POLICY BRIEF No.14

February, 2017

UNU-INRA

Reducing the Impact of Grazing Livestock on Crop Production

By: Julius Ajah

Executive Summary

In Nigeria, crops and livestock are produced mainly by small-scale farmers. The crop farmers cultivate small portions of land without fencing while livestock farmers rear animals with little or no form of restrictions. This often results in the destruction of crops during grazing, leading to multiple socio-economic consequences. The outcome of this is detrimental to sustainable agricultural development hence the need to assess the impact of grazing livestock on crops production in Abuja, Nigeria.

This policy brief therefore presents recommendations from the findings of a study that assessed the impact of grazing livestock on crop production in Abuja, Nigeria. The brief calls for the need to create awareness on the importance of using grazing routes so as to avert the negative impacts on crop production. Similarly, supporting farmers to adopt intensive livestock management systems (confined animal rearing), and the establishment of a Rangeland and Grazing Routes Commission to oversee the development and management of rangelands and grazing routes may help to reduce the impact of grazing livestock on crop production in Nigeria.

Context

In Nigeria, the production of crops and livestock is very important considering the role crops and livestock play in the economy. However, one of the greatest challenges, especially in the north central zone of the country, is the impact of grazing livestock on crop production. Farm animals (cattle, goats, sheep and domestic fowls) are reared under extensive system (free-range). Although cattle, goats and sheep are mostly guided by pastoralists during grazing, in some cases, the livestock stray into crop fields and destroy crops. This often results in conflicts between livestock owners and crop farmers.

UNITED NATIONS UNIVERSITY
UNU-INRA
Institute for Natural Resources in Africa

IDRC | CRDI
International Development Research Centre
Centre de recherches pour le développement international
Canada

Consequently, when issues are not well-resolved, they lead to inter-household conflicts and subsequently to inter-community crises, which then become difficult to manage. A typical example is the conflict between livestock and crop farmers in Nasarawa and Benue States in Nigeria (Okoli and Atelhe, 2014), which is now becoming a perennial issue leading to a lot of casualties.

Similarly, empirical evidence from Kwara State (Nigeria) suggested that several farmers were sowing less in order to cope with the effects of conflicts arising from crop damages (Adisa, 2012). This indeed is having negative impact on food crops prices, as the prices of some staple food crops especially, are on the increase, creating a wide gap between demand and supply.

Though about 70 percent of the Nigerian adult population are engaged in agriculture, the country has been rated as one of the poorest nations struggling to feed her population and one of the major importers of food. (Ahmad, *et al.*, 2015). This raises important questions about the actual productivity of farmers, hence the need to understand some of the challenges that are limiting farmers' output and productivity in the country.

Existing Efforts in Tackling the Impact of Grazing Livestock on Crops

Documented evidence showed that Nigeria had demarcated about 4,125 grazing routes. This is an impressive effort towards tackling the challenges of grazing livestock. Nevertheless, the issue is whether livestock farmers are aware of the locations of the grazing routes, and if there are measures put in place to ensure that they strictly adhere to the use of the grazing routes. While communication on issues relating to grazing routes is very important, hardly does one hear anything about grazing routes in the mass media.

Again, the provision of grazing routes is only a short-term measure, what is required are long-term sustainable alternatives. This policy brief provides options that may help to sustainably address the impact of grazing livestock on crop production.

Research Approach

The study that forms the basis of this policy brief was conducted in Abuja, Nigeria. A multi-stage technique was adopted for sampling while questionnaire were used for data collection. Only small-scale crop farmers were targeted in five (out of six) area councils in Abuja. The farmers were asked to rate the impact of grazing livestock on crop production using a rating scale of 0 – 4. Affected farmers were also asked to estimate the cost of damaged crops. The data was analysed using both inferential and descriptive statistics.

Key Findings

The findings revealed that, the most affected crop was maize followed by sorghum while the least affected was potato (Figure 2 below). Cost estimate of damaged crops (Figure 3) indicated that cassava farmers were the most affected while potato farmers were the least. The affected cassava farmers lost an average of N11,745 (US$73). It was evident that crop damages were substantial, and this is capable of stimulating aggressive response from the affected farmers.

Empirical evidence of the impact of grazing livestock on cereal and tuber crops production

