# RISK-BASED APPROACHES TO FOOD SAFETY
FEED THE FUTURE INNOVATION LAB FOR FOOD SAFETY

OVERVIEW

Contaminated foods are estimated to sicken 600 million people a year, contributing to malnutrition and stunting in children, increasing food insecurity, and creating barriers to entry into the global food trade. Risk-based approaches to food safety provide proactive, data-driven methods to prioritize the allocation of limited resources for food safety research, outreach, and policy. They help food safety authorities, private businesses, NGOs, and other stakeholders identify the greatest food safety risks to human health.

Risk assessment uses an understanding of the pathways of foodborne illness across food systems—including on farms, during transportation, during processing, at the point of sale, and in the household—to create a roadmap for strengthening food safety practices and policies. Risk assessment can include risk identification, risk prioritization, risk management through new practices and policies, and risk communication.
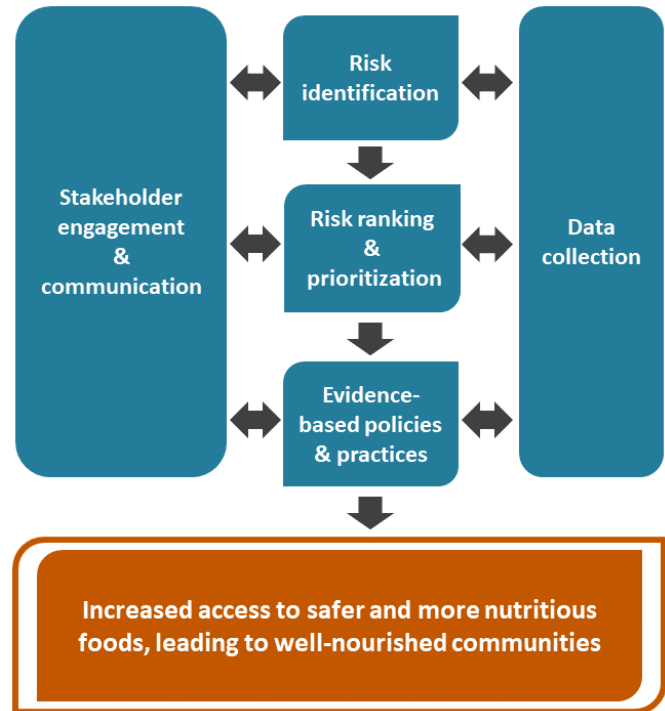
POTENTIAL APPLICATIONS

Risk assessment is adaptable and scalable, from high-level national priorities to the specific risks in a food business or value chain. Risk assessment is a tool for building food system resilience in the face of challenges including war, climate change, natural disasters, and disease outbreaks. Potential applications include:

- Strengthening food safety in key food system infrastructure (e.g., traditional markets, food processors, and retail outlets) to reduce foodborne disease transmission at critical control points.

- Value chain-level assessment to reduce risks in specific staple foods, such as *Salmonella* control in poultry production, processing, transportation, and consumer handling.

- National, regional, or local ranking of foodborne disease risks in foods key to food security and nutritional outcomes, in partnership with food safety authorities.

- Trainings to strengthen local capacity for using risk assessment across the food system.

BENEFITS OF FOOD SAFETY RISK ASSESSMENT

- **Public health focus.** Risk assessment is distinguished by a focus on identifying the foodborne diseases that pose the greatest risk to public health, aligning food system practices and policies with public health goals.

- **Evidence-based food safety priorities.** Because risk assessment uses data-driven methods to prioritize and address risks through a systematic process, the resulting practices and policies will have a greater potential for impact. Subsequent evaluation and monitoring steps help assess efficacy and future goals.

- **Enhancing coordination between policymakers and food system stakeholders.** Engaging a broad range of actors—including government agencies, private businesses, international agencies, civil society organizations, and other stakeholders—in a transparent risk prioritization process can build consensus and promote better coordination of efforts to protect consumers from foodborne illness.

- **Gender empowerment**. Women play important roles across food systems. Prioritizing their inclusion in risk assessment ensures recommendations better align with their roles, access to resources, and willingness to adopt food safety practices.

- **Capacity strengthening.** Risk assessment is an internationally accepted framework promoted by the Food and Agriculture Organization of the United Nations and the World Health Organization. Participation in risk-based approaches and/or training in these methods strengthens local capacity for science-driven food safety decision making.

- **Creating an enabling environment for food safety among stakeholders**. Involvement of stakeholders in risk ranking and prioritization workshops raises awareness of food safety risks and supports a culture that values evidence-based, community-led food safety practices.

The Food Safety Innovation Lab (FSIL) leverages global food safety expertise in locally led projects that address the root causes of foodborne illness. By identifying food safety knowledge gaps and developing data-driven food safety practices and policies, FSIL projects create systemic change that strengthens household and community nutrition, food security, and economic opportunity.

For more information about Food Safety Innovation Lab projects, visit:
purdue.ag/foodsafetyIL