

# Ministry of Education, Culture, Sports, Science and Technology (MEXT)

Science and Technology Policy Bureau

[http://www.mext.go.jp/english/science\\_technology/1316764.htm](http://www.mext.go.jp/english/science_technology/1316764.htm)

## Towards a Comprehensive Strategy of Science and Technology for the Medium-to-Long Term

Since fiscal 2010 corresponds to the last year of the Third Science and Technology Basic Plan, in the run-up to deliberations over the formulation of the next phase of the Science and Technology Basic Plan to be conducted by CSTP, MEXT established the Special Committee on the Science and Technology Basic Plan under the Council for Science and Technology. In December 2009, the committee compiled the report "Towards a Comprehensive Strategy of Science and Technology for the Medium-to-Long Term". Below we will briefly introduce the current issues surrounding S&T and the future direction of policies indicated in the report.

### 1. Recognition of the Current Situation

#### **(1) The changing circumstances surrounding S&T**

In recent years, the circumstances surrounding S&T have undergone drastic changes. Serious problems facing the world, such as global warming, food and water resources and energy issues have become apparent. In addition, on the economic front, the influence of developing nations such as the People's Republic of China and India continue to grow, the world is becoming multipolarized in the long-term, and the political landscape of today is expected to change significantly.

Meanwhile, in Japan, amid a dwindling birthrate and population that is aging and declining at a rate without parallel in the world, in response to the long-term fall in international competitiveness and other changes, Japan's presence in the international community continues to suffer a relative decline. Furthermore, young people are shunning S&T in increasing numbers, Japan is faced with the issue of securing of various human resources, such as researchers

and engineers for the future, and enhancing competitiveness at universities and in industrial circles.

## **(2) S&T Policy Trends in Other Countries**

With the state of affairs in the world undergoing drastic changes and a range of problems coming to the fore both domestically and on a global scale, as the key to overcoming unparalleled crises including the economy and global warming, and achieving sustainable development in the future, various countries are actively developing policies in science technology and innovation (STI). In particular, in response to the worldwide financial crisis and economic slump of 2008, these policies have been given greater emphasis from the perspective of seeking the long-term growth and development of countries. At the same time, a tendency to further expand government investment has been seen.

## **(3) Major Achievements and Problems in S&T Policies**

To date, the promotion of S&T has contributed significantly to people's lives, the growth and development of countries and the prosperity of mankind. Examples include people's improved health and longer average life-spans brought about by the development of pharmaceuticals and medical technologies, the creation of new industries and the increased sophistication and efficiency of services, as well as improvements to GDP and national income thanks to these advancements.

However, problems have been pointed out with regard to further contributions to S&T aimed at solutions to serious and significant problems in Japan and the world, the development of human resources to play a role in S&T in the future and the development of the infrastructure to support R&D. Responses that take these problems into consideration are necessary when deploying S&T policies in the future.

## 2. Future Direction

### (1) Basic direction

With respect to the direction of future S&T policy, the report clearly positions S&T policy as one of the social/public policies, and in order to plan and promote S&T policy, lays out five future visions for the country as major goals for policy and further proposes three basic policies for future S&T policy:

#### <Significance of S&T Policy to Create Forms of Nation>

- 1) A nation that realizes a safe, secure and high-quality society and lifestyles for its people;
- 2) A nation that achieves sustained growth and development while maintaining global superiority;
- 3) A nation that will take the lead in resolving global issues in cooperation with other countries;
- 4) A nation that will continue to create diverse and the most advanced knowledge in the world;
- 5) A nation that nurtures science and technology as the foundation for culture and civilization.

#### <Basic Policies for Future S&T Policy>

- 1) Shift from "S&T policy" to "STI policy";
- 2) Creation and realization of STI policy together with society;
- 3) More emphasis placement on people and the role of organizations that support people in STI policies.

### (2) Key policies

Premised on a fundamental understanding of the above, concrete promotional measures for STI policy aimed at the realization of the future visions for the country are presented based on four pillars.

#### 1) Enhancement of basic science

- Promote research to enhance basic science  
(Increase government expenditures for universities, etc.)

- Foster creative persons to become leaders in the knowledge-based society  
(Foster diversity of human resources, world-class researchers and the human resources who will lead the next generation, etc.)
- Reform the R&D system for development of innovative research  
(Increase competitive funding, improve and enrich the efficient evaluation systems of R&D, etc.)
- Enhance the education and research capability of universities

## **2) Addressing of important issues / challenges**

- Promote R&D that responds to important policy issues / challenges  
(Set priorities in R&D corresponding to key policy challenges such as measures to combat global warming, etc.)
- Promote international activities in STI  
(Promote multi-layered S&T diplomacy, promote brain circulation)
- Reform the R&D system  
(Enhance industry-academia-government collaboration system, create innovation systems in regional areas, promote intellectual property strategy, etc.)
- Establish excellent institutions and improve the high-technology research infrastructure

## **3) Deepening of ties between society and STI**

- Enhance relations between society and STI  
(Create a forum for people to participate in the discussions of STI policy, promote "S&T communication activities," etc.)
- Enhance functions to plan and promote STI policies
- Ensure effectiveness of STI policies

## **4) Government R&D investment**

The total amount of government R&D investment should be secured based on 1% of the GDP

---