

Poultry Losses and One Health (POLOH): Reducing losses and zoonotic risks along the poultry value chain through a One Health approach – Burkina Faso

Principal Investigator: Michel Dione (m.dione@cgiar.org), International Livestock Research Center (ILRI) / Co-PIs: Kagambèga Assèta, Claudia Ganser, Ziyinet Boz, Robyn Alders, and Theodore Knight-Jones.



A hen and its chicks roaming for feeds in rural Burkina Faso

Why this research project matters

- Poultry keeping among rural households represents a source of income, nutrition, and are used as gifts to strengthen social ties, especially for women.
- Traditional smallholder sector contributes 98% and 86% of poultry meat and eggs produced for home consumption and sale, respectively.
- There is low access to Animal Source Food (ASF) with high quality protein and bioavailable micronutrients to children in the target region (43%).
- High prevalence of *Campylobacter* spp. (68%) and *Salmonella* spp. (53%) observed in chicken carcasses sold in urban markets, represent a risk to consumers.
- Hence, improvements to poultry management, husbandry, and hygiene practices have the potential to secure and improve smallholder livelihoods through increased production for sale and home-consumption as well as reducing exposure to foodborne pathogens through the farm environment and diet.



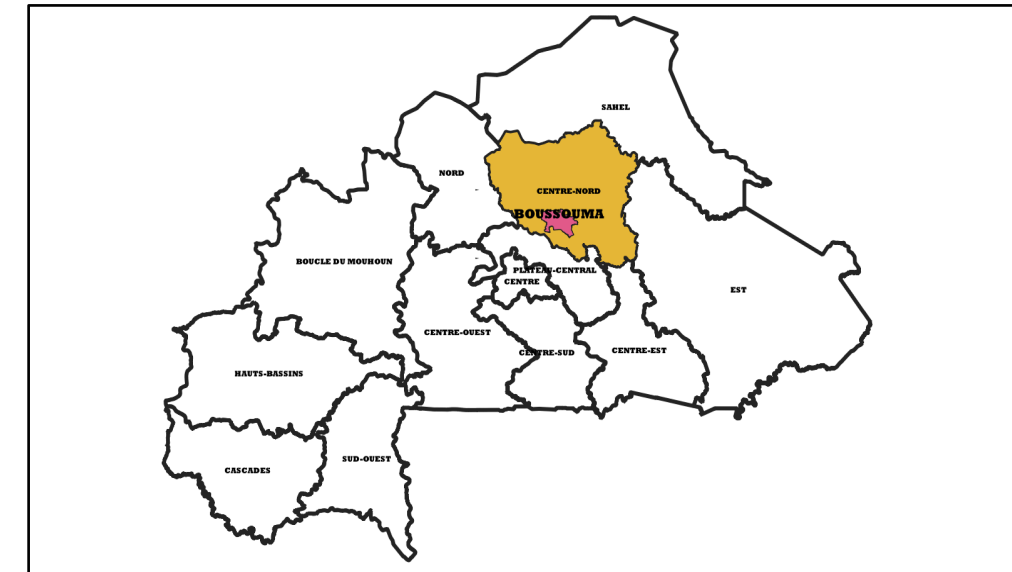
Van transporting people and poultry from rural villages to Ouagadougou

Overarching goal

Enhance household food security and safety and improve the livelihoods of poultry smallholder producers by reducing economic losses and zoonotic risks along the value chain, by developing culturally and economically appropriate, gender-sensitive One Health (OH) interventions at the producer level, resulting in reduced flock mortality, pathogen occurrence, and human health risks.

Our work is based in

- Boussouma commune of Centre-Nord. It has highest population of poultry and the biggest urban market in the region,
- It is a region with resilience projects supporting poultry and small ruminants, and
- There is existence of many displaced people engaging in agriculture and livestock production.

