

Policy Note (April 2011)

Investing in Livestock to Drive Economic Growth in Africa: Rationales and Priorities

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This ALive Policy Note on Investment is the result of a process that involved key actors in the livestock development sector in Sub-Saharan Africa.

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Key messages

- Investments in the livestock sector can significantly contribute to economic growth, poverty reduction and the attainment of the Millennium Development Goals in Africa.
- Targeted investments to assist small livestock producers, rather than 'marginal' livestock keepers, can cost-effectively support enhancements in livestock productivity and result in economic growth and poverty reduction through a variety of pathways.
- Promoting intra-regional trade of livestock products, based on countries' or regions' comparative advantages, is critical to create remunerative and sizeable markets for small livestock producers, and to ensure a sustainable, market-driven development of the livestock sector.



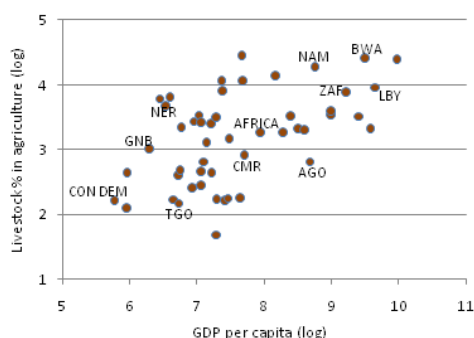
1. Introduction

The livestock sector could play an important role in the process of economic development of sub-Saharan Africa (SSA). However, due to policy neglect, the sector is only marginally contributing to economic growth and poverty reduction and, in general, to the attainment of the Millennium Development Goals. This note provides evidence that public and private sector investments in the livestock sector can generate handsome returns in terms of economic growth and poverty reduction, provided that (i) they are targeted to assist small livestock producers in enhancing livestock productivity rather than attempting to support the vast array of marginal livestock keepers¹, and (ii) they focus on promoting intra-African trade of live animals and livestock products, rather than attempting to penetrate high-value international markets.

2. Livestock in the macro-economy

The livestock sector contributes between 20 to 50 percent to agricultural value added in African countries – with a continental average of 26 percent – and is expected to become the largest contributor to agriculture as economic development progresses because of a growing demand for high-value food items, including meat and dairy products. In industrialized economies, the livestock sector accounts for about 1/2 of agricultural GDP (FAOSTAT, 2011).

Fig. 1. GDP per capita and livestock value added in agriculture (%) in African countries, 2008



¹ Small livestock producers are here defined as those farmers that have sufficient skills and resources which, when appropriate policies and institutions are in place, enable them to produce and sell surpluses of meat and dairy products. Marginal livestock keepers are those household that have an insufficient critical mass of assets to regularly produce a surplus from their livestock, and for whom labour is the main asset.

In developing countries, including the African economies, the contribution of livestock to agriculture, and to the economy in general, is underestimated. Estimates of livestock GDP typically account for the value of production, but not for that of other services provided by livestock - such as hauling, draft power and insurance and savings. These services are of high value, particularly in developing countries where only a minority of farmers are specialized livestock producers. Behnke (2010), for instance, calculates that the contribution of livestock to the Ethiopian GDP should be increased by about 30 percent if the value of hauling services provided by farm animals is considered.

Furthermore, the secondary benefits of livestock production along the value chain and associated employment generation are generally overlooked. Roland-Holst et al. (in FAO, forthcoming) estimate that in sub-Saharan Africa livestock sector multipliers – as measured by the incremental effect of \$1 additional spending on aggregate national household incomes – average \$2.9 in primary livestock production and \$5.9 in processing. In addition, whilst livestock is in most countries a stronger a stimulus for economic growth than crops, fruits and vegetables, manufacturing and service sectors, the benefits of livestock sector growth are usually more equally distributed because of a web of indirect linkages across distribution, processing and marketing activities.

In a retrospective analysis, Pica et al. (2008) find a statistically significant causal relationship between livestock sector development and economic growth in 18 of the 20 African countries analyzed, strongly suggesting that increases in value-added per Tropical Livestock Unit (TLU) are a driver of GDP per capita growth. In general, increased agricultural productivity, including livestock, is anticipated to lower food prices, which directly benefits the poor and generates a surplus of products and factors that can be exported from agriculture to the rest of the economy, thereby facilitating economic growth and poverty reduction (e.g. Tiffin and Irtz, 2006).

