to agricultural sector GDP than crop farming. With the advent of oil production and exports in the late 1990s, the relative contribution of the agricultural sector to national GDP has declined, but at no time in the last decade has the contribution of petroleum to GDP come close to equalling the contribution of agriculture, of which livestock provides the biggest part. Livestock is by value the largest subsector of Sudan's domestic economy, larger even than petroleum.

The great bulk of all livestock production – possibly 90% of the total, though no one really knows the actual figure – comes from small holders and migratory producers. To a remarkable extent, the Sudanese economy is based on a combination of mobile and sedentary pastoral and agro-pastoral production by farming and herding households in almost every region and state.

According to the approximate calculations undertaken in this report series, more than 70% of Sudan's livestock value added comes from northern Sudan. The concentration of livestock output in northern Sudan suggests that, the independence of the Republic of South Sudan is unlikely to diminish the economic significance of livestock in what is now Sudan.

Policy Recommendations

We conclude that national accounting techniques can contribute more effectively to livestock policy formulation than is presently the case. The following recommendations are designed to assist IGAD member states in developing accounting procedures that are more comprehensive, accurate and serviceable as a basis for policy in the livestock sector.

1. In different ways, all the countries covered in this report need to come to terms with accurately counting their national livestock populations. Irrespective of the care taken with other aspects of the calculation, it is impossible to estimate the value added to a national economy by a livestock population of unknown size.

In Kenya, the information on livestock numbers provided by the 2009 human population census revealed the limitations of the procedures then used by the Ministry of Livestock Development (MOLD) to estimate livestock populations. The next human population census may not contain questions on livestock, and it is essential that MOLD develop survey techniques to reliably estimate the country's livestock numbers, or subcontract this responsibility to a qualified national research institute or university.

In Sudan – after a hiatus of nearly four decades – it is essential that a livestock census or large scale sample survey – either aerial, ground-based or both – be undertaken as soon as possible in both Sudan and South Sudan.

In Ethiopia, an accurate estimate of the contribution of livestock to agricultural GDP will not be possible until the size of the national pastoral livestock populations has been established. In 2009, pastoral livestock had last been surveyed in 2003-04, and a more frequent schedule of surveying is required.

Finally, in Uganda Karamoja Sub-Region poses a challenge in terms of representative sampling given the organization of current survey efforts and conditions in the sub-region. We therefore recommend a specialized study of livestock production in Karamoja designed to quantify the region's considerable contribution to national livestock output.

2. We recommend that all IGAD countries adopt a production approach to estimating the contribution of livestock to agricultural GDP. There are many advantages to the production approach: It is transparent, it avoids the problems that arise when subsistence output is underestimated, and it facilitates the measurement of the performance of specific types of livestock enterprises, as well as the overall size of the livestock sector.

The current series of studies, summarized in this report, has revealed considerable variation in the procedures followed in individual IGAD member countries, and considerable variation in the accuracy of the resulting estimates. Many of these procedural variations are the result of countries adopting methods that make sense for their economy as a whole, but do not work well for the livestock sector. IGAD has proven its ability to work constructively to improve livestock accounting, in cooperation with the departments responsible for national accounts in four IGAD member states under this study; it is essential that IGAD now extend this programme of work to cover those states within the organization that have not yet had their livestock accounting examined (Djibouti, Somalia, South Sudan and Eritrea).

3. With the support of national government departments and research institutes, IGAD should undertake a regional survey of the monetary value of animal power to the economy of its member states, and the role of animal power in sustaining both rural and urban livelihoods. This report has shown that animal power (including draft power, transport and haulage) may constitute over half of the economic benefits derived from livestock, as it currently does in Ethiopia, and yet it is persistently ignored both in academic research and by national statistical departments. As the responsible regional organization, IGAD should work to remedy this situation.

This survey should be comprehensive. It should include all forms of animal traction, transport, and haulage by all species of working animals – cattle, equines and camels – in rural and urban areas and in all economic sectors – agriculture, manufacturing and services. As well as the commercial provision of animal power, the survey should assess the monetary value of the services that working animals directly provide for their owners.

4. The IGAD member states covered in this report all need to recognize the central contribution of the informal cross border livestock trade to national welfare. Kenya is a net livestock importer dependent on the cross-border trade to provide the bulk of the red meat available in Nairobi, while Ethiopia and Sudan are major exporters. But no country officially sanctions the entire cross-border trade and none attempts to accurately monitor it. As a regional organization committed to supporting regional trade, it is recommended that IGAD discuss this issue with its member governments, and continue to support research that will document the scale of the trade and its benefits for urban consumers, rural communities and livestock owners.

