

*Review*

# Eradicating extreme poverty among the rural poor in Uganda through poultry and cattle improvement programmes - A Review

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Uganda is still struggling with chronic poverty and malnutrition especially among women and children despite the targeted efforts towards eradicating poverty by transforming subsistence agriculture to intensive or commercial agriculture that have been in place for the last 13 years. The aim of this paper was therefore to analyze the Republic of Uganda's current strategy on eradication of extreme hunger and poverty, identify the major constraints and suggest possible strategic interventions using examples of poultry and cattle. The article has identified unemployment and persistent inflation as major constraints to modernization of agriculture in Uganda and has offered development of small holder poultry production, promotion of poultry crossbreeds, rehabilitation of community dip tanks and promotion of dairy crossbreeds as strategic intervention areas to alleviate extreme hunger and poverty in Uganda. In conclusion, the strategies used by the government of Uganda to fight poverty and hunger did not favour the rural poor but have supported the rich and thus failed to cause a notable impact. It is therefore recommended that adoption of the suggested intervention areas shall overcome the said bottlenecks and accelerate eradication of hunger and poverty.

**Key words:** Livestock improvement, poverty eradication, rural farmers.

## INTRODUCTION

Over 85% of Uganda's population lives in rural areas where agriculture is the major contributor to their livelihoods. Livestock accounted for 16% of agricultural Gross Domestic Product (GDP) in 2003, fisheries (12%), cash crops (17%) and the rest came from food crops (RoU, 2004). Despite the fact that agriculture supports most livelihoods and is the main source of exports, contributing as much as 85% of export earnings, the overall share of agriculture in GDP has declined in recent years, from 50% in the early 1990s to 23% in 2008 (RoU,

2004; FAO, 2009). A slowdown in the growth of agricultural production besides declining agricultural prices and insecurity in northern and eastern Uganda have all contributed to the drag on agriculture (FAO, 2010). Consequently, many communities in Uganda struggle with chronic malnutrition, especially among children. The prevalence of stunting growth among children less than five years of age is nearly 40% across the country, and is higher in Karamoja and the southwest, where it exceeds 50% (Kikafunda et al., 1998; FAO,

2010; WFP, 2011). Malnutrition accounts for 40% of all child deaths in Uganda (Bridge et al., 2006), and the prevalence of childhood anemia exceeds 70% (WFP, 2011). According to von Grebmer et al. (2011), Uganda has a Global Hunger Index (GHI) score of 16.7, placing it 42<sup>nd</sup> out of 81 countries ranked in 2011 and a hunger situation considered as being *serious*. The Millennium Development Goal (MDG) which seeks to cut the number of underweight children in half before 2015 thus remains elusive. However, the agricultural sector presents a great opportunity for poverty eradication since it employs over 80% of the labour force (MAAIF, 2000).

The Plan for Modernization of Agriculture (PMA) has been part of the government of Uganda's broad strategy on poverty eradication contained in the Poverty Eradication Action Plan (MAAIF and MFPED, 2004). The mission of the PMA has been to eradicate poverty by transforming subsistence agriculture to commercial agriculture. Under PMA, the government of Uganda formulated the National Agricultural Advisory Services (NAADS) programme (RoU, 2001) to transform natural resource based communities out of poverty to better livelihoods. The programme was meant to increase farmer access to information, knowledge and technology through effective, efficient, sustainable and decentralized extension service delivery with increased private sector involvement. However, poverty levels in Uganda have remained high. Uganda's national poverty levels stood at 24% in 2010 with Northern region registering 46.2%, the highest in the country (UBOS, 2010). The impact of poverty reduction strategies has been minimal (Kaduru, 2011). The aim of this article was therefore to analyse the Republic of Uganda's current strategy on eradication of extreme hunger and poverty, identify the limitations and suggest possible strategic interventions using examples of poultry and cattle.

## OVERVIEW OF UGANDA'S NAADS PROGRAMME

The NAADS programme has gone through a number of policy changes. The strategic frame work that guided NAADS Phase I was a decentralized, farmer owned public/private sector serviced extension system contributing to the realization of the agricultural sector objectives (RoU, 2001). Advisory services were provided by service providers termed Agricultural Advisory Service Providers (AASPs) contracted by the sub-county on behalf of sub-county farmer forum. In contracting AASPs, the following guiding principles were observed: Farmer participation, competitive and transparent selection process, previous performance, qualification and integrity. Sources of AASPs have been contracted service providers, researchers and private sector providers under public/private sector partnerships. These were supported by subject matter specialists (SMSs), model farmers and community based facilitators.

