Livestock Data Innovation Project

3rd Advisory Committee Meeting – Minutes

Rome, 20-21 February 2012

Joint project of the World Bank, FAO, ILRI, AU-IBAR with support from the Gates Foundation
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1. STRUCTURE AND ORGANIZATION OF THE ADVISORY COMMITTEE MEETING

The 3rd meeting of the Advisory Committee of the Livestock Data Innovation Project was held in Rome at FAO HQs on 20 and 21 February 2012.

Meeting participants, in addition to the project team (FAO, ILRI, World Bank), included representatives from the African Development Bank, the African Union – Interafrican Bureau for Animal Resources (AU-IBAR), the Bill & Melinda Gates Foundation (BMGF), the FAO Regional Office for Africa, the FAO Statistics Division, the Global Alliance for Livestock Veterinary Medicines (GALVMed), the Governments of Tanzania and Uganda, the International Food Policy Research Institute (IFPRI), the International Livestock Research Institute (ILRI) and the World Bank Living Standards Measurement Studies – Integrated Surveys on Agriculture Project (LSMS-ISA) (see Annex 3 for participants).

The meeting was opened by Nancy Morgan, FAO’s liaison at the World Bank, who made welcoming remarks, reviewed the role of the Advisory Committee (see Annex 1), presented the agenda (see Annex 2) and its rationale, and thanked the members of the Committee for their participation in the meeting. Kristin Girvetz, from the Bill & Melinda Gates Foundation, then welcomed participants and emphasized that the meeting had to be considered as the first real Advisory Committee Meeting of the Project, as the first one in January 2010 was held during the inception meeting, and the second was held in December 2010, less than three months after the project team was fully on board. Presentations / discussions were thus expected on tangible project’s activities and outputs.

The Advisory Committee members were challenged to review presentations and discussions over the course of the meeting as an opportunity to provide input on:

- Project progress: relevance and quality of technical work.
- Work plans, proposed activities.
- Relevance and strategies for dissemination of project outputs, in particular the Sourcebook and the Advocacy Document.
- Leveraging the project through linkages with other data initiatives, such as the Global Strategy for Enhancing Agricultural Statistics, and the identification of leveraging funds for up-scaling activities.
- Communication strategies to attract relevant global, regional and country interest in the project.
- The future of the project.

The meeting was closed by Nancy Morgan, FAO’s liaison at the World Bank. It was followed, on Wednesday, February 22th, by a project management meeting to discuss the key messages derived from the meeting discussions.
2. OVERVIEW OF ACTIVITIES, THE ADVOCACY DOCUMENT AND THE SOURCEBOOK

On the first day of the meeting, discussions focused on the following presentations which reviewed ‘where we are as a project’ and ‘where we are going’:

Presentation 1: The Livestock Data Innovation Project. The road travelled: activities, partnerships and constraints / opportunities (Ugo Pica-Ciamarra, FAO)

Presentation 2: Ensuring useful project output and dissemination (Nancy Morgan, FAO-World Bank)

The Livestock Data Innovation Project. The road travelled: activities, partnerships and constraints / opportunities

By Ugo Pica-Ciamarra, FAO

The Livestock Data Innovation in Africa Project is a US$ 2.5 million pilot initiative aimed at drawing and disseminating lessons on the ‘review and collection/analysis of livestock data in selected African countries [Niger, Uganda, Tanzania] which guides better decision making and investment to support livelihood improvement among smallholder livestock producers’. The project is jointly implemented by the FAO Animal Production and Health Division, the World Bank, and the ILRI, in collaboration with AU-IBAR.

The objective of the project is to support the generation of good quality data about the role of livestock in poverty reduction and economic growth through 1) the development of good practices to collect, analyse and use livestock-related data / indicators, and 2) the generation of capacity among livestock-decision-makers in the pilot countries to identify core livestock data / indicators that are needed to design effective investments in the livestock sector. The lessons and findings derived from project’s activities will be condensed and summarized in two major outputs, including an Advocacy Document, ‘Livestock for Development: The Opportunities and Challenges’, and a Sourcebook on ‘Livestock Data in Africa: Collection and Analysis as a Decision Making Tool’.

In the course of 2011 the project conducted a number of activities (more details in Annex 4):

- Development of the table of contents for the Sourcebook and the Advocacy Document.
- Analysis of LSMS datasets for 12 developing countries; formulation of an expanded livestock module for LSMS-type surveys and improvement of the livestock module of the LSMS-type surveys in Niger and Uganda. The ultimate objective is to appreciate the livestock data/indicators that help best quantify the contribution of livestock to household livelihoods.
- Methodological validations, in the context of LSMS-type survey, to identify, through field experimentation, best options to 1) quantify milk production in Niger (ongoing) and 2) derive information on livelihoods of pastoralists (to be piloted in Tanzania and currently in the planning stage).
- Analysis of consumption of animal-sourced food in Tanzania and Uganda, based on household-level data and field work. This work derives an approach to measure both quantity and quality/safety attributes preferred by consumers with the objective to generate core indicators.
that quantify market opportunities for livestock producers. It also contributes to the so-called ‘Constraint Analysis’ by way of identifying ‘hot spot’ products/attributes for smallholder producers’ supply to key markets, and helps identify constraints in the value chain that the project’s other activities do not come into contact with.

- Review of the literature to support the development of a methodology for implementing the constraint analysis, aimed at identifying bottlenecks (and associated indicators) which prevent farmers from being efficient and from tapping into growing livestock markets. Preliminary constraints for Tanzania dairy farmers have been identified, based on data from the 2008/09 Tanzania National Panel Survey, and supplemented by participatory work at a July 2011 workshop in Arusha (see below).

- The project has commissioned a review of different systems of agricultural data collection, with the ultimate objective to provide guidance on options for field level data collection. It has additionally partnered with national and international stakeholders in Tanzania to ensure the inclusion of a livestock-screening question in the coming Population and Housing Census (August 2012). It is supporting the identification of core livestock data indicators in Uganda, in collaboration with the Uganda Ministry of Agricultural, Animal Industries and Fisheries and the Uganda Bureau of Statistics. It has organized, jointly with the Tanzania Ministry of Livestock and Fisheries Development, an international workshop on Livestock Data: New Perspectives, held in Arusha in August 2011.