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(Endnotes)

All sources and data in this report come from and are fully referenced in the preceding studies in this series.

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POLICY BRIEF SERIES

IGAD Center for Pastoral Areas & Livestock Development (ICPALD)

ICPALD

Policy Brief No: ICPALD 8/SCLE/8/2013

The Contribution of Livestock to the Economies of Kenya, Ethiopia, Uganda and Sudan

Livestock specialists frequently argue that livestock production is underrepresented in the GDP estimates of African nations. With respect to Kenya, Uganda, Ethiopia and Sudan – the countries covered in this review – this argument has been confirmed.1

From 2010 to 2012 IGAD undertook a reappraisal of the contribution of livestock to the national economies of these four IGAD member countries. The 'headline' result of this evaluation is summarized in Table 1. Using 2009 as a base year for comparison, the re-estimated value added to national GDP by livestock was, depending on the country in question, 19% to 150% higher than official estimates for that year, and the monetary value added by livestock ranged from a low of over half a billion US dollars in Uganda to over fourteen and a half billion US dollars in Sudan, totalling more than 23 billion US dollars for the four countries combined. This new regional estimate represented a 37% increase in value added over the combined official estimates in 2009 for the countries concerned. Clearly livestock are big business in East Africa – much bigger, in fact, than had been previously suspected.

Table 1: The contribution of livestock to national GDP, 2009 in billion US dollars ($USD)

	Kenya	Ethiopia	Uganda	Sudan	Regional
Official value added	$1.651	$2.511	$0.282	$12.236	$16.68
Re-estimated value added	$4.124	$3.998	$0.527	$14.525	$22.844
Percentage increase on official estimate	150%	59%	87%	19%	37%

Ethiopia

In 2009, GDP estimates for Ethiopia were prepared by the National Accounts Department of the Ministry of Finance and Economic Development (MoFED). Using official producer price figures for 2008-09, we recalculated the combined gross value of 14 categories of livestock product outputs using a revised set of coefficients and livestock population estimates (Table 2). The recalculated combined gross value of livestock product outputs totalled 51.985 billion birr or 3.999 billion US dollars at 2008-09 exchange rates, an increase of about 59% over the gross value of livestock production estimated according to official coefficients and herd size estimates, IGAD LPI Working Paper No. 02 -11 (2011). A tabular summary of our re-calculations and a comparison with official estimates is provided in Table 2.

Table 2: Official and IGAD Estimated Gross Value of Ethiopian Livestock Production 2008-09, in billion Ethiopian Birr (EB), (NEXT)

Livestock Product Outputs	Official Billion EB	IGAD Billion EB
Cattle milk (including milk for butter and butter residue)	16.141	20.738
Camel milk	1.978	3,346
Goat milk	1.325	6.436
Sheep milk	0	0
Subtotal: milk and milk product offtake	19.471	30.520
Cattle offtake	6.302	8.103
Camel offtake	0.145	0.145
Sheep offtake	1.643	2.254
Goat offtake	1.563	2.255
Subtotal: ruminant offtake	9.653	12.757
Egg production	1.656	1.656
Chicken offtake	1.051	1.051
Pig offtake	-	-
Subtotal: non-ruminant production	2.707	2.707
Manure for fuel	1.966	3.429
Change in stocks	1.384	1.384
Other (wool honey and wax)	1.188	1.188
TOTAL	31.831	51.985

Sudan

Estimates of the contribution of livestock to Sudan's economy are beset by one abiding challenge: the absence of reliable, current data. There are multiple deficiencies, but above all, no one knows the current livestock population of Sudan, the last national livestock census having taken place thirty-seven years ago.

With no conclusive evidence to support alternative national livestock population estimates, the calculations in this analysis use the official livestock population estimates. On this basis, IGAD estimates of the contribution of livestock to national agricultural sector GDP, 33.843 billion Sudanese pounds (SDG) in 2009 (or about $14.550 billion USD at 2009 exchange rates), are broadly similar to the official 2009 estimates – 28.670 billion SDG (about $12.326 billion USD). The difference between these two estimates is 5.173 billion SDG, or a re-estimated increase of 18% over the official figure in 2009. Whereas the official figures for 2009 estimated a percentage contribution of the agricultural sector of just over 33% to total GDP, IGAD's revised