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Abstract

The collapse of the Soviet Union and its subsequent economic and political turmoil has ushered in security concerns regarding the proliferation of its sensitive biological weapons (BW)-related personnel, materials, and equipment to countries and terrorist groups hostile to the United States. The underlying influences and transfer mechanisms involved in the so-called "brain drain" threats, i.e., the proliferation of sensitive BW-related knowledge and skills, remain poorly understood. This paper will apply concepts from the field of Science and Technology Studies (S&TS) regarding technological knowledge production and technology transfer to explore the questions: What knowledge and skill sets are involved in creating biological weapons? What can such information tell us about the brain drain proliferation problem involving former Soviet bioweaponeers?

Using a case study approach, the paper will apply these S&TS concepts to Soviet bioweapons development at a former production facility in Kazakhstan. The results from this paper will show that the development of a militarily useful biological weapon is complex and not merely reducible to money, recipes, equipment, and infrastructure. The development of a mass casualty biological weapon involves certain tacit knowledge and skill sets, which are not readily available, and reside in the cumulative experiences of former bioweaponeers. These findings have direct policy implications for U.S. nonproliferation assistance program to the FSU, as well as challenge existing public assumptions about the ease by which terrorists could develop mass casualty biological weapons.