- The project website has been upgraded and is supplemented regularly with new material. A total of 15 briefs, 12 reports / papers and 15 presentations were available for download at the end of 2011 (see Annex 4). An increasing number of contacts to the project are being received via the website.

The project is currently facing three major challenges:

- Identifying a comprehensive set of core indicators - which should help quantify the role of livestock in household livelihoods, measuring market opportunities and constraints – is complex. After discussion with stakeholders, the project worked to identify major domains / areas for which information is needed. These include livestock investment domains – which target various indicators along the value chain – and livestock development domains – which target indicators measuring / valuing the potential contribution of livestock to economic growth and poverty reduction. The livestock investment domains have been identified, and examples of indicators for each domain provided, while the livestock development domains need to be defined.

- Nationally representative household-level data, such as the LSMS-ISA datasets, are useful to appreciate poverty. However, they are not sufficient on their own to understand growth trends or identify investment opportunities. However, in the medium-term, given that LSMS-ISA surveys will be repeated over the years, LSMS-ISA may be used to also identify effective pathway out of poverty.

- Timing of data collection, as identified at the onset of the project, is a challenge given that data from the ‘livestock module’ will be available late in the project, and only for two countries. This
limits the ability of the project to undertake a thorough analysis to incorporate into the Advocacy Document. The project will therefore examine datasets that contain limited information on livestock, though LSMS-ISA questionnaires include more livestock questions than standard LSMS questionnaires. Some potential inconsistency is envisaged, therefore, between the Sourcebook – which will present the LSMS livestock module – and the Advocacy Document, which will not draw on a comprehensive analysis of data derived from the livestock module.

**Ensuring useful project output and dissemination**
*By Nancy Morgan, FAO-World Bank*

The Livestock Data Innovation Project will produce two major outputs, including:

- A Sourcebook on ‘Livestock Data in Africa: Collection and Analysis as a Decision Making Tool’.

The proposed contents of both documents were reviewed in this presentation (see Annex 5). The objectives of the outputs include 1) influencing policy makers on the importance of data for policy and planning; 2) stimulating demand for reliable and systematic data systems; and 3) raising awareness about tools and methodologies for collecting reliable data. The structure and dissemination of the outputs were discussed with a priority emphasis placed on the ensuring effective communication, project dissemination and uptake.

Both the Sourcebook and the Advocacy Document will consist of short self-contained chapters, which will be disseminated / presented in the course of the project and assembled together in two major documents towards its end. The chapters will present theories and practical evidence from the three project countries and other countries for which information / data is available. Both documents will mainly focus on key household-level data and indicators, particularly on LSMS and LSMS-ISA data, though data from other sources may also be presented / analyzed.

A preliminary list of core livestock-related indicators has been produced by the LSMS-ISA and the Livestock Data Project and will be implemented by ADePT. ADePT is a Software Platform for Automated Economic Analysis developed by the World Bank. It is a free program that uses micro-level data from various types of surveys (including Living Standards Measurement Surveys) to produce standardised tables and graphs for a particular subject area.

**Discussion**

Participants in the meeting generally appreciated the table of contents of both the Advocacy Document and the Sourcebook, which may be refined as project’s activities are implemented. Some major points were made as follows:

- **A clear dissemination strategy of both documents should be developed now that the tables of contents have been drafted.** In the absence of such a strategy, the two documents risk being unappreciated and unused, undermining the value of the entire project. There was

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1 Titles as in the project document. Different titles could be proposed.
agreement that institutions participating in the Advisory Board Meeting provide a major platform for effectively disseminating both documents, even after the end of the project. In particular, partnerships with AU-IBAR, the African Development Bank, and the Global Strategy to improve Agricultural and Rural Statistics were deemed critical for an effective dissemination and use of the project outputs. The Global Strategy endorsed the Sourcebook concept and agreed in principle to work with the project to develop and disseminate the product.

- The Advocacy Document will examine only a limited set of livestock-related developmental questions. Some criteria should be provided that justify the choice of questions, including reference to the literature and discussion with stakeholders in the pilot countries. In general, it is important that the Advocacy Document addresses issues that are relevant throughout Africa with evidence pulled from the pilot countries, i.e. the pilot countries should be treated as examples from which draw lessons / evidence of broader value.

- Engagement / involvement with the private sector was discussed to explore how some chapters of the Sourcebook / Advocacy Document should be structured to generate growing awareness among private investors about potential business opportunities. It is noted that LSMS data, around which the project is structured, are usually collected and used by public actors, though they can generate information of relevance to private investors.

- AU-IBAR, the Governments of Tanzania and Uganda and FAO’s Regional Office for Africa (in Ghana) expressed appreciation of the value of the Sourcebook and explored opportunities to introduce the modules in sub-Saharan Africa countries. While the project does not have resources nor the mandate to leverage use of the Sourcebook throughout the region, part of the Sourcebook could be possibly used by implementers of the Global Strategy to Improve Agricultural and Rural Statistics. The communication strategy should ensure that awareness of the Sourcebook extends beyond the piloted countries, that it is introduced, endorsed, and promoted by various champions within different audiences.

- Both the Sourcebook and the Advocacy Document should be structured as living documents, which could be updated / improved after the end of the project. For instance, the Sourcebook will present two methodological validation exercises focusing on milk production and pastoralist livelihoods in the context of LSMS-type surveys, but additional experiments / validations may be conducted by the LSMS-ISA Project or through the Global Strategy to Improve Agricultural and Rural Statistics in the coming years, provided that resources are available. The Advocacy Document will make little if any use of the ‘livestock module’ data as these will be available towards (Niger / Uganda) and after (Tanzania) the end of the project, i.e. more comprehensive analyses of the livestock-poverty-livelihood linkages could be done after the end of the project. However, the project will investigate opportunities to build on this analysis, building and feeding into the Advocacy Document after the end of the project.

