Towards e-ASIA

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Ladies and Gentlemen. Good morning. Today I would like to talk about the "East Asia Science & Innovation Area" (or "e-ASIA") initiative, and international cooperation in science & technology.

The "East Asia Science & Innovation Area" initiative originated in the 2010 East Asia Summit held in Hanoi, Vietnam. At this summit, Japan's Prime Minister Naoto Kan proposed an East Asia Science and Innovation Area initiative. He also proposed to convene an East Asia Summit informal ministerial meeting on science & technology. These proposals were duly noted in the Chairman's Statement.

Based on my forty year experience working in the field of international development, international relations, regionalism, and regional cooperation in Asia, I would like to discuss three

issues relating to the "East Asia Science & Innovation Area" initiative.

The first is the relationship between the e-ASIA initiative and Japan's foreign policy with regard to science & technology, and what Japan hopes to achieve through the creation of e-ASIA. The second is the significance of the e-ASIA initiative for regional integration and cooperation. The third relates to the e-ASIA Research Forum and the "East Asia Science & Innovation Area".

Every five years, Japan establishes a Science and Technology Basic Plan and implement policies based on the principles outlined in this plan. Normally, a new Science and Technology Basic Plan (the fourth such Plan) should have begun in April of this year. However, in March, as you know, Japan suffered an unexpected series of disasters: a massive earthquake, a devastating tsunami, and the ongoing problem at the nuclear power plants in Fukushima, which has not yet been fixed. For this reason, the Basic Plan is currently being revised to reflect the lessons learned as a result of these disasters. But Chapter 3 of this forthcoming Science and Technology Basic Plan contains a section on international efforts. This section lists three items: (1) development of a new dimension in science & technology diplomacy; (2) promotion of the "East Asia Science & Innovation Area" initiative; and (3) promotion of international cooperation in science & technology. Budgetary steps in Japan for the establishment of the e-ASIA initiative have already been taken. Today's Forum is a welcome development in efforts to initiate discussion of the framework for joint research.

The idea for an e-ASIA initiative within the Japanese government was first raised by the Task Force on Science and Technology Diplomacy, which was established by the Council for Science and Technology Policy (CSTP) last year. The Task Force, which I chaired, made a long-term forecast on the size of the

economies of East Asia in 2030. Under this forecast, the economy of China will be five times the size of Japan's economy in 2030, and the economy of the United States will also be nearly five times the size of Japan's. The economy of India and that of the European Union will be double and triple, respectively, the size of Japan's economy. The economies of the ASEAN countries combined will be slightly larger than that of Japan. With such dramatic changes in economic scale, there are bound to be considerable changes in the regional distribution of wealth, both regionally and globally.

The question is how we in this region deal with this enormous change while ensuring stability and prosperity. And in this connection the Task Force noted three developments in the field of science and technology.

The first is rapid growth in the research & development potential of East Asia. In recent years, Singapore, South Korea, and China as well as other countries in Asia has expanded their investment in R&D. Many researchers have been and are being trained, and there has been a rapid increase in the number of published research papers and, in the case of Singapore, in the rates of citation and impact factor. Judging from these positive developments, the relationship between Japan and other East Asian nations in terms of science & technology is already one of nations on an equal footing. With no one country in Asia serving as "the" center for research and innovation, networking for collaboration and exchange has not only become a reality, but also an imperative.

Second, despite the aforementioned encouraging developments, countries of Asia will continue to face various resource constraints that include environmental issues and energy, water, and food. The science & technology possessed by these countries must be sufficient to overcome these resource constraints and lead to mutual growth in the future. There should be friendly competition

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among various research centers to produce cutting-edge and innovative research, while there is also increasing space for intellectual collaboration.

Third, although research in fields that require large-scale research equipment or the operation of large R&D facilities had been conducted by Japan independently in the past, changing realities now necessitate the undertaking of joint funding and research on a regional and global scale. Japan no longer has the option of continuing to operate on its own for the next 10 or 20 years. Globally competitive Japanese companies have already gone regional and global, and require R& D at both regional and global levels. Japan must cooperate with other nations particularly its neighbors in East Asia.

In light of this situation, the Task Force on Science and Technology Diplomacy made four main proposals.

The first is the creation of an R&D system that is attuned to global developments. International joint research is essential for knowledge circulation through increased mobility of researchers, whether Japanese or Singaporeans or other East Asians. The issue is not brain drain, but brain circulation. Integration in line with global developments and the formation of mobile human networks will be indispensable for scientific and technological development in the future.

