



Livestock Development for Sub-Saharan Africa

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Why Focus Development Efforts on Sub-Saharan Africa ?

Poverty is higher in most African countries than elsewhere in the developing world. In sub-Saharan Africa (SSA) 50 per cent of the total population or 300 million people live on less than 1 USD per day. Worse, the number of poor people has grown in the 1990s causing SSA's share of the world's absolute poor to increase from 25 to 30 per cent. SSA with 11 per cent of the global population, has an estimated 73 per cent of global HIV/AIDS related infections. So far 20 million Africans have died of HIV/AIDS, 10 million children have been orphaned and many families have lost their labour supply as adults have fallen ill or died (World Bank, 2002).

The prevalence of widespread chronic poverty and human disease is linked to the weak economic performance of SSA countries. While in 1970 SSA's GDP was higher than Brazil's, today it is only one fourth the size of Brazil's GDP. Unlike in other developing regions, Africa's average output per capita in constant prices was lower at the end of the 1990s than 30 years before and in some countries had fallen by more than 50 per cent. Africa's share in world trade has decreased since the 1960s and today SSA accounts for less than 2 per cent of world trade¹. While developing countries in other regions have diversified, SSA remains an exporter of primary products (World Bank, 2000), lacking the capacity to add value to these.

In line with its share in total world trade, the relative share of African agricultural exports in world markets has fallen from 8 per cent in the period 1971-1980 to 3.4 per cent in the period 1991-2000 with the value of exports growing extremely slowly. Since the 1960s, imports of agricultural products have been rising faster than exports and Africa as a whole has become a net

¹ Some of the decline in per capita output as well as part of Africa's declining share in world trade can be attributed to the long-term fall of real prices for the majority of primary products.

agricultural importer since 1980. Africa's dependence on food imports is highlighted by the food aid received by African countries. In 2000, African countries received 2.8 million tons of food aid, which is over a quarter of the world total (NEPAD, 2002).

There are a number of factors contributing to SSA's poor economic performance and the high levels of chronic poverty. These include: an economic environment that is characterised by a lack of investment in physical and human capital – SSA is the only major region with declining investment and savings per capita post 1970 (World Bank, 2000); high exposure to worsening terms of trade for primary products, adverse agro-ecological and climatic conditions, political instability and inter- and intra-state conflicts; poor health and the spread of HIV/AIDS; low population density; and finally a choice of inappropriate economic policies over the last decades. Among the latter are heavy implicit taxation of rural areas and overvalued exchange rates, undermining the export of agricultural products while promoting inward oriented industrialization.

Why Focus on Agriculture and Livestock for Development of Sub-Saharan Africa ?

Poverty in SSA is especially prevalent in rural areas where an estimated 70 per cent or 210 million of the poor people live. According to current estimates the rural population will continue to outnumber the urban population for nearly three decades to come and is set to increase by nearly 60 million people (app. 15 per cent) over the current decade alone. Moreover, agriculture accounts for around 30 per cent of the region's GDP, 20 per cent of merchandise exports, and 60 per cent of employment.

The concentration of poor people in rural areas and their predominant involvement in agriculture means that for SSA rural well-being is closely linked to agricultural performance. Agriculture-led development is not only fundamental to cutting hunger and reducing poverty but also to generating economic growth, reducing the burden of food imports and opening the way to a moderate expansion of exports.

The Need to Raise Agricultural Productivity

In most areas of SSA increasing productivity of farm activities will have the greatest potential for poverty-reducing growth, either through direct income benefits, indirect expenditure linkages² or through consumer benefits. Research has shown that about three-quarters of the variation in

² For sub-Saharan Africa it has been found that adding USD 1.00 to local farm income potentially increases total income in the local economy on average by an additional USD 1.00 (Delgado et al., 1998).

agricultural productivity in SSA is explained by the variation in use of conventional inputs, suggesting that there remains significant scope to improve productivity in many SSA countries through increased use of conventional inputs, particularly fertilizer, physical capital and livestock (Wiebe et al., 2001).

