

## New STEPAN Work Programme for 2009-2011

The STEPAN Chair, Sri Lanka, has circulated the Work Programme based on activities identified during the Informal Board meeting in Colombo on 18 June 2009.

The new work programme features activities to strengthen coordination and management of the network, as well as programmatic activities such as training workshops and joint research and country case studies. Member States to take the lead in certain activities are also identified in the programme.

Specifically, for example, Sri Lanka as the current chair of STEPAN will spearhead the task of improving network management and coordination, as well as prepare a proposal on an innovation study of the Asia-Pacific region. The Philippines will continue its lead role in the preparation of case studies on innovation in small and medium enterprises, a project carried over from the previous cycle when the Philippines was STEPAN Chair. Korea will take the



*The STEPAN Informal Board Meeting in session in Colombo on 18 June 2009, to identify activities leading to the development of a work programme for 2009-2011.*

lead in capacity-building activities for S&T indicators development.

Continuation of the e-learning activities organized by UNESCO Jakarta on topics in science, technology and innovation management was also included in the programme.

The draft work programme was circulated to all focal points for

comments, and having received no adverse comments, the work programme would then be implemented throughout the period of Sri Lanka's tenure as STEPAN chair, from October 2008 to September 2011.

The full work programme will be made available at the STEPAN website  
[www.stepan.org/meetings](http://www.stepan.org/meetings). ###

## STI and Science Education Policy Study in Cambodia initiated

UNESCO Jakarta has launched a study to assess the science, technology and innovation (STI) situation in Cambodia and develop policy recommendations for the Cambodian government. Science education as a key element of overall science, technology and innovation is a special focus of the policy review. The move was a response to a request from the Ministry of Education, Youth

and Sports (MoEYS) of Cambodia, who sought UNESCO assistance to conduct the study.

The initial information gathering phase started in November 2009 with the visit to Phnom Penh of two consultants engaged by UNESCO Jakarta, Prof. Tim Turpin of the Centre for Industry and Innovation Studies, University of Western

Sydney, Australia and Prof. Jose Magpantay of the Technology Management Centre of the University of the Philippines. Prof. Tim Turpin is also the STEPAN focal point for Australia.

The essential elements of the study include:

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## Events of Interest

ISTIC Training Workshop on Assessment of Industry Needs to Help Develop a Sustainable and Productive Science and Technology Policy, 22-26 June 2009, Kuala Lumpur, Malaysia.

ISTIC-KISTEP R&D Management Programme for High Level Policy Makers, 23-28 November 2009, Seoul, Korea.

World Science Forum, 5-7 November 2009, Budapest, Hungary

Joint UNESCO-ISTIC Conference on Ethics in Science and Technology, with a theme "Enculturation of Ethics for Scientists and Engineers for a Sustainable Future", in conjunction with the 2009 Meeting of the World Commission on Ethics of Science & Technology (COMEST), 15-19 June 2009, Jakarta

World Congress on ICT for Development (WCID 09) 2-4 September 2009, Beijing, China.

2009 Atlanta Conference on Science and Innovation Policy, 2-3 October 2009, Atlanta, GA, U.S.A. For further information, visit [www.atlantaconference.org](http://www.atlantaconference.org)

Global Forum on Cross-Border Higher Education, "Global Connections – Local Impacts: Best Practices, Models and Policies for Cross-Border Higher Education", 21-24 October 2009, Kuala Lumpur, Malaysia. Organized by the Observatory on Borderless Higher Education. For further information, visit: [www.obhe.ac.uk/the\\_obhe\\_global\\_forum\\_malaysia/welcome](http://www.obhe.ac.uk/the_obhe_global_forum_malaysia/welcome)

# The Direction of Science and Technology Policy in Korea

In the last few decades, one of the countries that has garnered the admiration of S&T policy-makers, especially from developing countries, is the Republic of Korea. Its development path has been the subject of many studies, and its successful transition from a developing country emerging out of a war, to an economic powerhouse within the span of thirty years, has been taken by many researchers as a case study. Recently, in the face of new emerging global challenges, Korea adopted a new science, technology and innovation policy that would allow it to deal with the global challenges such as climate change and the economic crisis, as well as expand its future growth potential. To share the general concepts underlying the new Korean S&T policy, the S&T Policy Division of the S&T Policy Planning Bureau of the Ministry of Education, Science and Technology of the Republic of Korea contributed this short feature article.



The author, Dr. Haeyang Jeong, is Deputy Director of S&T Policy Division, S&T Policy Planning Bureau, Ministry of Education, Science and Technology (MEST) of the Republic of Korea.