The second is to promote specific projects to help address challenges and issues that are common to all of the countries in Asia. Frameworks and networks will not be formed simply by talking about what a good idea it would be to create them. It is only by implementing specific research projects on an international basis that networks can be formed, and only then will the momentum to create joint frameworks be attained. This Forum is an important step in this process, and a clear sign that the will and effort to create such frameworks and networks already exist.

Third, it notes that it will not be possible to persuade the general public of the importance of scientific and technology cooperation if it consists solely of R&D; it must also lead to cooperation for innovation. And indeed whenever I talk to leaders in ASEAN nations, for example, it is clear that there is considerable interest in biomedical research as well as sustainable energy and the creation of new urban systems under the rubric of "smart grids" and "smart communities." How to translate knowledge into practice that benefits the human community without endangering the habitat is a crucial agenda of any science and technology policy and program.

The fourth is to train the young researchers who will conduct joint research in Asia or other parts of the world.

Now let me dwell on the significance of "East Asia Science & Innovation Area" in two respects: significance in terms of science, technology and innovation, and significance in terms of international relations in East Asia.

With regard to the first point, obviously, investment in science, technology and innovation represents possibly the most important industrial policy for any country that is thinking of ways to ensure future growth. Science & technology can be a major driving force for ensuring the employment of people in East Asia, which is home to half of the world's total population, and for achieving stability and improving their standard of living. Many governments in this region are already investing in education as well as research and development.

The other point relates to the increasingly serious problems that have arisen in East Asia in recent years, problems originating in the disparity in socioeconomic status *within and*

among countries in East Asia. A major cause of this disparity is the difference in scientific and technological capabilities and human resources. These problems are a major barrier to East Asia community-building. The important thing is for the societies and economies of East Asia as a whole to develop in an integrated and balanced manner, and for this purpose, science and technology cooperation is needed to build capabilities across countries. Moreover, the achievement of interdependent development in which science and technology on the one hand and production and markets on the other hand are intertwined can be expected to foster coordination and cooperation in East Asia. Coordination and cooperation have the potential to trigger a paradigm shift in terms of the achievement of regional innovation, balanced growth, interdependence, scientific governance, and so on.

To this end, there are three areas that the Japanese government wants to contribute to the e-ASIA endeavor. First is the improvement of the overall R&D capabilities of the region. It is essential for all participant nations to establish relationships of reciprocity to enable them to gain as many benefits as possible from these efforts in a variety of ways.

Second, with regard to issues that are common to all of the countries of Asia, Japan should take initiative in areas where its scientific and technological capabilities and knowledge can make a difference. At the same time, Japan must work together with other countries to improve their capabilities. There are research topics that can only be pursued in specific countries in the region. Japan should support such research and help build centers in other countries.

Third, the basic approach should be to train people who will serve not only as the foundation of R&D, but as pathbreakers for innovation and creating business opportunities. However, such an approach will take time, and it cannot be done by Japan alone, particularly now when Japan is dealing with an increasingly serious fiscal problem. At the dawn of the inauguration of the "East Asia Science & Innovation Area", coordination and cooperative effort based on equal partnership, in which participants share responsibilities, will be essential in the area of science & technology and innovation as well. It is my hope that, based on this position, Japan and other nations of East Asia will be able to establish a mechanism for working together to resolve the common issues facing the region.

Finally, the creation of a mechanism for joint research, which will be discussed at this Forum, constitutes the first step toward the establishment of the "East Asia Science & Innovation Area". Unfortunately, I must go back to Japan on a 3:00 p.m. flight, so I will be unable to participate in what promises to be an exciting and in-depth discussion. But I am extremely confident that the Forum is in very capable hands.

I am also confident that discussion at this Forum will be open, constructive, and productive. More than just creating a framework for cooperation, this Forum, I hope, obtains concrete results in the form of specific joint research projects in such fields as life and medical sciences, energy and environmental research, and disaster prevention and management. Multilateral research cooperation that produces a synergistic and complementary effect between and among countries is a goal that, I hope, will be achieved through the various programs being implemented in East Asia, especially ASEAN. I also hope that a mechanism for joint research that offers mutual benefits and contributions will be created in East Asia as a foundation for training young people in the region, for fostering innovation and for promoting business. It is my firm belief that the diverse cultures of East Asia constitute a valuable resource base with the potential to nurture gifted young people, produce cutting-edge research, create new

fields of inquiry, and address common problems and challenges for the benefit not only of the region, but also the world. Thank you very much.