

## **Biosecurity Can Reinvigorate the US-Japan Relationship**

By Masamichi Minehata

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Just as the nuclear revolution profoundly affected international security in the 20<sup>th</sup> century, biotechnology, and the life sciences more broadly, with their growing capacity to understand and manipulate fundamental life processes, will have a profound impact on security in the 21<sup>st</sup> century. This offers great benefits as a means of responding to societal challenges related to public health, medicine, agriculture, and energy development. This is especially critical in the Asia-Pacific region, home to rapidly developing biotechnology industries.

### **A Wide Spectrum of Risks and Threats**

These technological advances and their global diffusion pose dangers, too. There are strategic challenges posed by state and terrorist use of biological weapons, but dangers are not limited to the hostile use of biological agents. Safety risks from accidental/unintentional exposure of pathogens to humans, animals, and plants are increasing as a growing number of advanced research laboratories in the region deal with higher level pathogens. Finally, but most significantly in terms of the number of human casualties and economic impact, there is a threat posed by the natural outbreak of infectious diseases such as SARS and Avian Influenza, which caused extensive damage to the Asia-Pacific region in recent years.

Regional governments understand the dangers and have responded to this growing threat with measures such as:

- Public health preparedness and response planning,
- Laboratory regulations to safely manage dangerous pathogens and toxins to prevent an accidental release into the environment and unauthorized access,
- Intelligence,
- Oversight of scientific research and publication processes,
- Internationally coordinated export controls,
- Strong international arms control agreements and national implementation including legislation against bioterrorism and biocrimes, and
- Biodefense.

However, effectively enhancing technical aspects of biosecurity measures depends on building capacity and fostering collaboration among scientists who are cognizant of the concerns of the security community and *vice versa*. The importance of raising awareness and education about the ethical responsibility of life scientists in preventing misuse of the life sciences, and to preserve scientific autonomy, has been widely discussed by governments and scientific communities, such as the Inter-Academy Panel (IAP), Biological and Toxin Weapons Convention (BTWC) and the World Health Organization (WHO).

### **Needs and Opportunity for US-Japan Coordination**

In the Asia-Pacific region there is a clear need for developing and sharing best practices in biosecurity education. The United States and Japan hold the largest and second largest shares of the biotechnology market. They are also most aware of the threats of the destructive/disruptive use of the life sciences by non-state actors. The most prominently cited case in Japan is the religious group Aum Shinrikyo, which attempted several biological attacks using botulinum toxin and anthrax from 1990 to 1995. In the US, the anthrax letter incidents in 2001 ensured that bioterrorism was at the forefront of the international security agenda.

Effective policy coordination between the US and Japan is vital to counter the potential for the destructive use of the life sciences. In the US, awareness raising and education of relevant professional communities has enjoyed bipartisan support in the Bush and Obama administrations through national strategies for countering bio-threats since 2001. The US National Research Council provided a series of advocacy reports, including the influential Fink Committee Report in 2004 and the Lemon-Relman Committee Report in 2006. In this context, the *National Science Advisory Board for Biosecurity* (NSABB) was established in 2004. A key mission of the NSABB is “to provide recommendations on developing programs of outreach and education on dual-use research issues for all scientists and laboratory workers at federally-funded institutions.” However, biosecurity educational programs at the university level are limited.

In Japan, nascent but growing attention is being paid to the development of biosecurity educational programs at the university level, such as the National Defense Medical College, Keio University and Waseda University. A national network of stake holders has been developed by the Research Institute for Science and Technology for Society (RISTEX) – Japan Science and Technology Agency (JST). However, an equivalent national committee on biosecurity does not exist in Japan and human and financial resources to develop, institutionalize, and coordinate preventative biosecurity measures are limited. Therefore, developing a sustainable policy coalition to support biosecurity education has mutual

benefits for both countries. Moreover, these efforts have a wider impact: they can – if properly designed – support the development of capacity in other Asia-Pacific states as well.

This policy agenda meets the strategic objectives of the US-Japan Alliance as laid out in joint statements of the Security Consultative Committee (SCC). These “2+2” statements emphasize specific areas of cooperation in counter-terrorism, counter-proliferation, responsive capabilities to WMD, disaster relief operation, and the evolving role of bilateral efforts in the Asia-Pacific region. Biosecurity requires policy coordination of different types of security measures to prepare and respond to biological weapons and address public health concerns.

### **Promoting Regional Coordination**

A critical challenge for capacity building in biosecurity in the region is the wide range of perceptions of biothreats. For some Asia-Pacific states, the concept of biosecurity is rooted in agricultural biosecurity, biodiversity, and public health rather than in security concerning dual-use issues (biological warfare or terrorism). Moreover, academic curricula for life-science degree courses for higher education differ throughout the region. Therefore, it is vital to share best practices in biosecurity education by using relevant regional frameworks.

For example, the Asia-Pacific Biosafety Association (APBSA) and the Asia-Pacific Biosafety Training Network (APBTN) have been developing educational resources, train-the-trainer programs, and regional workshops/seminars for life scientists on laboratory biosafety topics. Their recent outreach efforts have expanded into biosecurity topics. The APBSA is a member association of the International Federations for Biosafety Associations (IFBA) which has been closely working with Cooperative Threat Reduction (CTR) and the G8. On March 15, G8 foreign ministers provided a statement for the 7<sup>th</sup> Review Conference of the BTWC in 2011 underlying the importance of education for scientists. In the run-up to the Review Conference, the US and Japan should make education a high priority to counter biological threats.

Following the unprecedented March earthquake in Japan, political, financial, and psychological constraints make it difficult to expect any expansion of Japan’s international role. These constraints are likely to accelerate the reduction in Japan’s international engagement, a process that has been underway for some time.

Now more than ever, we should be looking for ways Japan can engage the world with its strengths. Biosecurity is one such way. A robust bilateral effort with the US can help ensure that Japan continues to make contributions to regional security.

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