



PROMOTING KNOWLEDGE MANAGEMENT CULTURE

**Existing and emerging NARO innovations for
increased poultry productivity and efficiency**

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Existing and emerging NARO innovations for increased poultry productivity and efficiency

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**Presented on ZOOM
April 22, 2026**



Outline

- Problem and Background
- Improved Indigenous Chicken Breeding
- DINU Hatchery Project
- Diatomaceous Earth (DE) Technology
- Local Vaccine Production
- Aflasafe
- Greening the Poultry Value Chain
- Acknowledgment



Problem and Background

- NARO is driving many poultry Innovations
- The presentation highlights major poultry innovations
- NARO contributes to modernizing the Poultry Industry
- The main focus is improved Productivity
- Breeding, Feeding, Health & Climate-Smart Technologies
- This presentation highlights innovations 2016 to 2026



Importance of Poultry

- Animal protein - eggs and meat
- Cash generation
- Foreign exchange
- Social –cultural role



Improved Indigenous Chicken Breeding

- This project is based at Mukono ZARDI
- Selective breeding for hardiness & Improved Productivity
- Improved growth rate, egg production & maintain taste
- Maturity at 5 months males weigh 2.5 kg Female 1.5 - 1.8 kg
- Female start laying at 20 weeks (5 months)



Improved Indigenous Chicken Breeding

- Traits stabilized for weight, height and egg production
- Dual-purpose chicks for flock productivity and resilience
- Birds provide both moderate egg production and acceptable body wt
- Exotic broilers focus exclusively on meat
- NARO Chicken will be released for mass production

Improved Indigenous Chicken Breeding



Improved Indigenous Chicken Breeding



- About 1200 chicks per month
- Facility receives 250 learners per month



Farmers got improved chicken

Region	No. of Beneficiaries	No. of Birds
Eastern	17	1200
Northern	16	1650
Central	18	8838
TOTAL	51	11,688



DINU Hatchery Project

- Development Initiative for Northern Uganda (DINU)
- Ngetta ZARDI in Lira City
- Poultry hatchery project and Seed testing lab
- Poverty reduction and food security
- Inclusive development in Lango and Acholi.



Diatomaceous Earth (DE) Technology

- DE is the fossilized remains of diatoms
- Research proved that DE is effective
- Enhance feed conversion efficiency
- Control internal & ectoparasites in chicken
- DE was rolled out by NARO for use



Diatomaceous Earth Technology





Local Vaccine Production

- Research at NaLIRRI on Viral poultry vaccines
- Newcastle, Infectious Bronchitis, IBD, Fowl Pox
- Reduce dependency on expensive imported vaccine
- Allows Serotype same as field strain generate protective immunity.



Local Vaccine Production

Necessity of vaccines in poultry production

- Disease prevention by Morbidity and Mortality reduction
- Immune Response Development
- Economic devt: Cost-Effectiveness & Improved Production Rates
- Limiting antibiotic use and maintaining Food Security & Safety
- Tech advance thru innovative delivery methods & In-Ovo vaccination



Community-Based Breeding Program

- This was funded by FAO to empower communities
- Districts of Amolatar, Kaberamaido, Katakwi, Abim
- Community Poultry Breeding Centre at Katakwi
- Training of trainers' workshops
- Capacity building in breeding of indigenous chicken, and of goats



Aflasafe Project

- Aflasafe is a natural, eco-friendly bioprotectant in Ugandan crops like maize and groundnuts
- Developed by NARO and IITA, hosted at NaLIRRI
- Uses *Aspergillus flavus* fungi to outcompete poisonous strains
- Aflatoxins are dangerous to humans
- Enter the food chain through contaminated crops



Greening the Poultry Value Chain

- Help youth-led agribusinesses using digital tools
- Also using sustainable technology
- Climate-resilient poultry farming
- Clean energy brooding - Briquettes
- Technology dissemination in Uganda and Burundi



Greening the Poultry Value Chain



Left - Right:
Smart kuku
brooder, Honey
comb brooding
stove, and
brooding pot



Climate-Resilient Technologies





Smart Kuku Brooder

- Partnership with Youth Innovators
- Technology uses sensors and mobile phone alerts (sms)
- Chickens are most strongly attracted to the colour RED
- Chick temperatures are managed
- Labour saving and environment friendly (no charcoal use)