It follows that agricultural productivity is not primarily constrained by a lack of available technologies, or of investment in agro-industry or agricultural machinery and equipment, which would need a commitment of major resources, but rather can be enhanced with relatively 'low cost' inputs. Modern, input-intensive farming is unlikely to become economic in SSA, until rural infrastructure, markets and agricultural input supply systems have caught up. In the meantime small-scale farmers have to look for lower cost alternatives such as low external input farming technologies; for example mixed farming systems with integrated crops, livestock and farm trees (Hazell, 2001).

The Role of Livestock

Roughly 70 per cent or 150 million of the rural poor in SSA are at least partially dependent on livestock to sustain their livelihoods (LID, 1999). Furthermore SSA has the largest area of permanent pasture of any continent, and the largest number of pastoralists (Ogle, 1996). Livestock production currently contributes about 35 per cent of agricultural GDP in SSA (and if non-food products and services were added this share would even be higher) (Ehui et al., 2002).

Livestock production can contribute to poverty reduction in various ways. It can increase food supply, serve as a source of income and a means for capital accumulation, generate employment and supply inputs and services for crop production. Further, non-market exchanges of livestock represent an important factor for social integration (Faye, 2001).

Through increased livestock production many poor smallholders would have direct access to more livestock-derived food items, which are prime sources of easily absorbable iron, zinc, and many other minerals as well as of vitamin B12, all essential for child growth and their cognitive development (Neumann et al., 2003).

Livestock and livestock products are the most important cash 'crop' in many smallholder mixed farming systems in SSA. Sales of livestock products such as milk, eggs and fibre generate a constant stream of income and the sale of live animals, meat and hides produce substantial sporadic income. Livestock also contribute to the stability of the incomes of farm households as they act as a cash buffer (small stock), a capital reserve (large animals) and as a hedge against inflation. The increase in weight of livestock over time and its reproductive capacity allow farmers gradually and continually to accumulate assets. Raising livestock is also often found to

be more profitable than saving money in a bank (if at all available) as net annual returns from livestock are higher than interest rates (Slingerland, 2000).

In mixed farming systems livestock reduce the risks resulting from seasonal crop failures as they add to the diversification of production and income sources (Sansoucy et al., 1995). Livestock play a critical role in process of the agricultural intensification through the provision of draught power and manure. While draught animal use is declining worldwide this trend does not hold for SSA. Especially in areas where mixed crop-livestock farming is practised, increased use of animal traction can help intensification and contribute to higher output (Sansoucy et al., 1995). The integration of livestock and crops also allows for efficient recycling of crop residues and by-products as animal feed and the use of animal manure as crop fertilizer. Livestock farming, especially in the case of dairying, also generates employment.

Apart from their important role for the poor in rural areas, livestock have become increasingly important to the livelihoods of the urban poor. The urban poor engage in livestock keeping as a response to limited alternative livelihood options and food insecurity. Even though livestock keeping is usually not the main occupation of urban households, livestock often have an important role for income generation (NRI, 2002).

Performance of the Livestock Sector in Sub-Saharan Africa

The average annual economic growth rate for SSA in the period 1995-2001 was around 4 per cent, up from 1 per cent in the first half of the 1990s. However, even a growth rate of 4 per cent is only about half the growth rate required to make significant inroads in reducing poverty, which most studies show to be around 6 to 8 per cent (ADB, 2002).

Production and Consumption of Livestock Products

Although the production of eggs, pig meat and poultry meat in SSA tripled between 1970 and 2000, that of milk and mutton and goat meat doubled and that of beef increased by nearly 70 per cent, the increases in production were not big enough to keep pace with population growth. For beef, milk, mutton, goat, and poultry meat the per capita production actually appears to have declined between 1970 and 2000 (FAOSTAT). Annual per capita consumption of meat, milk and eggs in SSA in 2000 was only around 10 kg, 30 kg and 1-2 kg respectively, only about 40 per cent, 60 per cent and 20 per cent of the respective developing country averages.

Hence, the 'livestock revolution', the rapid increase in the aggregate and per capita consumption of livestock products fuelled by population growth, rising incomes and increasing urbanization, as

experienced in developing countries in Asia or Latin America, does not have its counterpart in SSA.