**Advances in science and technology contributed to the establishment of a creative, rational and scientific culture in Korean society, providing a qualitative footing for Korea to rise as an advanced first world country.**

## Science and Technology in the Korean Society

The advancement of science and technology is of great significance to Korea in terms of material and mental growth. Korea stands among the 10 largest economies in the world thanks to its bold investment in key industries such as semiconductors, mobile phones, shipbuilding and automobiles; the systematic work coordination between public and private sectors, and the passion towards science and technological development.

Furthermore, advances in science and technology contributed to the establishment of a creative, rational and scientific culture in the Korean society by laying down a rational way of thinking in the mind of people and society, providing a qualitative footing for Korea to rise as an advanced first world country.

## Current Status of Korea's Science and Technology

Korea has many challenges to face in terms of quality and

investment volume despite its visible outward growth. Korea's total investment in research and development since 2007 amounts to 33.69 billion dollars, which places it as the 7th largest R&D investing country in the world, and the 4th largest in terms of GDP, which is at 3.47%. But in terms of absolute investment amount, Korea's total investment in R&D is only 1/10 of that in the United States. Korea has been at a deficit in the trade balance of technology (export/import of technology), which is currently 0.43 points in 2007. Korea's trade balance in technology is growing inversely proportional to its economic volume, thus implying a problem in system structure.

The number of SCI thesis and citation index are increasing steadily, but they are still ranked at the 12th and 30th in the world respectively, showing no relative improvement. Korea also falls behind in establishing an open research and development system.

## Development Direction of Korea's Science and Technology

Korea's science and technology is faced with many tasks and challenges, both internally and externally. Korea is at the point where it needs to deal with climate change issues and take measures to alleviate the economic crisis that began last year. From this stance, many consider that the 'Low Carbon, Green Growth' vision of Korean president Lee Myung Bak is leading the nation to the right growth paradigm. Green growth is an essential key to both recovering from the ongoing economic crisis at an early stage and expanding the future growth potential of Korea. It gives many views and suggestions in the field of science and technology.

The government established and set to march the 577 Initiative for the purpose of realizing this national vision. It pursues to induce qualitative growth in R&D and change the existing science and technology system into one that is creative with the aid of two important policies that focus on improving leadership and

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investment in the field of science and technology.

**Policy for Improving Leadership in Science and Technology**

The Korean government is currently enhancing leadership in the field of science and technology through the NSTC (National Science & Technology Council). The government allowed expert committees under the NSTC to regulate and allocate the budget assigned to R&D, and it also augmented their power and functions by allowing them to promote and adjust related policies in R&D investment, personnel training, and culture development. The office of a special advisor to the president for science and technology was also established to oversee and examine pending science and technology matters. The government is putting constant effort to improve leadership in science and technology so that it may stand at the core of state affairs.

**Policy for Improving R&D Investment**

Despite the difficult national finance situation which was due to the ongoing economic crisis, the government increased the 2010 R&D budget by 10.5%, expanding it to a total of 13.6 trillion won, which will in turn expand the science and technology investment budget proposed by the 577 Initiative to 16.6 trillion won by 2012.

The Korean government's R&D investment direction for 2010 consists largely of 4 parts and they will be driven forward according to the 577 Initiative.

**One:** enhancing creativity and originality in fundamental research. The government put weight on fundamental research by increasing its R&D budget for 2010 by 31.3%, and

it plans to increase the R&D budget of fundamental research for 2012 by 50%. The government will also support small individual research and studies conducted by young researchers to induce original and creative results.

**Two:** stimulating R&D of new growth engines for the future. The government will support and strengthen researches in knowledge based service industries, cultural content, and other future industries related to robots, green cars, and others. It will also promote technological innovation, such as in the field of component materials, to enhance the nation's industrial competitiveness.

**Three:** expanding investment in Low Carbon, Green Growth R&D. Research on new renewable energy that can contribute to the 'Low Carbon, Green Growth' vision and studies for countering climate change will be supported and expanded. The government will also support the cultivation of key human resources.

**Four:** increasing R&D support in people's safety and public sector development. The government will support the R&D of new medicines for the life and welfare of the people, and it will strategically invest in large scientific fields, such as aerospace technology and nuclear fusion, to create new growth engines for the future.

Korea is considered to be coping well with the global economic crisis, but nevertheless, its economy has received quite an impact from the crisis. Investment in private sectors, which tends to be sensitive to business fluctuations, decreased considerably and the government has set out to greatly expand its support in research and technological innovations of private sectors to avoid drastic decline in private investment, as in the

case of the Korean monetary crisis in 1998.