In 2010, the National Development Plan was formulated (NDP, 2010).

Thus, NAADS was redesigned under phase II to align NAADS with National Development Plan and Strategic Investment Plan (MAAIF, 2010; NDP, 2010; MFPED, 2010) and to enhance the effectiveness of Agricultural Advisory Services delivered within the frame work of NAADS vision, mission and principles. The strategic elements of NAADS phase II were to create option for financing and delivery of extension/advisory and technical services appropriate for different farmer categories, gradually reduce the share of public financing of public advisory/extension service cost to the extent that by the end of 25 years of NAADS it will account for less than 50% through PPP, utilize professional and certified service providers competitively recruited and on performance based contracts, empower subsistence and other farmer categories to access extension/advisory services and relevant information for informed decision making and to develop public and private sector capacity professional capability and service systems. Under NAADS Phase II (MAAIF, 2010), the Agricultural technology and agribusiness advisory services (ATAAS) project was aligned to NDP and the DSIP. ATAAS was designed to support implementation of programmes of the National Agricultural Research Organisation (NARO) and NAADS. The project is to support key activities along research, extension, farmer-market value chain continuum through five components.

The mandate of ATAAS is to promote productivity and Agricultural Production through close collaboration between research by NARO and extension by NAADS under the DSIP of MAAIF. The ATAAS Project began in July 2011 (MAAIF, 2010). The first component comprises technology promotion and farmer access to information. This targets advisory service provision to accelerate farmer progression towards commercialization while ensuring food security. Component two is concerned with agribusiness development for supporting market access so to shift from direct intervention by NAADS in supporting farmer enterprises to facilitate the performance for value chain and functioning or emergence of businesses that can provide production support services that contribute to value chain development and input and output market access among others. The third component comprises institutional development and programme management. This handles roles, responsibilities and institutional relationships between NAADS and all institutions (public and private) especially local government to accommodate new changes to the NAADS mandate. Component four involves planning, monitoring and evaluation to enhance the use of participatory monitoring and evaluation (PM&E) information in management decision making and to develop human organizational financial and network capacity for PM&E (MAAIF, 2010). Studies conducted have however demonstrated that NAADS interventions

have not had a notable impact (Benin et al., 2007; EPRC, 2011).

## **MAJOR CONSTRAINTS TO MODERNISATION OF AGRICULTURE IN UGANDA**

Like most developing countries, Uganda's economy is dominated by two large problems: unemployment and inflation. These form the major constraints for the planning of the development of the livestock sector. This section will discuss these constraints and how they could have impacted on the modernisation of the livestock sector in Uganda.

### **Unemployment**

According to UBOS (2010), 66% of all working persons in Uganda are employed in agriculture, 82% of the workers live in rural areas where agriculture is the main source of livelihood, 70% of the labour force does not have any formal education while the unemployment rate stands at 4.2%. If the increase in production is to be brought about by modernisation and intensification of animal production, and technically it could be, this will only occur in a capitalist form that is to say by substituting capital for labour by relatively elaborate techniques which will not permit the use of the rural youth and the unemployed (Tacher, 1992). Introduction of modern large-scale industrial livestock units would lead to problems for smallholder producers who cannot compete for available feed resources and markets (Ogle and Phuc, 1997) and may not have the skills for the more sophisticated management which is required (Preston, 1995). Uganda's strategy of distributing broiler and layer chicks to rural youth groups could have failed due to limited management skills. This usually results in a reduction of rural employment opportunities and easily turns the problem of rural unemployment into an even greater problem of urban unemployment.

Besides, often these techniques cause a transfer from the peasant class towards the well-off classes of the population, classes more open to modern technology (Tacher, 1992). For example an increase in milk production can mainly be brought by a leap in technology, which often can only be done by people with sufficient means who have received some level of education. This type of person is found among those sectors of the population already in the favoured position. In Uganda over two thirds of the working population work in the rural areas and 70% of the labour force does not have any formal education (RoU, 2004; UBOS, 2010) and often provide production which is insufficient at the national level. Modernisation might then permit an increase in production but might never help in the resolution of the crucial problem of unemployment and

might even risk accentuating it. The disadvantaged people will be faced with impoverishment, the gap between the few rich and the major poor will become larger and larger, and social evils will become a heavy burden (Trach, 2009). Already, data indicates that Uganda's Gini coefficient has been rising over the years, and currently stands at 0.426, (UBOS, 2010) indicating a worrying trend towards increased income inequality. Intensification could moreover have two other major disadvantages. It might be situated in the areas around towns, which might increase regional disequilibrium and it might not favour the fight to improve the living standards of the rural poor, which could ensure the continuation of the actual vicious cycle of poverty: the crisis of the rural areas leads to shrinking of aggregate demand, which in turn is the source of unemployment (Tacher, 1992).