Livestock productivity in SSA also remains low and average yields per animal in SSA are lower than those in other developing regions. Average carcass weights achieved are only 129 kg, 13 kg, 12 kg, and 48 kg for cattle, sheep, goats and pigs respectively, while average milk offtake per lactation amounts to 341 kg. In comparison to animal performance across all developing countries, these values merely represent 35 per cent in the case of milk of milk offtake, while carcass weights for pigs, cattle and sheep are about 70 per cent, 80 per cent and 90 per cent of developing country averages. Productivity growth has been negligible over the past decades and for beef and milk, production per animal appears even to have declined between 1975 and 1995.

Trade in Livestock Products

To bridge the widening gap between demand and supply of livestock products, net imports have grown steadily since 1970. Imports of meat, milk and eggs increased in all sub-regions of SSA, with SSA as a whole switching from being a moderate net exporter of animal products (mainly meat) in 1970 to a net importer by 1985. Between 1975 and 1995, total values of net imports of meat, milk and eggs in SSA increased from USD 4 million to 283 million (from around 0.05 to 2.00 per cent of the value of production in SSA). It is predicted that net imports will rise sharply over the next 30 years, with net meat imports being ten times higher in 2030 than in 2000 (FAO, 2003).

Prospects for the Livestock Sector

Projections for 2030 show that although per capita consumption of food crops and livestock products will only increase modestly (meat consumption by 40 per cent, milk consumption by 20 per cent and egg consumption by 53 per cent) and only slightly exceed the levels of 1970, total demand will more than double between 2000 and 2030 as a result of rapid population growth (FAO, 2003).

As overall economic growth in SSA is likely to stay modest, in the absence of viable alternatives, this growth still offers opportunities for improving the incomes and livelihoods of the livestock-dependent poor. Perhaps with the exception of milk, the projected demand could be covered largely by in-country production, particularly if 'dumping' of livestock products and the Organisation of Economic Cooperation and Development (OECD) member countries' subsidies for livestock production and exports were phased out, as discussed in the latest round of WTO negotiations.

A Window of Opportunity

After a period during which African governments and their development partners withdrew from many of the ineffective and expensive agricultural interventions pursued under earlier models of development, and declining shares of donor's lending for agriculture and rural development, a reorientation towards pro-poor and rural sector policies is taking place. At the global level the adoption by the international community of the Millennium Development Goals (MDGs) – which include the commitment to cut the incidence of absolute poverty in half by 2015 – is part of this re-orientation.

The New Partnership for Africa's Development (NEPAD), founded in 2001 to overcome the marginalization and enduring poverty of the African continent, as well as the formulation of Poverty Reduction Strategy Papers (PRSP), which have now become the centrepiece for policy dialogue in all countries receiving concessional lending from the World Bank and IMF, are examples of the new poverty focus.

African countries and most institutional donors have subscribed to achieving the MDGs and to the NEPAD initiative. It is hoped that this will be accompanied by increases in funding for rural areas and in particular increased funding towards agriculture and livestock development. However, since in the many sub-Saharan countries livestock development falls under the Ministry of Agriculture, rather than having a stand-alone ministry, there is a danger that this sector is sidelined by the generally more powerful crop-based sectors, despite its high importance.

Especially in the PRSPs livestock have frequently been neglected – so far there is hardly any connection between the importance of livestock for any given economy and the significance attributed to it in national PRSPs (Blench et al., 2003). This can be explained by the fact that government representation in the PRSP processes has often been at the ministerial rather than at departmental level, thus effectively barring livestock's voice from the process. The absence of appropriate pressure groups, CSOs or NGOs with a particular interest in the livestock sector and a lack of pro-active behaviour on behalf of the livestock sector departments, may further explain the omission of in the PRSPs.

The same problem applies to NEPAD. Despite the fact that agriculture is identified to be a sector of priority for NEPAD projects and programmes, livestock is currently not explicitly mentioned in the policy documents nor are its potential roles in economic growth and poverty reduction, though this has been partly addressed by the recent elaboration of a short companion document for the Comprehensive Africa Agriculture Development Programme, which covers livestock.

