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Author(s)	Zhang, Hongzhou
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## **North Korea's Nuclear Tests: Threat to China's Food Security?**

*By Zhang Hongzhou*

### **Synopsis**

*North Korea's recent nuclear test could pose huge risks to China and a dire threat to its food security.*

### **Commentary**

ON 6 JANUARY 2016, North Korea claimed to have carried out a "successful" hydrogen bomb test, which was the country's first nuclear test in three years. Pyongyang's nuclear test triggered condemnation from the international community, including South Korea, Japan, the United States, China and the United Nations.

Even if North Korea's nuclear development is targeted at the US and its allies, Pyongyang's nuclear programme brings huge risks to China. Apart from threatening the lives of millions of Chinese residents along the border, disrupting regional stability, potentially triggering a nuclear arms race in Northeast Asia and dragging China into a potential military clash, North Korea's nuclear project poses a dire threat to China's food security as its nuclear test sites are located very close to China's northeast region which is considered the "bread basket" for the country.

### **Importance of northeast region to China's food security**

China has identified food security as one of its biggest challenges over the next decade. With its population still rising, vast tracts of arable land are already being swallowed up by rapid urbanisation and industrialisation while fresh water resources have become even more scarce. China's northeast region, which comprises Heilongjiang, Jilin, Liaoning and part of Inner Mongolia, is vital to the country's efforts to achieve food security.

In 2015, data from China's Bureau of Statistics indicated that the Northeast Region contributed nearly a quarter of China's total grain production. In terms of individual crops, the northeast region accounts for 41 percent of the China's total soybean production, 34 percent of its corn production and 50 percent of its japonica rice. The northeast region is also an important milk and beef producing region for China, accounting for 20 percent of the national output.

As the northeast region has vast and fertile farmland yet with relatively low population density, it enjoys huge grain surplus which is distributed to the country's major grain consuming regions in the coastal regions, including Shanghai, Beijing and Guangdong. Currently, the northeast region contributes over 60% of China's inter-provincially traded grain. In addition, the northeast region is the biggest grain storage base for China. For instance, the northeast region holds nearly 80% of the country's total corn reserve.

Looking into the future, the northeast region is expected to play an even bigger role in safeguarding China's food security. Between 2003 and 2015, China's total annual grain production increased by 44%. The northeast region contributed 38% of the grain production growth during the period. Given the favourable natural condition, the northeast region is poised to shoulder more responsibilities in boosting the country's grain production. In 2010, the Chinese central government issued a document pointing out that the northeast region should be built up as a pillar of national food security. Over the past few years, billions of dollars have been spent by both the central and local governments to boost grain productions in the northeast region.

### **Food systems vulnerable to nuclear radiation**

Given the proximity of China's northeast region to North Korea's nuclear test sites, Pyongyang's nuclear programme presents a real danger for China's food safety and food security. To be sure, underground nuclear tests are relatively safer and the possibility of nuclear leakage is low. Nonetheless, the food systems are still vulnerable to underground nuclear tests. As Rose Gottemoelle, the US Undersecretary for Arms Control and International Security, recently pointed out, the series of underground nuclear tests by the US on Amchitka Island in Alaska from 1965 to 1971 had substantial impact on the local environment with significant uptake of radioactive particles in the local food systems.

Given North Korea's backward nuclear technologies, poor infrastructure and weak environmental protection capability, the potential impact of its nuclear test on air, water and soil could be greater and the likelihood of a nuclear disaster certainly cannot be ruled out. This could eventually result in nuclear radiation spreading to China's northeast, destroying its food systems.

Chinese authorities and nuclear experts have tried to assure the public that it is highly unlikely China's northeast region will be affected by North Korea's nuclear tests. For example, some pointed out that mountains along the border could effectively prevent nuclear radiation spreading to China's northeast. However, the real problem is that due to the deep fear of potential nuclear radiation on food safety, quite often it is the perception rather than reality that shapes people's decision.

During the Fukushima nuclear disaster, while the Japanese government assured the public that food met the government safety levels, many consumers nonetheless questioned the safety of food supplies and often rejected all food from affected regions.

### **Ticking time-bomb for China's food security?**

What is worse, in the era of social media, rumours related to nuclear radiation could easily go viral and cause devastating impacts on the country's food systems. Again, taking the Japan's Fukushima nuclear disaster as an example, right after the incident there were all kinds of rumours circulating on social media in China.

The most famous case was about salt: some said sea salt was contaminated while others claimed that salt can guard against radiation exposure. As a result, these rumours led to panic-buying of salt across the country. Prices of salt jumped five or ten-fold in many cities of China. Should similar rumours relating to rice produced in the northeast region spread in China following a nuclear incident in North Korea, it would immediately trigger a food crisis in China.

This will have region-wide repercussions, given China's role as the biggest food producer and top agricultural grain importer in the world. North Korea's nuclear programme could be a ticking time bomb for China. Thus, apart from undertaking more scientific research on the potential impacts of North Korea's nuclear tests on the northeast region's agricultural production and food systems, actions have to be taken on the ground by Beijing to deter North Korea's nuclear development programme.

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*Zhang Hongzhou is an Associate Research Fellow with the China Programme at the S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University, Singapore.*

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**Nanyang Technological University**  
Block S4, Level B4, 50 Nanyang Avenue, Singapore 639798  
Tel: +65 6790 6982 | Fax: +65 6794 0617 | [www.rsis.edu.sg](http://www.rsis.edu.sg)