

## INNOVATION LAB FOR GENOMICS TO IMPROVE POULTRY

Feed the Future Innovation Labs draw on the expertise of top U.S. colleges and universities in collaboration with developing country research and educational institutions to tackle some of the world's greatest challenges in agriculture, food security, and nutrition. Led by U.S. universities, the Feed the Future Innovation Labs are on the cutting edge of efforts to research, develop, and take to scale safe and effective technologies that address current and future challenges posed by a changing climate and the need to feed a growing global population.

### Why Poultry?

A projected 702 million people still live in extreme poverty; many live in rural areas and rely on agriculture for a living. The majority of rural families typically have one or more chickens running around their home gardens. These animals represent a major opportunity to improve incomes and nutrition through greater meat and egg production with minimal inputs. However, to achieve this, major challenges exist. Chicken populations in villages struggle to thrive, and are regularly decimated by diseases, especially Newcastle Disease Virus (NDV), the most problematic and virulent. In addition, high temperatures affect both bird growth rate and egg production.

### Focus Activities:

The Genomics to Improve Poultry (GIP) Innovation Lab is one of 24 Feed the Future Innovation Labs that leverage U.S. university research to advance agricultural science and reduce poverty in developing countries. The GIP Innovation Lab works to reduce limitations to poultry production by applying advanced genetics and genomic approaches to enhance innate resistance to NDV and tolerance to heat stress in chickens in places where NDV and hot climates are prevalent. By reducing poultry losses that result from heat stress and NDV, the program expects to see increases in chicken and egg production that will reduce food insecurity and poverty. Associated increases in nutrition and economic activity will be particularly beneficial to women, who are usually the primary caretakers of poultry.

### Impact:

Since 2013, the GIP Innovation Lab has renovated facilities at universities in Tanzania and Ghana for poultry breeding and for conducting experimental trials. The Innovation Lab has also trained African graduate students, staff, and faculty in poultry biosecurity, animal experimental trials, and laboratory assays.

### To Learn More:

Visit our website to read the latest publications, discover program objectives, and meet the research team.



### Collaborating across borders to enhance smallholder poultry production

**Director:** Huaijun Zhou

**Contact:** [hzhou@ucdavis.edu](mailto:hzhou@ucdavis.edu)

**Focus countries:** Ghana, Tanzania

**Award:** \$6,000,000-- 5 years

### Partner Institutions:

- UC Davis (project lead)
- Iowa State University
- Sokoine University of Agriculture, Tanzania
- University of Ghana
- University of Delaware

[gip.ucdavis.edu](http://gip.ucdavis.edu)