Flagship 5: Improving Human Health

Highlight 3: Connecting Research with Policy to Achieve Results on Critical Diseases

In 2019, A4NH researchers supported policy development related to numerous tropical diseases. In Kenya and Rwanda, they held high-level stakeholder meetings with the national neglected tropical disease task forces on the prevalence, distribution, and burden of cysticercosis in smallholder livestock systems, resulting in national prioritization of this issue. Cysticercosis, a disease of neglected populations, is a quintessential “one health” issue—interventions in the livestock sector having been shown to have significant benefits for human health. Prioritizing this disease based on surveillance and evidence, and with knowledge of the reach of pork commodity value chains in eastern Africa, puts these countries in a position to implement large scale control.

Another key output was a national policy document on brucellosis diagnosis and control for Kenya, currently making its way through the policy process to be adopted by the national parliament. A4NH scientists have been involved in developing the policy itself as well as several pieces of supporting evidence since the first phase of the program. Such a national policy is sorely needed: brucellosis is a neglected zoonotic disease that causes substantial losses in the agriculture sector and has a high human health burden; however, it is overdiagnosed in some ecosystems and underdiagnosed in others. Implementing national, evidence-based policy on surveillance and control will harmonize national data, reduce costs, and improve human health.

Urbanized environments are not able to supply their own food; thus, to feed urban populations, complex food commodity value chains develop, and in countries where the informal sector predominates, value chains are driven by strong but informal networks of operators. A4NH scientists, in a multipartner collaboration, have mapped and analysed all the key animal commodity value chains serving Nairobi, Kenya, and explored the disease risks inherent within their structure. This has been key in informing a socioeconomic understanding of these chains, biological risks, and the role of animal-sourced food chains in the emergence of pathogens in high density urban environments. The work formed the basis for a unique series of linked stakeholder dissemination and consultation exercises, which brought together the private, public, and NGO sectors to consider weaknesses and strengths in the food system structure. This understanding has also informed risk assessments in other locations, such as the wet markets that also serve the wildlife trade and that likely led to the emergence of COVID-19 in China.

Mapping disease risk within a country enables policymakers to target risk-based interventions based on particular areas and times of year. In 2019, A4NH researchers at ILRI used dengue surveillance data from all 63 of Viet Nam’s provinces to develop a forecasting statistical model. Drawing together health data, monthly meteorological data, and landcover data, this new work generated comprehensive dengue fever risk maps and incidence forecasting tools for Viet Nam.

We would like to thank all funders who supported this research through their contributions to the CGIAR Trust Fund. Specific contributions to A4NH come from: Australia, Ireland, the Netherlands, Switzerland, the United Kingdom, and the United States. The HORN project is funded by the Research Councils UK (RCUK) from the Global Challenges Research Fund (GCRF) Growing Research Capability call.