- Finally participants noted that there will gaps in both the Sourcebook and the Advocacy Document. Gaps include 1) issues related to administrative/routine data systems, which are of critical importance for national / local governments will be marginally treated; and, 2) the identification / appreciation of off-farm and non-farm investment opportunities will be limited
as the collected data are mainly derived from household surveys. It should be recognized that the project is a pilot that aims to identify and examine some of the existing gaps in livestock data and should not aim to address all existing livestock-data related issues.

2. TECHNICAL OUTPUTS AND PARTNERSHIPS

In the morning session of the second day (21 February) of the meeting, the following presentations were given.

Presentation 3: Enhancing the availability of livestock data: A livestock module for LSMS-surveys and its application to Niger and Uganda (Ugo Pica-Ciamarra, FAO).

Presentation 4: Market opportunities indicators for livestock producers: Evidence from Tanzania and Uganda (Derek Baker, ILRI).

Presentation 5: Livestock indicators for targeted investments: Translating constraints into opportunities in Tanzania (Ayele Gelan, ILRI).


Presentation 8: Identifying core livestock indicators: MAAIF-UBOS partnership in Uganda (Joseph Sserugga, Uganda Ministry of Agriculture, Animal Industries and Fisheries).


Presentation 8: Integrating data from different sources: improved spatially disaggregated livestock measures for Uganda (Carlo Azzarri, IFPRI).

Enhancing the availability of livestock data: A livestock module for LSMS-surveys and its application to Niger and Uganda

By Ugo Pica-Ciamarra (FAO)

The project designed an expanded livestock module for LSMS-type surveys, including about 200 livestock-related questions and covering areas such as livestock inventory, feed and water for animals, animal health, animal housing, production of meat, milk, eggs, manure as well draught power and hauling services. The module aims at better quantify the contribution of livestock to household households. It builds on a comprehensive review of standard LSMS questionnaires; on first-wave LSMS-ISA questionnaires and on specialized livestock questionnaires, mainly designed by ILRI. The module is flexible by design, as country governments have the flexibility to select the sections and/or specific questions to include in multi-topic household surveys, which depends on the country’s priorities and resources. However, given that no country is going to implement the full module, the project plans to also develop a ‘standard’ and an ‘abbreviated’ version of the module.

The comprehensive livestock module has been used to improve the livestock section of the agriculture questionnaires of the Niger Enquête Nationale sur Les Conditions de Vie des Ménages
2011/12 and of the Uganda National Panel Survey 2011/12. Data will be available for analysis towards the third or fourth quarter of 2012 for Niger and in the second quarter of 2013 for Uganda.

Market opportunities indicators for livestock producers: Evidence from Tanzania and Uganda

By Derek Baker (ILRI)

The project developed a framework to quantify market opportunities for livestock producers, which includes both quantitative and qualitative elements. In particular, data from the 2008/09 Tanzania National Panel Survey and the 2009/10 Uganda Household Budget Survey were used to estimate the current and prospective demand for quantity and quality of animal food by consumers belonging to different income brackets. In both Uganda and Tanzania consumer and retailer questionnaires aimed at capturing the preferred quality/safety attributes demanded by consumers in different income quintiles were developed and administered to about 40 retailers and 150 consumers in urban and rural areas. Preliminary results anticipate significant demand growth for animal protein in both Uganda and Tanzania, with consumption being mostly of relatively low-processed, low quality livestock products. However, evidence suggests that increasing incomes are associated with increased demand for quality: more so than for quantity. This provides major business opportunities for small but market oriented livestock producers, and will be examined further in the Constraint Analysis to proceed in 2012.

Field work also identified linkages between retail formats (markets, small shops, supermarkets), quality demanded, and consumer types (using proxies for income). The specific supply chain requirements of such outlets also represent business opportunities, which will also be examined further in the project.

More generally, these results allow improved interpretation of the widely-observed GDP per-capita indicator, as a valuable indicator of market opportunities. This is particularly the case where its levels are associated with the quality/safety attributes preferred by different types of consumer (for which income quintile is presented in the LSMS data).

Livestock indicators for targeted investments: Translating constraints into opportunities in Tanzania

By Ayele Gelan (ILRI)

In the context of smallholder livestock production systems, a constraint is any barrier that prevents livestock keepers from achieving their goal to improve their livelihoods. Linked to market opportunities (see previous presentation) and in the context of livestock data quality and quantity, definition and implementation of Constraint Analysis has proved challenging.

Constraints can take many different forms but a core principle is that binding constraints in most systems are often very few in numbers. They can be classified into bio-physical or policy constraints, and are either internal or external to the production system. There are diverse methods to identify / examine constraints: 1) desk reviews of the literature, 2) participatory rural appraisal, 3) linear programming, 4) econometric methods to estimate agricultural supply responses. Finally, constraints have been identified by using a data envelopment analysis (DEA) to measure technical
efficiency of farms together with econometric methods aimed at explaining the range of efficiency scores amongst the farms in terms of differences in the constraints or opportunities they face.

The Livestock Data Innovation Project attempted to implement the DEA-cum-econometric-analysis approach using data from the Tanzania 2008 National Panel Survey (NPS). However, while outputs are distinguished and valued in the database, farm inputs are not divided nor allocated to different farm activities (e.g. livestock, cropping, etc), which makes the DEA approach unfeasible. The data was thus used to undertake a partial productivity analysis of dairy production, which involved computing milk yield per cow per day, and then seeking explanations for differences among farms in productivity using multivariate analysis. **Access to market and ownership of exotic breeds of cows are found to be significant determinants of livestock productivity, and hence major areas where investments could provide positive returns.**

The partial productivity analysis is an introductory step, which will be extended during fieldwork in Uganda and Tanzania during 2012. Rapid Appraisal work at selected locations will verify the results of the productivity analysis and embark on further definition and identification work for production and marketing constraints. The field work will examine in detail the nature of constraints and possible means of alleviating them, in major domains of indicators (feeds, animal health, breeding, marketing) as defined in the Sourcebook. The derived definition and alleviation ideas will then be used to construct Sourcebook recommendations on data and Advocacy Document recommendations on pro-poor livestock policy and investment more generally. Linkages between marketing-related constraints and poor producers’ performance will also be addressed, with advocacy focused on demand for specific data types.