3. Livestock in the household economy

Livestock are one of the most common assets among rural households in Africa. The most recent continental data publicly available, produced by ILRI in 2002 through overlaying population and poverty data on livestock production systems, indicate that



over 53 percent of the population keeps some livestock in sub-Saharan Africa, i.e. that one out of two persons in the continent are partly dependent on livestock for their livelihoods (ILRI, 2002). Household survey data – data from multi-topic questionnaires administered to a (often nationally representative) sample of households – also indicate that the majority of rural dwellers keep some farm animals: in Ghana, for instance, 50 percent of households are estimated to keep livestock; 77 percent in Madagascar; 63 percent in

Malawi; 60 percent in Benin; 46 percent in Nigeria (FAO, forthcoming; Kheralla et al., 2001).

Livestock are major source of subsistence for rural households, as they represent a source of food, income, manure, draught power and hauling services, savings and insurance and social capital (Moll, 2005). However, mean household herd size ranges between 1 and 2 TLU (FAO, forthcoming) and livestock usually only contribute marginally to household income (Table 1).

Country	Region / District	Date of survey	Livestock % of hh income	Source
Benin	All, rural	1998/99	7	Kheralla <i>et al.</i> , 2001
Botswana	Kgatleng, Kweneng	1991/92	49*	Panin, 1996
Burkina Faso	Central Plateau	2003	5	Wouterse & Taylor, 2008
Egypt	All, rural	1997/98	12	Minot <i>et al.</i> , 2009
Egypt	All	1997/98	8	Adams, 1992
Ethiopia	Northern Tigray	2006/07	9	Nega <i>et al.</i> , 2009
Gambia	McCarthy, Up. River	1985	25	Russo, 1990
Ghana	All, rural	1998	4	Pica-Ciamarra <i>et al.</i> , 2011
Kenya	Kakamega	2004	7	Karugia <i>et al.</i> , 2006
Kenya	Vihiga	2004	14	Karugia <i>et al.</i> , 2006
Madagascar	All, rural	1993	13	Pica-Ciamarra <i>et al.</i> , 2011
Malawi	All, rural	1998	5	Kheralla <i>et al.</i> , 2001
Malawi	All, rural	2004	9	Pica-Ciamarra <i>et al.</i> , 2011
Mali	Sikasso, Koutiala	1994/95/96	24+	Abdulai & CroleRees, 2001
Mali	Inner Niger Delta	n.a.	42	Swift, 1982#
Mozambique	Monapo	1991	3	Tschirley & Weber, 1994
Mozambique	Angoche	1991	2	Tschirley & Weber, 1994
Nigeria	All, rural	2004	5	Pica-Ciamarra <i>et al.</i> , 2011
Nigeria	Kwara State	2006	5	Babatunde, 2008
Senegal	All	2001/02	9	Kazybayeva <i>et al.</i> , 2006
Tanzania	Morogoro	2001	11	Ellis & Mdoe, 2003
Uganda	Mbale	2001	3	Ellis & Bahigwa, 2003
Uganda	Mubende	2001	12	Ellis & Bahigwa, 2003

* Only livestock keeping households; + Only cattle; # Quoted in Bekure (1983)

Table 1: The contribution of livestock to household income in Africa

The fact that a majority of households keep some livestock but that farm animals contribute relatively little to their income suggests that it is unfeasible for all African livestock keepers to specialize in livestock farming and use their farm animals to escape poverty.

- While the distribution of entrepreneurial skills among the population depends on a variety of factors, available cross-country data consistently show that as economies grow more people are employees (in industrialized

countries economies only about 10 to 15 percent of the population is self-employed), i.e. it is unlikely that all livestock keepers would be willing or able to set up profitable livestock farms (ILO, 2011).

- Even if all livestock keepers became successful livestock producers, input costs would increase and output prices would drop reducing the profitability of livestock farming, i.e. in this scenario livestock could not be the main source of livelihoods for the majority of rural households (Baghwati, 1958).
- The majority of livestock keepers in Africa can be defined as ‘marginal livestock keepers’, i.e.



they have an insufficient critical mass of assets to regularly produce a surplus from their livestock, and their non-farm activities do not allow them to rely on market purchases for adequate food intake. Labour is their main asset, and the generation of employment opportunities in rural areas is thus the most common path out of poverty for them (Upton and Otte, 2004).