### **Persistent inflation**

Uganda has witnessed regular surges in inflation over the past years. In October 2011, for example, Uganda recorded the second highest level of inflation (30.5%) in the East African region (Kabundi, 2012). This rise in price has been an issue of concern for policymakers and the general public. Constraints on agricultural production together with high demand both domestically and from neighbouring countries push domestic food price and hence creates a rise in overall price level, given high age share of food price in Consumer Price Index (CPI) (RoU, 2004; FAO, 2009; Kabundi, 2012). As explained by Tacher (1992), politicians are extremely sensitive to variations of food prices. In developing countries such as Uganda, nominal salaries are very low and low food prices create a salary which finds itself increased accordingly, in real terms.

However, an increase in prices always leads to claims for salary increases. Trying to stifle this inflation generates tensions, particularly in towns, and so governments seek to keep prices as low as possible. This has frequently been done without success by fiscal means. There is evidence of considerable rise in real money growth, attaining a maximum of 36% in November of 2010, prior to the rise in inflation (Kabundi, 2012). As suggested by Nachega (2001), monetary aggregate portrays an equilibrium relationship with Inflation. It means that expansionary policy that drives up money supply is inflationary over the long-run. As a result of lack of success, the government then tries to keep the consumption price at a low level by other means such as liberal import policies. However, the liberal import policy stifles the development of local production (IMF, 2011). That is even truer with exports from developed countries, with which the local product must compete, and which are often subsidised in a more or less disguised way. This pressure on prices is thus implicitly a transfer from livestock rearing to the rest of the economy (Tacher, 1992).

## **WHAT SHOULD BE THE STRATEGIC INTERVENTIONS FOR THE LIVESTOCK SECTOR?**

### **Poultry**

The total poultry population in Uganda was projected to be about 32.6 million birds for 2006/2007 year from 23.5 million in 2002. Of this, about 80% is free-range indigenous type of breeds while the commercial types mainly composed of exotics are about 20% (Byarugaba, 2007). Similarly, the economic and nutrient contribution of the indigenous free-range poultry has been estimated to be over 80% of the per capita consumption of poultry meat and eggs (Byarugaba, 2007). This is therefore an excellent intervention area. The approaches below are thus suggested as strategic interventions areas in the poultry enterprise.

### **Smallholder poultry (village chicken) development**

The capacity for broodiness has been bred out of commercial-strain layer and broiler hens so as to maximize meat and egg production. They are therefore incapable of natural reproduction, and their value in a village environment is thus quite limited. Besides, they also have limited ability to withstand the harsh environment (FAO, 2010). The development of smallholder poultry production systems in Uganda, particularly village chicken production is thus crucial in meeting the nutritional, income, employment and gender needs of rural people (Kusina and Kusina, 1999). The hens become broody, so can reproduce without the need for artificial incubation and brooding; They are agile and can run fast, fly and roost in trees, so can escape predators; They have been shown to be more resistant to bacterial and protozoan diseases and to parasitic infestations than commercial broilers and layers. Their meat and eggs are generally preferred to those from commercial birds, not only by rural communities but also by urban dwellers because of their taste, leanness and suitability for special dishes (Ssewanyana et al., 2001; FAO, 2010). The major disease constraints affecting production include Newcastle disease, fowl typhoid, Salmonellosis among others. Fortunately, there are effective vaccines against these diseases. This is where the government should heavily invest in addition to distribution of commercial broiler or layer chicks.

### **Development of crossbred chicken**

Indigenous hens often lay only 40 to 60 eggs per year while commercial layers developed from imported parent stock have the capacity to lay more than 300 eggs per year. The growth rate of indigenous genotype of chickens is also generally much slower than that of commercial

chicken. Indigenous cocks often weigh not more than 1.0 kg at 20 weeks while broilers under typical confinement may reach 2.0 kg live weight at five weeks of age (FAO, 2010). There is therefore need to integrate the good features of local chicken that make them adaptable to the local conditions and those that are responsible for high productivity among exotic chicken (Kyule, 1994). To improve productivity of the indigenous chicken, the Malawi government introduced the Smallholder Poultry Improvement Programme (SPIP) in the 1950s with the main objective of increasing egg and meat production of indigenous chicken through crossbreeding with the Black Australorp (Safalaoh, 2001).

