

Skills development in supplementary feeding for small ruminants

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Key research activities

Average daily gain

- A feed and health intervention program is being implemented onfarm to test the effect of supplemental feeding and veterinary health services on small ruminant productivity.
- The capacities of 39 small ruminant farmers were built on supplementary feed formulation using agro-industrial by products, as part of the intervention. This activity is an anticipated sustainability measure which will lead to continued formulation of supplementary feed for small ruminants by the farmers when the project period has elapsed.

Results and main findings

- Data from on-farm feeding trials show that supplementary feeding improves growth (Figures 1) and reproductive performance of small ruminants.
- The project farmers acknowledge the effect supplemental feeding has on the performance of small ruminants and have learnt the





skills necessary to formulate nutritious feed based on agroindustrial by-products for their animals. They have since produced more than 32 tons of feed on their own for their small ruminants.

Implications of the research for generating development outcomes

- The recommended supplementary feed has been demonstrated to improve reproductive performance. Farmers could therefore use targeted feeding of productive animals (pregnant and lactating animals) to improve birth rates among small ruminants. This would ensure a supply of replacement animals and excess for sale.
- Supplementary feeding has also been well-received by livestock traders who fatten rams for the niche Islamic festivities market. Farmers could therefore target this market by strategically feeding young rams to attract premium prices during Islamic festivities.
- A corollary to the uptake of this technology is the strengthening of ulletthe market for agro-industrial by-products as farmers demand for

How this work would continue in Africa **RISING phase 2**

- A broader audience of farmers should be targeted under phase 2 to develop their skills on feed formulation.
- A manual for feed formulation should be produced to serve as a guide for farmers.
- Further screening of other, locally-available ingredients that will further reduce the cost of the supplementary feed should be the focus of future investigations.
- The use of the concentrate supplemental feed in association with crop residue has not been the subject of an investigation yet. Such an investigation will be welcome as far as integrating livestock crops is concerned.

them as feed ingredients increases.





Current partnerships and future engagements for out scaling

• CSIR-Animal Research Institute is currently implementing the feed and health intervention activities under contract from International Livestock Research Institute (ILRI). The Veterinary Services Department, Ghana, will be engaged to provide vaccination se \sim to farmers in future.







The Africa Research In Sustainable Intensification for the Next Generation (Africa RISING) program comprises three research-fordevelopment projects supported by the United States Agency for International Development as part of the U.S. government's Feed the Future initiative.

Through action research and development partnerships, Africa RISING will create opportunities for smallholder farm households to move out of hunger and poverty through sustainably intensified farming systems that improve food, nutrition, and income security, particularly for women and children, and conserve or enhance the natural resource base.

The three projects are led by the International Institute of Tropical Agriculture (in West Africa and East and Southern Africa) and the International Livestock Research Institute (in the Ethiopian Highlands). The International Food Policy Research Institute leads an associated project on monitoring, evaluation and impact assessment.