**Identifying core livestock indicators: MAAIF-UBOS partnership in Uganda (Joseph Sserugga, Uganda Ministry of Agricultural, Animal Industries and Fisheries)**

By Joseph Sserugga (Uganda Ministry of Agriculture, Animal Industries and Fisheries)

Developing country governments are expected, as per the Global Strategy to Improve Agricultural and Rural Statistics, to identify and collect core agricultural data / indicators, which are needed to formulate effective policies and programmes and monitor their outputs, outcomes and impacts. The identification of core agricultural indicators is challenging because of the different demand for data / indicators by different stakeholders. Early work of the Data Project in Uganda identified those stakeholders and raised awareness concerning demand and supply of livestock data: before this there had been rare contacts amongst those stakeholders.

With support from the Livestock Data Innovation Project, the Uganda Ministry of Agriculture, Animal Industries and Fisheries (MAAIF) and the Uganda Bureau of Statistics (UBOS) have agreed to collaborate with the objective to identify core data / indicators in the livestock sector. These indicators should meet the demand for data by 1) MAAIF, which is responsible for formulating and implementing livestock sector policies and programmes; 2) UBOS, which is responsible for collecting and disseminating official statistics in the country; 3) the Ministry of Finance Planning and Economic Development, which is responsible for the allocation of government resources; 4) AU-IBAR, which is mandated to guide the implementation of the
Comprehensive Africa Agriculture Development Programme (CAADP) and has been implementing the Animal Resource Information System (ARIS II) Africa-wide. Under the inter-organisational agreement promoted by the project, indicators will be agreed upon through joint MAAIF-UBOS workshops and the joint analysis of the National Panel Survey data, which is expected to provide indications on livestock indicators related to livelihoods and poverty.

MAAIF and UBOS have agreed to sign a Memorandum of Understanding for ensuring a smooth collaboration. The Livestock Data Innovation Project will provide technical assistance and some resources to facilitate the joint identification of core livestock data / indicators.

Improving methods of data collection: Validation exercises on milk production and pastoralists in Niger and Tanzania

*By Alberto Zezza (World Bank)*

The Livestock Data Innovation in Africa Project has been collaborating with the World Bank Living Standards Measurement Studies – Integrated Surveys on Agriculture Project (LSMS-ISA) to develop best methods of livestock data collection in the context of LSMS-type surveys. Two major data experiments have been targeted, including milk production and deriving better estimates of pastoralists’ livelihoods, as recommended during the Inception Meeting of the Project in January 2010. Three alternative formulations of a milk-production question have been tested in Niger, including: 1) the ‘typical’ LSMS question (months of production / average production per month); 2) a question targeting milk production per day/per animal (months of production / animals milked / milk per animal); 4) a question attempting to measure the lactation curve (months of production / animals milked / milk per animal at three points along the lactation curve / length of lactation). Preliminary results suggest that the ‘typical’ LSMS question tends to underestimate milk production, up to 30 percent. In the post-harvest questionnaire of the Niger Enquête Nationale sur Les Conditions de Vie des Ménages 2011/12 questions 2 and 3 have been thus included, and both World Bank and ILRI have provided support to the enumerators while administering the questionnaire. Data will be available for analysis in the third or fourth quarter of 2012. At the same time, funds have been provided to ICRISAT to generate benchmark data against which to assess the quality of the collected data, and hence identify a best-practice question for measuring milk production.

A concept note has been drafted to undertake a methodological validation exercise targeting pastoralists. It addresses three major issues: seasonality; best-informed respondents; questionnaire content. It will be translated into an action plan to be implemented in 2012, most likely in Northern Tanzania (Arusha Region).

Producing reliable statistics: Livestock Technical Conversion Factors in Tanzania

*By Longin Nsiima (Tanzania Ministry of Livestock and Fisheries Development)*

According to the Ministry of Livestock and Fisheries Development (MLFD) available livestock data in Tanzania are largely insufficient for the design, implementation and monitoring of efficient and equitable livestock sector investments by the public and private sectors. In
particular, livestock data stakeholders – both at a New Perspectives on Livestock Data Workshop on Production, Marketing and Consumption Statistics held in Arusha in August 2011 and during an ad-hoc meeting of the Agricultural Sector Development Programme / M&E Technical Working Group (ASDP M&E TWG) in December 2011 – highlighted four major issues related to the quantity / quality of available livestock data. Firstly, data on livestock population are inaccurate, derived and building from the latest livestock census on a complete enumeration basis conducted in 1984. Secondly, livestock technical conversion factors are obsolete or not available at all\(^2\) while too many livestock-related data are collected and too many indicators generated, which results too often in poor quality data/indicators. Finally, some data/indicators are not collected/produced at all in the absence of any specialized livestock surveys.

In the context of the implementation of the Tanzania Statistical Master Plan 2009/10 - 2013/14 (TSMP), MLFD – with the technical support of the Livestock Data Innovation Project – has developed a proposal to calculate selected livestock technical conversion factors. These, such as average milk production per cow per lactation and average carcass weight, are used to model growth in livestock population and quantify livestock production. The proposal involves the development and implementation of methodologies for directly measuring technical conversion factors on the farm and along selected points in the value chain, such as in slaughterhouses.

MLFD plans to submit the proposal to the National Bureau of Statistics for funding under the donor basket fund, which supports the implementation of the TSMP. The implementation of the proposal would update selected technical conversion factors which enable the use of key indicators. It will also help assess the quality of existing data collection systems, including the National Panel Survey (LSMS).