- Only a minority of livestock keepers can be defined as 'small livestock producers', i.e. they have skills and resources that, when appropriate policies and institutions are in place, would enable them to become successful entrepreneurs, i.e. to produce and sell surpluses of meat and dairy products, generate employment opportunities for the poor(er), because livestock activities throughout the supply chain are intensive in unskilled labour², and, ultimately, contribute to an inclusive growth of livestock, and of the economy in general³.

4. Demand for Animal Products

There are opportunities for small livestock producers to establish profitable livestock enterprises, because of the large increase in the demand for animal products in the African continent, due to the combined effect of population expansion, the high rate of urban growth and accompanying changes in lifestyles, and increases in real household incomes. Over the period 1990 to 2007, for instance, meat and milk food consumption in Africa have increased by 2.9 and 3.0 percent per year (+5,861 MT and +14,962 MT respectively), and similar rates of growth are anticipated in the next decades for all meat and dairy products. For example, according to the OECD-FAO Agricultural Outlook 2009-2018, total consumption of beef in Africa will increase annually by 2.4 percent in 2009-2018 (2.34 for sub-Saharan Africa) and that of whole milk by 4.0 percent per year (4.1 for sub-Saharan Africa) (FAO, 2011; OECD-FAO, 2009).

² For instance, the overall number of full-time jobs created per 100 liters of milk traded vary from 3.7 in Kenya to over 17 in Ghana (Omoro, 2002); in Burkina Faso, traditional livestock marketing channels are estimated to provide employment for about 60,000 full-time workers (FAO/CDI, 2003).

³ It is not possible to identify quantitative parameters to define small livestock farmers, as the profitability of livestock farming is not only dependent on household assets and skills but also on the context in which the household operates, which differs from country to country and, within country, from regions to regions.

The anticipated growth in the demand for animal source food, however, seems to be primarily driven by population growth – rather than urbanization or gains in real per capita income – as the per-capita consumption for livestock products is estimated to marginally increase in absolute terms in the next coming decades. In SSA as a whole, for instance, beef, milk, goat & sheep meat and poultry per-capita consumption will increase by - 0.1, 2.2, 0.4 and 0.7 kg over the period 2000-2030, according to data provided by FAO (see Fig. 2 to Fig 5).

Fig.2. Per capita beef consumption in SSA, Niger, Tanzania and Uganda - 2000, 2015 and 2030

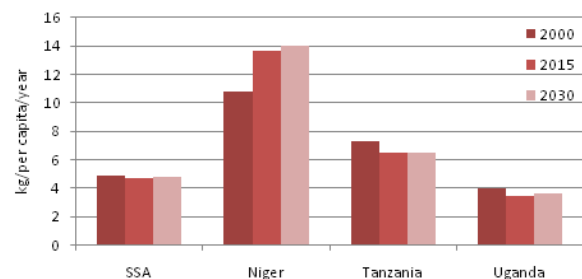


Fig.3. Per capita milk consumption in SSA, Niger, Tanzania and Uganda - 2000, 2015 and 2030

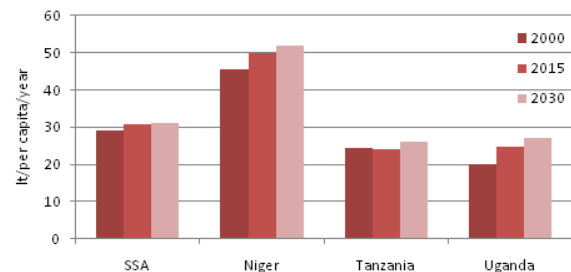


Fig.4. Per capita goat & sheep consumption in SSA, Niger, Tanzania and Uganda - 2000, 2015 and 2030