Solar-Powered Hatcheries

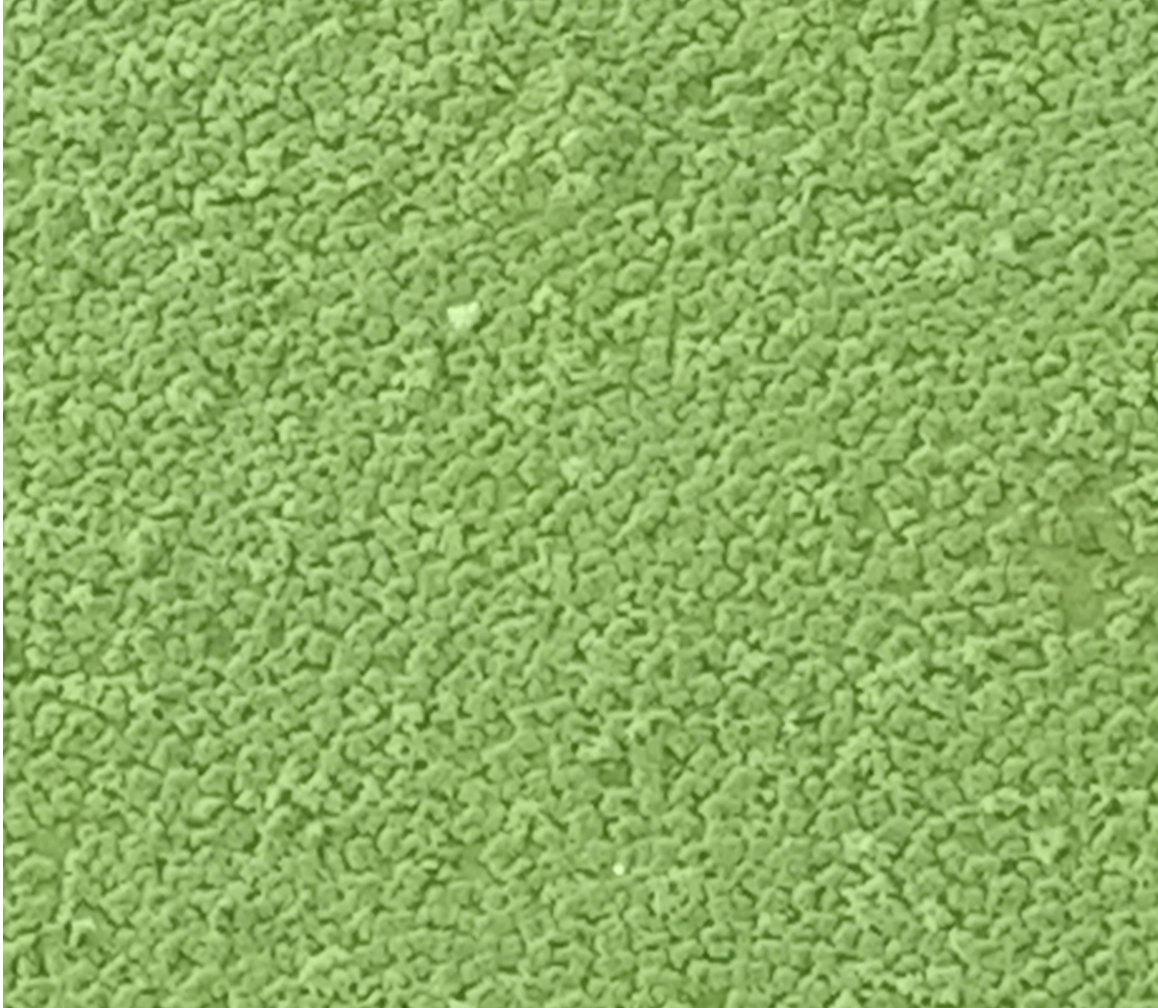
- To reduce on dependency on electricity
- Project is in Eastern and Northern Uganda (Iganga, Lira & Apac)
- Reduce operating costs: No bills, less maintenance
- Enhance energy security & Environmental sustainability
- Improves hatching rates: Consistent temp & humidity regulation



Azolla Feed Utilization

- Research in Ongoing
- Azolla is an aquatic weed
- Contains 20 - 35% crude protein
- A cost-effective sustainable alternative protein source

Azolla Feed Utilization





Recently Funded projects

- There are projects approved for funding, and starting soon:
- **Harnessing the use of BSFL for avocado oil waste management**
- The Approx. USD 250,000 project is a project hosted by NaFORRI,
- Partnership with MUZARDI and Private sector players
- One of the project objectives is to explore the suitability of BSFL for poultry feed formulation



Acknowledgment

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- MAAIF
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Thank You for Listening