**Integrating data from different sources: improved spatially-disaggregated livestock measures for Uganda**

*By Carlo Azzarri (IFPRI)*

Supported by the LSMS-ISA Project, the Livestock Data Innovation Project and IFPRI/Harvest Choice have been jointly collaborating to integrate different sources of livestock data so as to provide more reliable and spatially-disaggregated livestock information to policy makers. In particular, making use of the latest Uganda National Panel Survey (UNPS) 2009/10 and the Uganda National Livestock Census (NLC) 2008, IFPRI has first combined livestock density mapping results with those from spatial macro-models by species. It has then fitted an estimation model of livestock income on the UNPS, and predicted the missing information in the NLC, mapping livestock income at the local level. Preliminary results suggest that integrated use of multiple data sources, such as household surveys and censuses, satellite imagery and administrative data, together with spatial analysis techniques such (e.g. Small Area Estimation) and spatial allocation models, can provide reliable, coherent, and location-specific insights to guide policy and investment.

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\(^2\) Those used by MLFD are mostly based on a livestock sector review conducted by the Netherland Economic Institute (NEI) in 1988.
The model and some of its components are yet to be refined, and possibly the analysis replicated using data from the 2011/12 National Panel Survey, which includes the livestock module. However, preliminary results are largely consistent and provide evidence that integrating different sources of livestock related data may provide valuable information to decision-makers.

Discussion
Following the various presentations, participants in the meeting highlighted the following:

- **The LSMS-ISA questionnaires appear top-down rather than bottom-up, i.e. there could be concerns about the value of the data collected.** The project team noted that the Niger Enquête Nationale sur Les Conditions de Vie des Ménages 2011/12 and the Uganda National Panel Survey 2011/12 have been designed by the National Institutes of Statistics, with technical and financial inputs provided by the LSMS-ISA Project and the Livestock Data Innovation Project. The livestock expanded module will be used to assist the government of Tanzania in developing the 2011/12 National Panel Survey and, possibly, to the government of Mali in designing the coming multi-topic household panel survey.

- **The value of the proposed questionnaires could be fully assessed only when data will be available for analysis, i.e. in the second half of 2012 for Niger and in 2013 for Uganda.** There is a perception that, possibly, too much detailed questions have been incorporated in the livestock module and that only limited improvements to the questionnaires and the livestock expanded module could be achieved before the end of the project.

- **The LSMS-ISA surveys largely ask quantitative questions, and qualitative information is generally not obtained, such as on the quality of manure. However, both in the Uganda and the Niger questionnaires some qualitative questions are included, such as about the reasons for keeping livestock and on whether any significant shortage of feed / water was recorded in the past year.**

- **Analysis of consumption trends identified good proxies about market opportunities for investments.** The analysis will be finalized and improved if possible through looking at multiple household characteristics or by making use of the network roster available in the dataset. Results could be useful to the East Africa Dairy Development Project.

- **The constraint analysis helps prioritize some bottlenecks which prevent farmers from being efficient, which at the same time represent priority areas for investments.** Some field work will be done to validate the findings.

- **The proposal to estimate technical conversion factors in Tanzania aims not only to improve the quality of livestock statistics but also to provide benchmark values against which to validate/improve LSMS and other survey instruments.**

- **The Livestock Data Project should attempt to emphasise the policy dimensions / lessons of its activities.** Activities of the project have been mainly focused on technical issues so far, but enhanced partnerships with AU-IBAR and the Global Strategy to Improve Agricultural and Rural Statistics are a pre-condition for generating awareness among decision-makers about the importance of investing in livestock and livestock data to promote economic growth and poverty reduction.
In the final session of the second day of the meeting, two presentations were given, followed by an update by the African Development Bank and AU-IBAR about activities which could potentially be linked to on-going project activities.


Presentation 11: BMGF Livestock Strategy Update (Kristin Girvetz, BMGF).

**The Global Strategy to Improve Agricultural and Rural Statistics: Synergies with the Livestock Data Innovation in Africa Project**

*By Elisabetta Carfagna (FAO)*

The Global Strategy to Improve Agricultural and Rural Statistics was approved by the UN Statistical Commission in February 2010. It aims to assist countries in developing sustainable statistical systems, which produce accurate and reliable agricultural and rural data over time and across space, thereby supporting evidence-based public and private investment decisions. The Global Strategy is structured around three pillars: 1) the establishment of a minimum set of core data that country governments should collect; 2) the integration of agriculture into the national statistical systems; and, 3) governance and statistical capacity building. The establishment of a common master sample frame for all agricultural and non-agricultural surveys, to the extent that is possible, is an essential step towards the implementation of the Strategy. Global (at FAO HQs) and Regional Offices have been established to support the implementation of the Strategy. Development partners will conduct research and provide technical assistance and training to country governments, including the Bureaus of Statistics and the Ministries of Agriculture which ultimately are expected to use their own resources to implement the Strategy.

The minimum set of core livestock data/indicators to be collected/generated by country governments include: number of animals; production; imports and export of livestock products; livestock processed; productivity indicators. The FAO, which is leading the research component of the Global Strategy, has identified a number of priority areas for research, including enumerating nomadic livestock and estimating livestock production. Research involves a review of relevant literature / experience, identification of specific issues to be addressed in consultation with local partners, formulation and implementation and refinement of methods to best collect/produce livestock-related data; dissemination of findings, best practice methods and guidelines.

**Livestock Strategy Update**

*By Kristin Girvetz (BMGF)*
Over the past year, the Bill and Melinda Gates Foundation (BMGF) drafted a Livestock Strategy, which is one of the components of its broader Agricultural Development Strategy. The Strategy aims to support the generation of public goods that sustain increases in productivity in the regions of the world where most farmers live, including sub-Saharan Africa (SSA) and South Asia. These two regions are home to about 900 million poor livestock keepers, for whom farm animals provide multiple livelihood services. At the same time, growth in population, gains in real per capita income and urbanization and associated dietary shifts are sustaining a growing demand for animal foods in both SSA and South Asia, which could provide a pathway out of poverty for many livestock producers.