The future of cross bred chicken is promising in Uganda. At the National Semi-Arid Resources Research Institute (NaSARRI) chicken breeding project, the growth capacity of local chicks was compared with chicks from crosses of the local bird with the Bovans Brown and raised at the farms from day old by using ordinary feeding regimen at the farm. The results showed that 50% of the Bovans gene had higher body weights compared with local chicks and chicks with 25% Bovans gene. Furthermore, at 120 days of age, the difference was at maximum when expressed as a proportion of body weight of local chicks. However, they also recommended studies on the reproductive capacities of the crossbreeds (Sorensen and Ssewanyana, 2003).

Ssewanyana et al. (1998) further studied on-farm performance of the crossbreeds and found that; mean body weight of F<sub>1</sub> chickens (50% BBxLH) increased by 34%, egg number per clutch by 94%, egg weight by 29%, egg circumference by 10% and egg length by 2% over that of the local chickens. These results indicated that the technology of improving indigenous chickens through crossbreeding with exotic cocks was technically and economically viable even under on - farm conditions. Therefore, poultry production based on a genetic improvement of the local breeds is possible in using appropriate breeding programme that includes traits of importance for reproduction and survival under the smallholder environment, which also enhances the welfare of hens that can incubate and brood chicks as required by the rural farmers (FAO, 2010).

### **Cattle**

#### ***Rehabilitation of community dip tanks***

Tick-borne diseases are a major constraint to the improvement of livestock production in the developing world particularly the sub-Saharan Africa (Norval et al., 1992; Bell-Sakyil et al., 2004). The cost of controlling ticks and tick-borne diseases was reported to constitute about 85.6% (pastoral) and 73.8% (ranches) of total disease control costs (Ocaido et al., 2009). The major tick-borne diseases in Uganda are anaplasmosis,

babesiosis, cowdriosis and East Coast fever (ECF). Together, these constitute the single most important constraint to the livestock production in Uganda. Originally, government of Uganda under the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) had established community dip tanks in strategic locations at all districts in the Country. However, following decentralisation, these communal dips have either collapsed or are neglected. The presence of many non functional dip tanks in the districts has been attributed to failure by the districts to rehabilitate and maintain the communal dips (King and Mukasa-Mugerwa, 2002; RoU, 2009). Dipping of livestock in dip tanks as a practice to kill off ticks and nuisance flies is no longer undertaken in most districts of Uganda. Farmers have since then failed to dip their livestock resulting in high prevalence of ticks and tick-borne diseases. There is therefore need to rehabilitate and construct community dip tanks as a key intervention in the control of ticks and tick-borne diseases.

### **Promotion of dairy crossbreeds**

Currently the average live weight by a cow in most herds of Uganda is 180 to 350 kg and this requires about 5 years to be attained even if pastures are available (Jain and Muladno, 2009). However, they carry great advantages of relative resistance to tropical diseases, and ability to survive in high temperature zones and these should be conserved. By choosing exotic breeds from industrialized countries had been intensively selected for increased productivity and crossbreeding with local breeds, rapid improvement of local breeds can be realized. Crossbreeding, which uses complementary breed differences, avoids antagonistic genetic relationships and utilizes heterosis, is recommended for genetic improvement of farm animals (Smith, 1964; Moau, 1966; Dickerson, 1969, 1972). Such an approach would focus on crossbreeding of the indigenous breeds of cattle (Zebu) and Ankole longhorn (Sanga cattle) with large fast growing dairy breeds of Friesian, Jersey, Guernsey, Ayshire. Half crosses would be the most suitable genotype in most parts of Uganda. Previous studies have shown that at various heat intensities above 27°C, half Friesian-Zebu cattle produce more milk when compared to the three-quarter cross during the stage of maximum lactation inspite of the higher genetic potential of the latter (Igono and Aliu, 1982).

### **CONCLUSION**

The strategies used by the government of Uganda to fight poverty and hunger, did not favour the rural poor since they were not considered in the conceptualization, formulation and implementation of these strategies. Instead, they have supported the rich and thus failed to

cause a notable impact. It is therefore recommended that adoption of the suggested intervention areas will overcome the said bottlenecks and accelerate eradication of hunger and poverty in the country.

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