

Improving smallholder poultry productivity to 2050 in Tanzania

In 2050, smallholder poultry production could be considerably higher by using effective interventions. This could considerably increase the share of total poultry production contributed by smallholders.



Current production systems

There are three main poultry production systems in Tanzania:

- Traditional indigenous poultry - small low yielding flocks raised by smallholder farmers in extensive scavenging dual-purpose (eggs and meat)
- Semi-improved poultry - semi-intensive, semi scavenging poultry system with a moderately high productivity
- Commercial specialised poultry - intensive system of egg and/or meat production with high productivity



Interventions can increase smallholder poultry productivity

Using a modelling approach, we simulated the effect of the below interventions on poultry productivity¹:

- Vaccination
- Supplementary feeding
- Improved housing
- Control of broodiness (hen sitting on eggs)
- A combination of the interventions

While almost all modelled interventions increase smallholder poultry productivity, some are more effective than others.

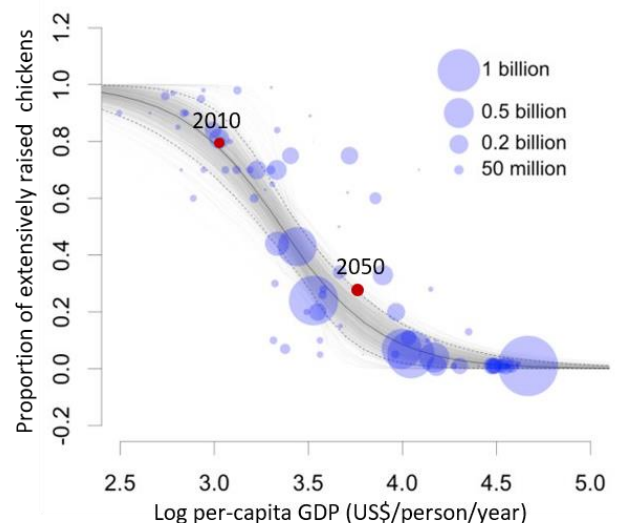
The most effective interventions:

- Meat chicken - a combination of vaccination and housing
- Laying hens - a combination of vaccination and supplementary feeding

GDP & poultry systems

As a country's Gross Domestic Product (GDP) increases, poultry production systems become more intense and commercial.

The proportion of chickens raised by smallholder farmers in Tanzania is projected to reduce from 80% in 2010 to 30% by 2050.



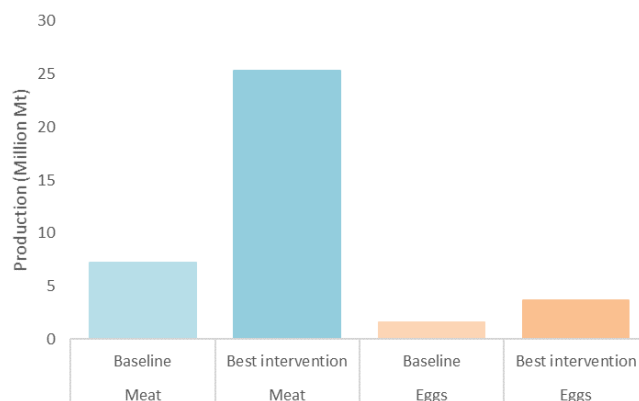
The relationship between log per-capita GDP and the proportion of extensively raised chickens for Tanzania (red dot) for 2010 and 2050. GDP and Population growth projections for SSP2 from IIASA².

Projecting increased smallholder productivity by 2050

We estimated potential yields of chicken meat and eggs in 2050 for smallholder production systems for the baseline and the most effective intervention scenarios. We used the relationship between GDP and poultry production systems and production projections for SSP2 from IIASA².

In 2050, projected smallholder meat and egg production could be considerably increased above the baseline production through adoption of the most effective interventions.

This approach assumes all smallholders adopt the most effective interventions.



Projected production of smallholder meat and egg production in 2050 for the baseline and most effective intervention scenarios. The most effective intervention for poultry meat is a combination of vaccination and housing, and for eggs is a combination of vaccination and supplementary feeding. Production projections for SSP2 from IIASA².

Key messages

The proportion of chickens raised by smallholder farmers is projected to decrease from 80% to 30% by 2050.

In 2050, through adoption of the most effective interventions, projected smallholder production could be more than three times higher for meat and more than double for eggs than the projected baseline production.

This approach assumes all smallholders adopt the most effective interventions. However, barriers to adoption are significant and need careful consideration. Barriers to adoption may be greater in areas with low economic development.

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References: ¹For more information on the effect of modelled interventions on poultry productivity, see LiveGAPS factsheets: Improving poultry meat production in Tanzania; Improving poultry egg production in Tanzania; Improving poultry production in Tanzania - profitability of interventions; ²IIASA's SSP Database <https://tntcat.iiasa.ac.at/SspDb/>

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