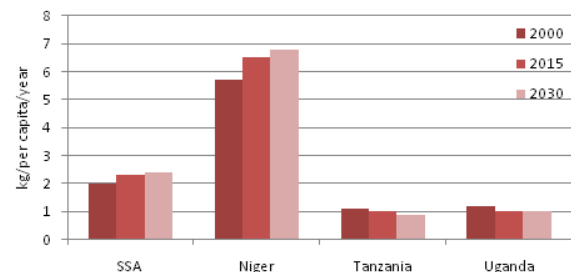
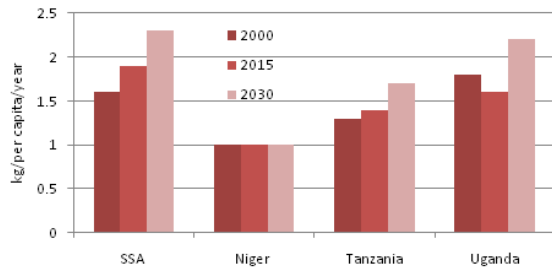




Fig.5. Per capita poultry consumption in SSA, Niger, Tanzania and Uganda - 2000, 2015 and 2030



In the next years, majority of African consumers will therefore continue to demand relatively low-value minimally processed food items, as the average per-capita income of African countries will not allow the typical household to shift his consumption towards high-value livestock products which satisfy high-income countries' safety and quality attributes⁴. This represents a good opportunity to improve the incomes and livelihoods of small livestock producers (and other actors along the value chain) who, in the short to medium term, are not in a position to provide food items satisfying stringent quality and safety standards, such as those of OECD countries.

5. Supply of Animal Products

Increases in consumption of animal food have been so far satisfied by national production as well as by increased imports. However, African livestock farmers have increased their supply of animal food mainly through expanding herd size rather than through enhancing productivity (efficiency). For example, over the period 1990 to 2009, about 96 percent of the increased beef supply could be explained by increased stock numbers; the proportion is 82 percent for milk; 89 percent for poultry, and 98 percent for sheep and goat meat. In the same two decades, net imports of meat and milk have grown from 379 to 1,442 MT, and from 4,127 to 5,763 MT respectively (FAOSTAT, 2011).

Estimates also indicate that between 2000 and 2030 African livestock producers will be increasingly unable to satisfy the growing demand for animal

food, with the net trade balance for both meat and dairy products worsening over time, increasing the outflow of domestic currencies. Intra-regional trade, in fact, accounts for less than 10 percent of African trade because, to a large extent, people in sub-Saharan African live in the interior of the continent and face high transport costs in shipping goods between the inland and coastal areas. As a result, that trade is mainly between the coast and non-African countries⁵ (Sachs et al., 2004; UNCTAD, 2009). In addition, because of the difficulties in complying with international sanitary and phytosanitary standard requirements, few African countries are net exporters of live animals and livestock products internationally.

Fig.6. Production and net import of meat (MT) in SSA 2000, 2015 and 2030

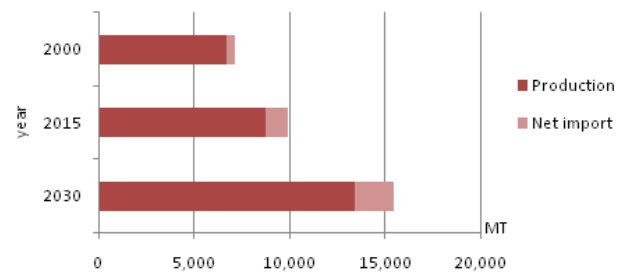
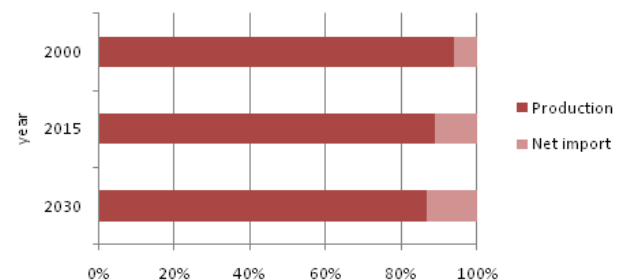


Fig.7. Production and net import of meat (%) in SSA 2000, 2015 and 2030



⁴ For example, in Kenya, where supermarkets have penetrated the market more than in any other sub-Saharan African country (with the exception of South Africa and, perhaps, Zambia), supermarkets are selling high quality food stuff held worth less than 2 percent of the national urban fresh produce market in late 2003. To reach a 10 percent market share in 10 years, they should grow 22 percent per year in real terms (Tschirley et al. 2004a, 2004b).