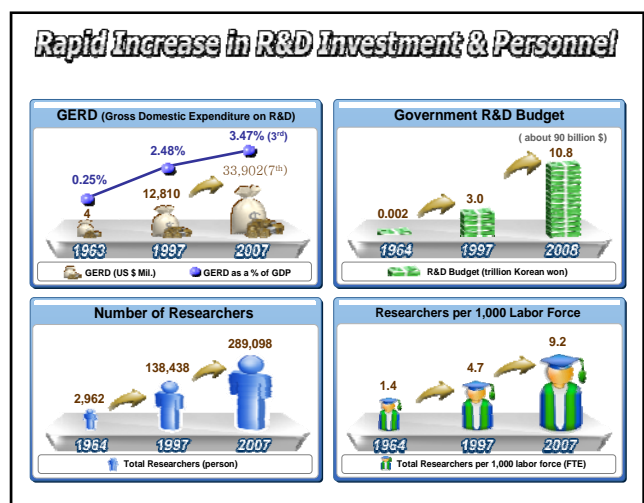
MEST (Ministry of Education, Science and Technology), MKE (Ministry of Knowledge Economy) and MOSF (Ministry of Strategy and Finance) have worked together to look into R&D hold-ups in corporations. They have established comprehensive support strategies and plans based on their gathered insight in R&D Tax Support, Science & Technology Research Financing, Recruitment of R&D Personnel and others, which will be driven forward beginning 2010.

**Conclusion**

President Lee Myung Bak emphasized on science and technology investment, saying, "We must invest in science and technology in times of crisis, focusing on what should be done once the crisis has passed, for investment in future technology is the fundamental solution for our economic problems." The Korean government is eager, more than ever, to promote R&D investment in science and

**"We must invest in science and technology in times of crisis, focusing on what should be done once the crisis has passed, for investment in future technology is the fundamental solution for our economic problems."**  
  
**—President Lee Myung Bak of the Republic of Korea**

technology. R&D in science and technology is not an option, but a path that we must take to strengthen national competitiveness after recovering from the current economic crisis. If we prepare ahead for the future following the 577 Initiative, Korea will manage to advance and rise as a first-rate nation in the 21st century.####



The Republic of Korea has steadily increased its national investment in R&D, as reflected in the above indicators for GERD and the government R&D budget. Accordingly the number of researchers in the country has also increased.. (Figures courtesy of STEPI, Korea).

# STEPAN UPDATE

## Newsletter of the Science and Technology Policy Asian Network



United Nations  
Educational, Scientific and  
Cultural Organization

This newsletter is published by

UNESCO Jakarta  
Jl. Galuh II, No. 5  
Kebayoran Baru, Jakarta 12110  
Indonesia  
Phone: +62 21 739 9818  
Fax: +62 21 7279 6489  
E-mail: jakarta@unesco.org

The Science and Technology Policy Asian Network (STEPAN) is a high-level official network of people and institutions in the Asia Pacific region involved in research and training for national science and technology and innovation policy development and management. The network develops support programmes to assist the development of S&T management information systems, foster the linking of research with social and economic application, and promote associated human resource development. STEPAN operates under the auspices of UNESCO, which continues to provide substantial support for the network.

Visit STEPAN at [www.stepan.org](http://www.stepan.org)

## STI and science education policy study in Cambodia

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(i) an assessment of the status and capabilities of public institutions that define policies and programs in science and technology, industry and agriculture; promote foreign and local investments; do R&D; provide S&T services; deliver science and engineering education at the tertiary level; and provide vocational and technical education;

(ii) a review of the status and capabilities of the sector, particu-

larly in the areas of telecommunication, Internet and information services; power generation and electrification; basic industries like steel, petrochemical and machine tool; extractive industries like oil, natural gas and minerals; food and beverages; and agri-industries like rubber.

(iii) an analysis of arrangements within each sector and linkages between sectors related to S&T activities, such as planning and funding of R&D, S&T services, science and engineering education; Cambodian and foreign firms tie up in key industries/agriculture and services; public and private collaboration in technology areas;

industry and university tie-ups in S&T, in particular in advanced technology areas such as biotechnology, microelectronics, etc.

With respect to science and technology education, the report will include the following.

(i) A general overview of the current status of science and technology education and mathematics in Cambodia.

(ii) Current policy expectations, including reference and comparison where appropriate to

other countries in the region, or elsewhere.

(iii) An analysis of potential strategies and policy options and their respective implications,

A set of recommendations will conclude the report.

The report is expected to be available by the end of 2009, for further consideration by the Cambodian government.

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Join the Science, Technology and Innovation Policy E-forum, and share your ideas and insights on STI policy with other researchers and policy-makers. Respond to comments from other e-forum members or start a discussion thread of STI policy issues particularly those of relevance to the Asia-Pacific region.

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