Investments in animal genetics and animal health are identified as the most promising to increase smallholder productivity, a pre-condition for tapping into the growing markets for animal foods. The BMGF has identified the following target countries for initial implementation of its Livestock Strategy: Burkina Faso, Ghana, Mali and Nigeria in West Africa; Ethiopia, Uganda and Tanzania in East Africa; Bangladesh and India (Bihar and Orissa) in South Asia.

The Foundation is currently sponsoring 9 livestock-related initiatives, for a total disbursement of about US$ 133 million, which is about 6 percent of the Agricultural Programme Budget. It is anticipated that more resources will be invested in livestock in the coming years. The Livestock Strategy will soon be publicly available.

Comments by the African Development Bank

The discussion focused on the Global Strategy and the BMGF Livestock Strategy as well as on how to leverage on project’s activities to ensure that they will be incorporated / used by major development partners. The following points were made:

- The African Development Bank (AfDB) is supporting the implementation of the Action Plan for Africa of the Global Strategy to Improve Agricultural and Rural Statistics in Africa. In particular, AfDB is leading the technical assistance component of the Action Plan and in January 2012 the Board agreed to financially support statistical training in different Regional Economic Communities throughout Africa. In addition, the AfDB is strengthening its statistics department.
- The implementation of the Global Strategy begins with a detailed assessment of each country’s statistical capacity. A first country assessment workshop is anticipated to be organized in the second quarter of 2012, most likely in Rwanda.
- The AfDB is willing to collaborate with both the Livestock Data Innovation Project to best integrate livestock into the Global Strategy. It should be recognized, however, in the implementation of the Global Strategy, that livestock is only one of the components within the broad remit of agricultural and rural statistics.
- The AfDB recognized that the outputs of the Livestock Data Innovation in Africa Project, and in particular the Sourcebook on ‘Livestock Data in Africa: Collection and Analysis as a Decision Making Tool’, could provide a valuable contribution to the implementation of the Global Strategy in Africa.
Comments by AU-IBAR

- As a specialized technical office of the African Union Commission, AU-IBAR is mandated ‘to support and coordinate the utilization of livestock, fisheries and wildlife as resources for both human wellbeing and economic development’. The 2010-14 AU-IBAR Strategic Plan is structured around six programmes, of which 3 are particularly relevant to the Project focus. They include:
  - Programme 3: ‘Improving investment opportunities and competitiveness of animal resources in Africa’;
  - Programme 5: ‘Improving knowledge management in animal resources to facilitate informed and timely decision-making’; and,
  - Programme 6: ‘Facilitating development of policies and institutional capacities for improved utilization of animal resources in Africa’. Data collection and analysis for evidence-based policies are thus an essential element of the AU-IBAR’s Strategic Plan.

- Data activities within AU-IBAR include ARIS 2 which is a broad based regional information system to be implemented in all African countries. It was launched on 16th of January 2012 and is planned to be rolled out over the next two months. In addition, AU-IBAR plans to apply in six countries the ALive Livestock Sector Investment Toolkit, of which some of the modules are data-dense. AU-IBAR has been also designated as the leading institution for guiding the implementation of the Livestock component of the Comprehensive Africa Agriculture Development Programme (CAADP), which involves assisting countries in drafting their CAADP Compacts (Stocktaking Exercise; the Compact itself; the Investment Plan).

- Both the Sourcebook and the Advocacy Document produced by the Livestock Data Innovation Project may be valuable tools for AU-IBAR to effectively implement its Strategic Plan, provided that they are developed in close consultation. AU-IBAR, because of its role and Africa-wide mandate, has major comparative advantages in ensuring widespread dissemination of both the Sourcebook and the Advocacy Document and in advocating for more investments in livestock and livestock data.

- At the regional level, some of outputs / lessons of the project could be disseminated through the African Commission on Agricultural Statistics, whose next meeting will be held in 2014, as well as through some RECs, such as COMESA, EAC, ECOWAS and SADC.

4. CONCLUSIONS

The meeting concluded with a discussion focused on ‘Looking beyond 2013’ including opportunities for leveraging project activities beyond the end of the project. Members of the Advisory Committee of the Livestock Data Innovation in Africa project concurred that:

- The project is on track and the activities/products developed over the past year were impressive. However, the success of the project will depend on the dissemination strategy for both the Sourcebook and the Advocacy Document and the identification of regional champions. It was emphasized that the two project outputs will have different
audiences, with livestock stakeholders and statistical offices being the target of the Sourcebook while advocacy messages should be also disseminated towards non-livestock audiences. The project team plans to review and update the dissemination strategy jointly with key partners, including not only participants in the meeting but, possibly, also national governments in the pilot countries. Implementation of the dissemination strategy will start as soon as first chapters of the Sourcebook and the Advocacy Document are produced.

- It is envisaged that AU-IBAR could assist the project in promoting the disseminating both documents, while the Global Strategy to Improve Agricultural and Rural Statistics (both through FAO and the AfDB) could support the dissemination of the Sourcebook by adopting selected modules for dialogue with countries. Most importantly, however, is that AU-IBAR and, as far as possible, RECs and national governments take ownership of both the Sourcebook and the Advocacy Document.

- Integration of data from different sources has been highlighted as a key area for improving livestock-related indicators. Improved linkages with IFPRI, as well as with the Global Strategy, are critical to both develop and disseminate best-practices related to livestock data integration.

- Because of some time inconsistency between the LSMS-ISA Project and the Livestock Data Innovation Project, the data generated through the LSMS livestock module will not feed into the Sourcebook and the Advocacy Document. The first LSMS-ISA questionnaires, however, include a good number of livestock-related questions, which means that the project is in a position to analyze an unprecedented set of LSMS livestock-related data. The LSMS-ISA Project also highlighted that an expansion of livestock data beyond the piloted countries could be forthcoming after the end of the Data project through the expansion/incorporation of the refined livestock modules in other countries, such as Ethiopia, Mali, Malawi and Nigeria. Public access of the LSMS-ISA data will generate interest and advocacy should highlight availability of this data for further analysis.