In comparison to Asia, the modernisation of agriculture in SSA will be slower and more costly to achieve per capita due to limited water control, greater agro-ecological heterogeneity, lower population density and less market access. However, there do not seem to be insuperable physical and non-physical obstacles preventing agricultural modernisation in SSA (Kydd et al., 2001). Moreover, other sectors would be more difficult and costly to develop with uncertain results, whilst the development of the agricultural sector can be achieved with relatively low cost inputs and with immediate benefits for the rural poor, that result from increased agricultural productivity (Delgado et al., 1998).

Rethinking Livestock Development for Sub-Saharan Africa

The history of agricultural development in Europe and North America shows that it was not primarily hampered by technological constraints, but that farmers were only willing and able to adopt existing technologies once an enabling policy and institutional environment was in place. Such an environment allowed them to access new technologies and reap the benefits of their adoption. This enabling environment is influenced by economic and institutional factors that are beyond the households' immediate control (Birner, 1999). Thus, in order to reverse the negative trends of livestock development in SSA, major institutional and policy reforms are required at national, regional and pan-African levels.

References

- African Development Bank (2002), *Achieving the Millennium Development Goals in Africa, Global Poverty Report 2002*
- Birner, R. (1999), *The role of livestock in Agricultural Development – theoretical approaches and their application in the case of Sri Lanka*. Ashgate, Aldershot
- Blench, R., Chapman, R. and T. Slaymaker (2003), *A Study of the Role of Livestock in Poverty Reduction Strategy Papers*, PPLPI Working Paper No. 1, FAO, Rome
- Delgado, L. C., J. Hopkins and V. A. Kelly (1998), *Agricultural Growth Linkages in Sub-Saharan Africa*, IFPRI Research Report, Washington D.C., International Food Policy Research Institute
- Ehui, S., S. Benin, T. Williams and S. Meijer (2002), *Food Security in Sub-Saharan Africa to 2020, Socio-economics and Policy Research Working Paper 49*, International Livestock Research Institute, Nairobi

- FAO (2002), *World Agriculture: Towards 2015/30 – an FAO Perspective*, FAO, Rome
- Faye, B. (2001), *Le rôle de l'élevage dans la lutte contre la pauvreté*, dans: *Revue Élevage Médecin Vétérinaire Pays Tropicaux*, 54 (3-4)
- Hazell, P. B. R. (2001), *Shaping Globalization for Poverty Alleviation and Food Security: Technological Change*, IFPRI Policy Brief, International Food Policy Research Institute, Washington D.C.
- Kydd, J., A. Dorward, J. Morrison and G. Cadisch (2001), *The role of Agriculture in Pro-Poor Economic Growth in Sub Saharan Africa*, Paper prepared for DFID, Wye
- LID (1999), *Livestock in Poverty-Focused Development. Livestock in Development*
- NEPAD (2002), *Agriculture Strategy – Underpinning Investments in African Agriculture and Market Access*
- Neumann, C.G., Bwibo, N.O., Murphy, S.P., Sigman, M., Whaley, S., Allen, L.H., Guthrie, D., Weiss, R.E. and Demment M. (2003), *Animal source foods improve dietary quality, micronutrient status, growth and cognitive function in Kenyan school children: Background, study design and baseline findings. Journal of Nutrition*, 133 (3941S–3949S)
- Ogle, B. (1996), *Livestock Systems in Semi-Arid Sub-Saharan Africa, Integrated Farming in Human Development – Workshop Proceedings*
- Sansoucy, R., M. A. Jabbar, S. Ehui and H. Fitzhugh (1995), *Keynote paper: The contribution of livestock to food security and sustainable development*, in: *Livestock Development Strategies for Low Income Countries*, FAO/ILRI, Rome/Nairobi
- Slingerland, M. (2000), *Mixed Farming Systems: Scope and Constraints in West African Savannah*, *Tropical Resource Management Papers*, Wageningen University and Research Centre, Wageningen
- Wiebe, K. D., M. J. Soule and D. Schimmelpfennig (2001), *Agricultural Productivity for Sustainable Food Security*, in: L. Zepada, (ed.) (2001), *Agricultural Investment and Productivity in Developing Countries*, FAO Economics and Social Development Papers 148, Rome
- World Bank (2000), *Can Africa claim the 21st century?* World Bank, African Development Bank, United Nations Economic Commission for Africa

World Bank (2002), From Action to Impact – The Africa Region’s Rural Strategy, Washington D.C.

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