⁵ People in sub-Saharan African tend to live away from the coast for several reasons: first, the soils are often more fertile and rainfall more plentiful in the interior highland regions than in coastal areas; second, the incidence of diseases, including human, animal and plant diseases, is intrinsically lower in the interior; finally, centuries of slave trade have favoured settlements in the interior rather than near the coast (Sachs et al., 2004).



Fig. 8. Production and net import of milk (MT) in SSA 2000, 2015 and 2030

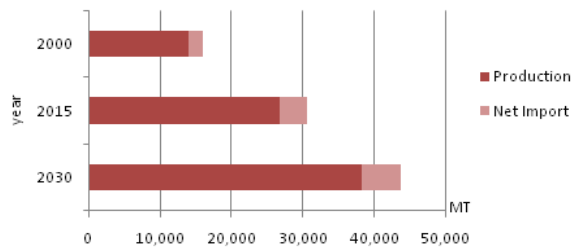
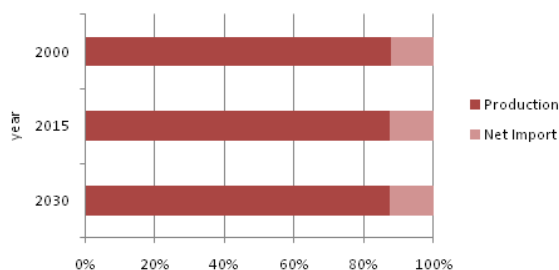


Fig. 9. Production and net import of milk (%) in SSA 2000, 2015 and 2030



6. Small livestock producers and intra-regional trade as key drivers of livestock sector growth

The above review suggests that a twin-track strategy targeting small livestock producers and favouring intra-regional trade of livestock and livestock products represents a promising way to support livestock sector development, while at the same time promoting economic growth and reducing poverty levels.

Targeted public and private investments to assist small livestock producers in enhancing their productivity by tapping into their resources and entrepreneurial skills will favour (i) larger supply of affordably animal source foods (which translates in gains in real per capita income of population), (ii) employment generation along the value chain, and (iii) labour market growth in non-livestock sectors. Investments should attempt to remove the most binding constraints which prevent livestock producers from being efficient and generating surpluses of meat and dairy products (e.g. animal diseases and limited access to feed and water for animals) that satisfy the quality and safety standards demanded by African consumers, which are different from the SPS standards necessary to export in industrialized food markets. At the same time, investments that support marginal livestock

keepers should not be disregarded, but aim at reducing vulnerability and increasing food security rather than at supporting a sustainable, market driven growth of livestock.

Livestock farmers have incentives to increase livestock production and productivity only when they have access to remunerative markets. Given that only 15 out of 53 countries in Africa have a population of over 20 million, and 28 countries have a population of less than 10 million people (FAOSTAT, 2011), most countries do not have sufficiently large internal markets to develop their own livestock industry. The development of intra-regional African markets is thus a pre-condition for supporting the development of the livestock sector and, in many circumstances, areas and countries which have some comparative advantage in livestock production, such as arid and semi-arid areas, are not densely populated, whilst demand hotspots for livestock products are located in areas where livestock production is not easily feasible, such as in humid and sub-humid coastal areas. For example, Southern COMESA countries have comparative advantages in growing fruits and vegetables vis-à-vis Northern COMESA countries, which instead have comparative advantages in livestock production (Dimaran et al., 2009); analysis of the physical trade flows in the West Africa shows interdependence between the Sahelian countries and those of the coast: cereals and starchy products move northwards from the coastal countries, while of animal products move in the opposite direction (OECD, 2008).

7. Conclusions

Livestock sector development can contribute to economic growth and poverty reduction in Africa, as macroeconomic and microeconomic evidence shows. At the same time, both supply side and demand side factors currently provide good opportunities for sector growth. Targeted public and private sector investments are needed to fully exploit the potential of the livestock sector to support economic development, which should focus on small livestock producers, those who are able to establish remunerative livestock enterprises, supply affordably priced animal food to a growing (urban) population, and generate employment opportunities along the value chain for others. At the same time, facilitating intra-regional trade based on the comparative advantages of African countries and



Regional Economic Communities is necessary to create remunerative and sizeable markets for livestock producers and match animal food supply

and demand, which ensures a market-driven and sustainable development of the livestock sector.



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