- Both the Sourcebook and the Advocacy Document will summarize the activities / findings of the project in the course of three years and have to be structured as living documents, i.e. others will be called to update / improve them after the end of the project, possibly making use of data from the ‘livestock modules’. This will include not only data from the three project countries (Niger, Tanzania, Uganda) but also from the other LSMS-ISA pilot countries (Ethiopia, Malawi, Mali and Nigeria).

- There are concerns that, after the end of the project, much of the data produced and lessons learnt will remain unused. The ultimate question is if and what institutional mechanisms could be put in place to ensure that livestock data collection, analysis and dissemination become a structural component of major international, African-wide, regional and country initiatives. This is a concern which could be worked out through an effective communication strategy with AU-IBAR.
ANNEX 1. TERMS OF REFERENCE OF THE ADVISORY COMMITTEE

The Gates funded project on ‘Improving Data for Better Policies and Investments’ in Africa is of continental, even global, significance. Even though the primary focus of the project is on improving the quantity and quality of data for decision making, a crucial component is to forging linkages with various institutions charged with livestock development in Africa. Successful attainment of objectives, the ability to leverage the investments of others, and sustainability of the endeavor will hinge on the effectiveness of the partnership arrangements put in place to execute and oversee the project. While the World Bank will be responsible to the Donor for project deliverables attainment of these will be through these partnership arrangements.

Day to day implementation of the components will be attained through the respective contracted collaborators (WB, ILRI, FAO) and their subcontractors and will be guided by a Project Implementation Committee (TOR attached). Oversight of the project as a whole will be provided by an Advisory Committee, the functions of which are presented below. Representation on this committee will include institutions directly concerned with implementation of the project as well as other key organizations with livestock development responsibilities and interest in Africa. This innovative arrangement would ensure the bringing together of key institutional players under one multidisciplinary livestock-focused umbrella to ensure quality and timely project deliverables from multi-institutional players.

The Function of the Advisory Committee

1. Provide advice and guidance on the project’s implementation strategy;
2. Provide direction and guidance on operational and technical aspects of project progress;
3. Review work plans, suggest appropriate methodologies and tools for ensuring project’s agreed outputs and achieving targets;
4. Suggest innovative strategies on how to communicate project outputs to ensure better visibility and use of data/analysis for developing a livestock-for-development regional initiative;
5. Identify opportunities to institutionalize and use key project outputs which strengthen the ability of both national and regional institutions to serve as advocates for sector development;
6. Leverage opportunities for collaboration in the three pilot countries with relevant global, regional and national organizations and agencies with the goals of generating additional interest and resources for data collection in other African countries;
7. Advise on opportunities to scale up the activities of the project beyond its scope and life.

The Advisory Committee will be chaired by the senior livestock officer from the Bank and will meet annually and consult at least quarterly, either in person or through teleconferencing. It will be represented by representatives from the following organizations: WB, FAO, ILRI, AU-IBAR, BMGF, IFAD, GALVMED, and the African Development Bank. In addition, possible representatives will be solicited from the piloted countries and appropriate regional entities.
ANNEX 2. AGENDA OF THE 3ND ADVISORY COMMITTEE MEETING

Monday, 20 February 2012

14:00–14:30 WELCOME AND INTRODUCTION
   Nancy Morgan (WB-FAO) and Robert Ovessa (BMGF)

14:30–15:30 PROJECT STATUS AND UPDATES
   Chair: Derek Baker (ILRI)
   - The road travelled: Project activities, partnerships, challenges and opportunities
     Ugo Pica-Ciamarra (FAO)
   - Ensuring useful project outputs and effective dissemination:
     Sourcebook, Advocacy Document, Data Platforms
     Nancy Morgan (WB-FAO)

15:30–16:00 Tea/Coffee

16:00–17:00 Discussion

19:00–21:00 Dinner

Tuesday, 21 February 2012

8:30

8:45–10:15 POVERTY, MARKETS AND CONSTRAINTS: WHAT DOES LIVESTOCK DATA SAY?
   Chair: Nancy Morgan (WB-FAO)
   - Enhancing the availability of livestock data: a livestock module in
     LSMS-survey and its application to Niger and Uganda
     Ugo Pica-Ciamarra (FAO)
   - Market opportunity indicators for livestock producers: evidence from Uganda and Tanzania
     Derek Baker (ILRI)
   - Livestock indicators for targeted investments: translating constraints into opportunities in Tanzania
     Ayale Selan (ILRI)

10:15–10:45 Tea/Coffee

10:45–12:15 IMPROVING LIVESTOCK DATA QUALITY AND INTERPRETATION
   Chair: Derek Baker (ILRI)
   - Identifying core livestock indicators:
     MAAIF-UBOS partnership in Uganda
     Joseph Serugga (MAAIF, Uganda)
   - Improving methods of data collection:
     milk in Niger and pastoralism in Tanzania
     Alberto Zeeza (MB)
   - Producing reliable statistics: livestock technical conversion factors in Tanzania
     Longin Nsimba (MLFD, Tanzania)
   - Integrating data from different sources:
     improved spatially-disaggregated livestock measures for Uganda
     Carlo Azzarri (Harvest Choice, IFPRI)

12:15–13:45 Lunch

13:45–15:15 INVESTING IN LIVESTOCK DATA: WHICH PRIORITIES?
   Chair: Henning Steinfeld (FAO)
   - The Global Strategy to Improve Agricultural and Rural Statistics
     Elisabetta Carugti (FAO)
   - The BMGF Livestock Strategy
     Kristin Givertz (BMGF)
   Respondents: African Development Bank and AU-IBAR

Discussion

15:15–15:45 Tea/Coffee

15:45–17:00 Locking beyond 2013: Leveraging project activities
   Derek Baker (ILRI), Nancy Morgan (WB-FAO),
   Ugo Pica-Ciamarra (FAO)

Discussion

17:00–17:15 Closure
   Nancy Morgan
## ANNEX 3. PARTICIPANTS IN THE 3\textsuperscript{RD} ADVISORY COMMITTEE MEETING

<table>
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**Project Team**

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ANNEX 4. PROJECT ACTIVITIES / OUTPUTS, 2011

Core documents

• Advocacy Document and Sourcebook
  Tables of contents for both the Advocacy Document, ‘Livestock for Development: The Opportunities and Challenges’ and the Sourcebook on ‘Livestock Data in Africa: Collection and Analysis as a Decision Making Tool’ have been developed. They are presented in appendices A and B and could be revised as project’s activities evolve. Both the Advocacy Document and the Sourcebook build on project’s activities. Superscripts S and A in the bullet points below indicate whether the output at hand will be used to provide inputs into developing the Sourcebook (S), the Advocacy Document (A) or both.

