like today"; and "compared with any other period of time in the past, the development of the Party and nation has never depended so urgently on the solid foundation of science and strong support of technology, and on S&T workers' unremitting creative practices". Comprehensive understanding of his words and the new situation and tasks for S&T workers in China will shed guiding light on the management of the National Natural Science Fund.

As an important aspect of the overall development plan for science and technology in China, basic research is the fountainhead of original creation, as well as the support of integrating innovation and re-innovation after learning from successful international practices. Major countries in the world have all made basic research an important strategic choice in dealing with financial crisis. Premier Wen Jiabao stressed that knowledge and S&T are important factors for sustainable development, and the basic force for overcoming economic difficulties. U.S. President Barack Obama pointed out that science has never been so important to economic prosperity, national security, population and health, ecological environment and the quality of life than any time in the past. The government's act on economic recovery and re-investment has given large increase in S&T investment, in which the budget of the National Science Foundation has witnessed an increase of 3 billion U.S. dollars. The British Prime Minister Gordon Brown proposed that the British government would not allow economic recession reduce science expenditure and said that science expenditure is the key to rebalance the British economy.

To deal with international S&T competition in the future and meet the strategic demand of building a better-off society in China, we are in urgent needs of strategic plans for basic research development in China. NSFC defined 2009 as the year of strategic policy research, and in accordance with the guiding principle of "promoting scientific development, improving its system and mechanism and upholding the idea of science and democracy", NSFC started the study on the its development plan for the Twelfth

Five-Year period by looking into the trend of S&T development and making the overall planning for the future, with a view to promoting greater development of the National Natural Science Fund from a new starting point.

Scientific disciplines are important bases for research and talent training. A balanced, coordinated and sustainable development of all disciplines is important both for making breakthroughs and leapfrog in key areas and for scientific and technological progress and innovation. Therefore, the strategic development of disciplines is regarded as an important task in our plan, and "Studies on the strategic development of scientific disciplines in China for the 2011-2020 period" is conducted in joint efforts with the Chinese Academy of Sciences, trying to look at the strategic position of basic research in a long-term view, planning future strategic development with farsighted ideas, guiding the strategic allocation of national research resources on the basis of scientific evaluation, and ensuring scientists a favorable atmosphere for undisturbed and free exploration. It is hoped that the research results will not only provide the basis for drafting NSFC's development plan in the Twelfth Five-Year period and the *Guide to Programs*, but also play an important role in guiding the prosperous development of basic research in China in the next decade.

In making in-depth studies on the strategic development of science disciplines, we should emphasize on the following aspects. First, we need to have a broad view on the overall picture. We need to view it from the overall strategy of building an innovative nation, implementing fully the *National Guidelines for Mid and Long-term Plan for Science and Technology Development*, meeting both the demands of scientific development and national strategic needs. We therefore formed strategic research groups according to the overall arrangement of 19 disciplines, namely mathematics, physics, chemistry, astronomy, mechanics, biology, agricultural science, medicine, brain and cognitive science, geoscience, marine science, resources and environmental science, space science, engineering science, materials science, energy science, information science, management science and nano-science. We want to make clear the position and roles of various disciplines in promoting scientific progress and serving the national social and economic development. Second, we need to stand in a high position from the start. We should gather the strategic wisdom of Chinese scientists and plan the long-term development for basic research. The strategic research on disciplinary development gathered a group of high level experts, including 287 experts and 283 middle-aged and young scientists in the strategic research panel and secretariat panel, and 196 Members of the Chinese Academy of Sciences and Chinese Academy of Engineering in the strategic research group, accounting for 68% of the total. Third, we should explore various kinds of laws. We need not only study the status quo of research, the activities of research, the direction of

development and scientific frontiers, but also make in-depth analysis of the laws of disciplinary development, basic research and talent fostering. Fourth, we should have clear directions. We need to make clear the development plans, priority areas and key directions of interdisciplinary development for the next 5 to 10 years through our strategic research, and make clear the needs and priority areas for international cooperation and exchange. Fifth, we need to make sound policies. We need to understand clearly the needs for sound policy environment for the development of basic research, implement fully the scientific outlook on development, insist on reform and innovation, and provide the basis for decision making to promote the development of basic research and structural reform in China

In 2009, the central government authorized NSFC to set up the Department of Health Sciences, which fully shows its due attention to people's health, high emphasis on basic research in medical sciences, and earnest expectation on promoting independent innovations in medical sciences with the support of NSFC. Setting up the Department of Health Sciences is a strategic move in strengthening the organization of NSFC, optimizing the funding structure and enhancing the ability of making indigenous innovations by Chinese medical community. It will surely play an important role in bringing the strength of science funding system into full play, promoting the optical allocation of medical research resources, and making basic research in medical sciences prosperous. NSFC has now a sound structure based on eight scientific departments, namely, the Department of Mathematical and Physical Sciences, Department of Chemical Sciences, Department of Life Sciences, Department of Earth Sciences, Department of Engineering and Materials Sciences, Department of Information Sciences, Department of Management Sciences and Department of Health Sciences. The overall structure of scientific areas has been improved, which has set a better foundation for greater development of NSFC from a new starting point.

The year 2010 is a key year in which we shall realize the target set up for the Eleventh Five-Year Plan period, connect the development in the Twelfth Five-Year Plan, strengthen strategic planning and promote the development in a scientific way. We shall unite closely around the Party Central Committee led by General Secretary Comrade Hu Jintao, uphold high the great banner of socialism with Chinese characteristics, take Deng Xiaoping's theory and the important thought of "three represents" as our guiding principles, fully implement the scientific outlook on development, conscientiously study the spirit of the Seventeenth Congress and the Fourth Plenary Session of the Party Central Committee, and accurately master the strategic position of NSFC, namely, "supporting basic research, adhering to free exploration and playing a guiding role". In implementing NSFC's working principles of "more emphasis should be attached to basic

research, frontiers of science and talents", we will try hard to open a new front for the cause of national science fund, and make contributions to increasing the ability of making indigenous innovations and building China into an innovative nation.

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November 28, 2009