Background

The world faces a formidable challenge of sustainably feeding a growing population that will double the global food demand by 2050. Economically, the emergence of a truly global middle class and rapidly-growing population potentially add $3.5 trillion in annual consumer food-related spending by 2025.

Kansas State University is launching a Presidential initiative in global food systems that builds on the university’s land-grant heritage to address the world’s growing food needs. Kansas State University and its industry partners are leveraging innovation, talent, professional training and world-class research facilities to address emerging food challenges and opportunities. The global food systems initiative aligns with K-State 2025 and can serve as a model for subsequent initiatives.

The Global Food Systems Initiative leverages the numerous current and planned global food systems facilities at the Manhattan, Olathe and Salina campuses as well as those in the region. Currently, Kansas State University has one of the world’s greatest clusters for research in crop protection, animal health and food safety.

Work that benefits the global food system also benefits the agriculture and food industry in Kansas and the U.S. New research, techniques and education developed through the initiative will help keep America’s farmers the most productive in the world.

KEY FINDINGS

• The United Nations reports that the world’s population today is 7.2 billion, and will grow to 8.1 billion by 2025 and 9.6 billion by 2050.

• People are living longer. Life expectancy at birth for the world rose from 47 years in 1950-55 to 69 years in 2005-2010. It is projected to reach 76 years in 2045-2050, and 82 years in 2095-2100.

• The UN Food and Agricultural Organization reports that approximately one-third of all food produced for human consumption in the world is lost or wasted.

• Global meat demand is expected to increase 50 percent by 2025. Additional food animals will require greater amounts of grain.

• U.S. agricultural exports are at a record high; the U.S. Department of Agriculture projects nearly $150 billion worth of agricultural exports in 2014. This would represent a 31 percent increase from 2013.

TALKING POINTS

1) Kansas State University is uniquely qualified to provide talent, training and innovation throughout the food system.

   a. The current Biosecurity Research Institute (BRI) and soon-to-be-built National Bio and Agro-Defense Facility (NBAF) strengthen Kansas State University's ability to conduct research in crop protection, animal health and food safety; and allow industry partners access to labs
with safety standards not available to other entities.

b. Manhattan, Kansas is a strategic location for capitalizing on work related to meeting emerging global food needs. In addition to BRI and NBAF, the city is home to such key facilities as the USDA-ARS Center for Grain and Animal Health Research; Grain Science Innovation Campus; American Institute of Baking; and the Kansas Department of Agriculture.

c. Kansas State University offers unique training programs such as the No. 1 nationally-rated plant pathology department; a Masters in Agribusiness; and the world’s only undergraduate degrees in feed science and management, milling science and management, and bakery science and management. Kansas State University also has the world’s only masters and doctoral programs in Grain Science.

2) Kansas State University’s global food systems initiative will help to build wealth while providing access to sufficient, safe and nutritious food at all economic levels, especially for a global middle class that is predicted to double by the year 2030.

a. Kansas State University is developing best management practices for sustainable food and agriculture systems, including ways to protect natural resources, and increasing yields by reducing loss caused by pests and diseases.

b. Kansas State University is studying ways to protect susceptible populations -- such as immuno-compromised people and pregnant women -- from illness due to unsafe food.

c. Current work at Kansas State University will determine ways to increase the nutritional value and productivity of staple crops, especially those grown in developing nations, and improve access to nutritious food.

3) Kansas State University faculty and staff provide important expertise and leadership in developing current and future strategies for global food security.

a. In September, the U.S. Agency for International Development (USAID) awarded $50 million to Kansas State University for the Sustainable Intensification Innovation Laboratory. Kansas State University researchers will conduct research on ways to grow more food on less land, while protecting and preserving natural resources.

b. In the past year, USAID has committed $100 million to Kansas State University. Additional work at Kansas State University includes $8.5 million to reduce post-harvest food losses; $5 million to develop wheat varieties that are resilient to the warming effects of climate change; and $13.7 million to improve the production of sorghum and millet to reduce poverty and hunger.

c. The Global Food Systems Initiative will award and recognize multi-disciplinary approaches to solving world food challenges. Faculty and staff are encouraged to work across colleges and areas of expertise.