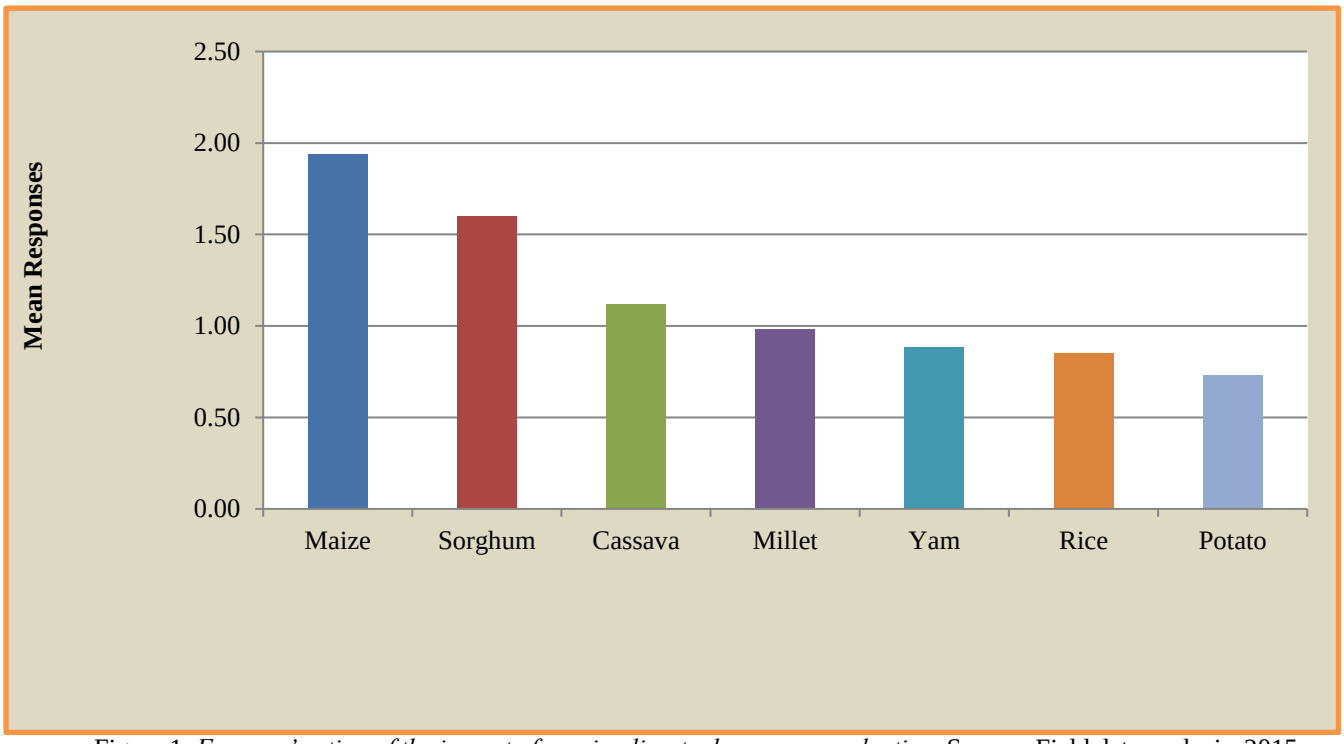

Figure 1: *Farmers' rating of the impact of grazing livestock on crop production.* Source**:** Field data analysis, 2015