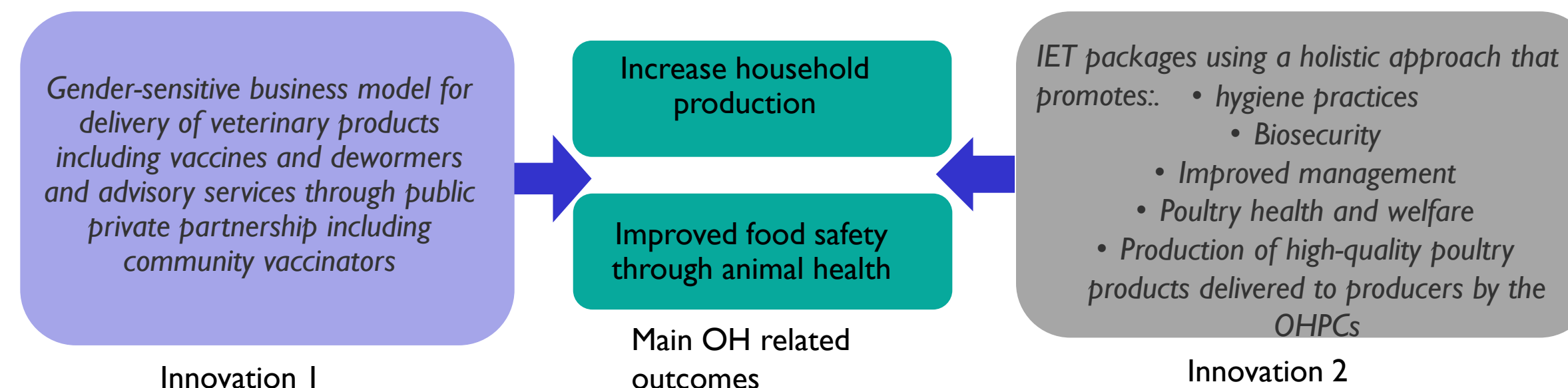


What we have done so far

- 211 stakeholders (including 64 women) at central and local levels were engaged through workshops, site scoping trips, key informant interviews to co-design intervention packages and scaling strategy
- 30 focus group discussions (FGD) with 240 poultry producers and women caregivers (160 women and 80 men) and 350 chicken-producing households were surveyed to improve understanding of the poultry value chain in relation to poultry health husbandry and food safety issues
- 10 One Health Poultry Champions (OHPCs) are engaged with the project team and partners to co-create innovative Integrated Educational and Training (IET)

Early insights from qualitative surveys

- Newcastle disease, fowl pox and tick infestation were pointed out by communities as major health issues to chicken flocks, coupled with poor feeding and biosecurity practices, and limited access to veterinary services especially for vaccination.
- Some typical on-farm tasks are carried out by men (chicken house construction or repair, liaison with vets for vaccination, decisions on participation of household members in training on livestock production and chicken home slaughter); and by women (farm and compound hygiene and disposal of manure from chicken).
- Consumption of ASF including chicken and eggs by household members is only occasional (esp. festive seasons) and is influenced by socio-cultural constructs, negatively affecting young children and diets of pregnant women.



A chicken griller at street restaurant in Ouagadougou, Burkina Faso

Our work on the cross-cutting themes

Local Capacity Development

- The project hosts 3 MSc (2 male and 1 female) and 1 PhD (1 male) candidates from national universities
- 4 seminars on poultry and OH were attended by 13 students and researchers (9 male, 4 female)
- 9 partner laboratory technicians (4 male, 5 female) were trained in Environmental Occupational Health and Safety

Gender and Youth

- Gender-sensitive tools for chicken value chain assessment in relation to health and ASF consumption were developed
- Gender expert from the National Agricultural Research Systems (NARS) is mentored by the project scientists in data collection and analysis supporting robust methodologies and peer review publication.
- A strategy including considerations of gender in the project interventions has been developed.

Future Livestock systems and resilience

- A module on farm and household environmental pollution from animal waste has been created in the IET training manual

Enabling environment

- The project leveraged outputs from ongoing projects SELEVER and PULL-PUSH to improve survey tools and the IET package, respectively.
- Further partnership is built with regional research and academic institutions, including the Medical Research Council unit (MRC) in the Gambia and the West Africa Regional Veterinary School in Senegal, respectively. Gender-sensitive