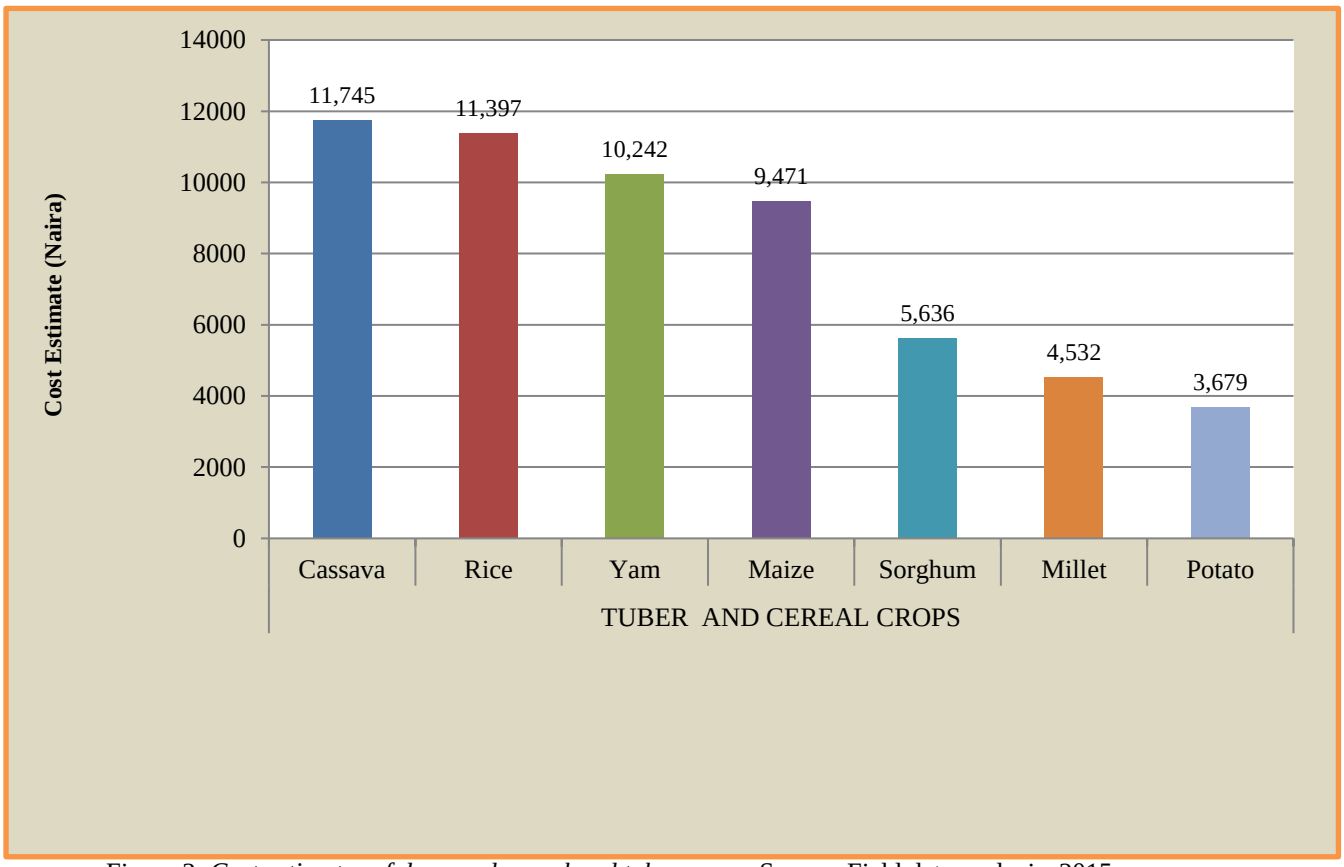

Figure 2: *Cost estimates of damaged cereal and tuber crops.* Source: Field data analysis, 2015

Policy Options

Short-term Measures

Awareness Creation

There is the need to create awareness and disseminate information on the location, size and importance of the use of grazing routes. Information dissemination through various channels including the use of mosques, churches, radio, television, mobile phones, schools, sign posts, maps, and meetings with crop and livestock farmers' unions in their various communities, using appropriate local language and visual communication tools, may help address the issue of livestock grazing in farms.

Monitoring

There is also the need for monitoring and enforcement to ensure adherence to grazing routes.

Long-term Measures

Intensive Livestock Management

Agricultural Extension Officers (livestock subject matter specialists), may consider teaching farmers to adopt intensive system of livestock management (confined animal rearing). Various information and communication technologies (ICTs) can be used to document and disseminate simple and locally adaptable ways of intensive system of livestock production so that the farmers can watch and learn at their convenient time. This can involve the use of home videos and mobile phone applications as learning tools. The documentation could be in English, and major local languages such as Hausa, Yoruba, and Igbo to facilitate the learning process.

Establishment of a Rangeland and Grazing Routes Commission

Policy actors may also consider the establishment of a Rangeland and Grazing Routes Commission that will be solely responsible for the demarcation, development, coordination and management of rangelands and grazing routes in Nigeria. The commission may establish offices at the local government, state and federal levels and partner with the private sector and local communities for effective delivering on its mandate.

UNITED NATIONS UNIVERSITY
UNU-INRA
Institute for Natural Resources in Africa

References

Ahmad, I.M., Samuel, E., Makama, S.A. & Kiresur, V.R., 2015, 'Trends of area, production and productivity of major cereals', India and Nigeria scenario. *Research Journal of Agriculture and Forestry Sciences* 3(2), 10-15.

Okoli, A.C. & Atelhe, G.A., 2014, 'Nomads against natives: A political ecology of Herder/Farmer Conflicts in Nasarawa State, Nigeria', *American International Journal of Contemporary Research* 4(2), 76 -88.

Adisa, R.S., 2012, 'Land use conflict between farmers and Herdsmen – Implications for agriculture and rural development in Nigeria', in R. S. Adisa (ed.), Rural development - Contemporary issues and practice, pp 99-118, Intech, Rijeka, Croatia.

Acknowledgement

This work was carried out with the aid of a grant from the International Development Research Centre, Ottawa, Canada.

IDRC | CRDI
International Development Research Centre
Centre de recherches pour le développement international

Canada

ABOUT THE AUTHOR

Dr. Julius Ajah is a Lecturer at the Department of Agricultural Economics and Extension, Faculty of Agriculture, University of Abuja, Nigeria.

He produced this Policy Brief during his visiting scholarship at the UNU-INRA Operating Unit in the University of Zambia, Lusaka.

This Policy Brief is prepared from a UNU-INRA Working Paper entitled:

Assessment of the Impact of Grazing Livestock on Cereal and Tuber Crops Production in Abuja, Nigeria

This policy brief and the working paper are available at collections.unu.edu

CONTACT

United Nations University Institute for Natural Resources in Africa (UNU-INRA)

Location: Second Floor, International House, Annie Jiagge Road, University of Ghana, Legon, Accra, Ghana
Address: PMB, KIA, Accra, Ghana

Tel: +233-302- 213850. Ext. 6318
Email: inra@unu.edu
Website: www.inra.unu.edu

@UNUINRA
@UNUINRA
United Nations University-INRA