• Analysis of livestock data in Living Standards Measurement Surveys (LSMS)\textsuperscript{A}
  A paper analysing livestock data in LSMS surveys from 12 developing countries has been drafted, and published both as a project’s Working Paper and as Working Paper 11-17 of the FAO Agricultural Development Economics Division (ESA). The dataset analysed in the paper was assembled by ESA.

Data frameworks, improving data collection

• A Livestock module for LSMS-type surveys\textsuperscript{S}
  A livestock module for LSMS-type survey has been developed, including a comprehensive version comprising about 200 livestock-related questions and covering areas such as livestock population, feed, water, animal health, animal housing, production of meat, milk, eggs, manure as well draught power and hauling services. A medium-size version of the module has been also developed, which comprises about 50 questions. A condensed version of the module is under development. The three modules aim at ensuring the livestock is adequately represented in LSMS-type surveys.

• Implementation of the livestock module in Niger and Uganda\textsuperscript{S}
  The comprehensive livestock module has been used to improve the livestock section of the agriculture questionnaires of the Niger Enquête Nationale sur Les Conditions de Vie des Ménages 2011/12 and of the Uganda National Panel Survey 2011/12. Data will be available for analysis towards the third or fourth quarter of 2012 for Niger and in second quarter of 2013 for Uganda.

• Methodological improvements to quantify milk production in LSMS-type surveys\textsuperscript{A,S}
  Alternative questions to quantify milk production at household level have been formulated and tested in Niger in February 2011. Refined questions have been incorporated in the post-harvest agricultural questionnaire administered in autumn 2011. Data will be available for analysis in the third or fourth quarter of 2012, allowing the identification of best-practices to quantify milk production in LSMS-type surveys.

• Methodological improvements for effective administration of LSMS-type surveys in pastoral areas\textsuperscript{S}
A concept note on methodological improvements for effective administration of LSMS-type surveys in pastoral areas has been drafted and discussed. It addresses three major issues: seasonality; best-informed respondent; questionnaire content. The concept note will be translated into an action plan which will be implemented in 2012, most likely in Northern Tanzania.

- **Constraint analysis**
  A review of the literature on constraint analysis has been conducted and documented. A methodology for implementing the constraint analysis has been developed, including both quantitative analysis and field validation exercises aimed at identifying the binding constraints that prevent livestock keepers from being efficient and benefiting from existing market opportunities. Some preliminary analysis of 2008 Tanzania National Panel Survey has been done, with the objective to assess if / how the proposed methodology should/could be refined given the content of the dataset.

- **System of agricultural data collection and livestock data / indicators**
  A paper reviewing and summarizing major systems of agricultural data collection has been drafted. It attempts to identify the kinds of livestock data / statistics that can be generated out of different methods of agricultural data collection, most of which do not explicitly target livestock.

**Analysis**

- **Analysis of the 2008 Tanzania National Panel Survey**
  A draft paper looking at livestock-related information available in the 2008/2009 Tanzania National Panel Survey data (which were released in October 2010) has been drafted and a final version in due in March 2012.

- **Demand / consumption trends of livestock products: theory**
  A methodology for identifying core livestock indicators for market opportunities have been developed, including both analysis of household-level data and interviews to consumers and retailers. The methodology should allow linking per-capita income levels to the quantity of animal food consumed as well as to the preferred retail forms and retail outlets, which helps better identify market opportunities for different types of livestock producers.

- **Demand / consumption trends of livestock products: practice**
  Data from the 2008 Tanzania National Panel Survey and the 2009/10 Uganda Household Budget Survey have been used to estimate the demand for quantity and quality of animal food by consumers belonging to different income brackets. In both Uganda and Tanzania consumer and retailer questionnaires aimed at capturing the preferred quality/safety attributes demanded by consumers have been developed and administered to about 40 retailers and 150 consumers in both urban and rural areas. A preliminary report on the Uganda field work has been drafted, while findings on the analysis / field work for Tanzania have been presented and validated at a workshop in Arusha in August 2011.

**Workshops**

- **A workshop on ‘Challenges in Collecting Household Level Livestock Data in Africa’** was organized at IFAD HQ on 30 June / 1 July 2011. About 20 people participated in the workshop,
the objective of which were to: (i) present and discuss the livestock module for LSMS-type surveys; (ii) review / comment preliminary results / issues of the methodological experiments on milk production conducted in Niger; (iii) identify / discuss proposals to effectively administer LSMS-type surveys in pastoral areas.

- **New Perspectives on Livestock Data: Workshop on Production, Marketing and Consumption Statistics**

The Tanzania Ministry of Livestock and Fisheries Development and the Livestock Data Project organized the ‘New Perspectives on Livestock Data: Workshop on Production, Marketing and Consumption Statistics’, which was held in Arusha on 10 and 11 August 2011. About 30 people participated in the workshop from a variety of Ministries and institutions. Participants: (i) reviewed current systems of livestock data collection, analysis and dissemination in Tanzania; (ii) identify opportunities / priorities for improving the quantity / quality of livestock data available for the public and private sector; (iii) agree on potential market opportunities for smallholders, included poultry and dairy products; (iv) agree to jointly draft a proposal to improve systems of livestock data collection, to be submitted to the National Bureau of Statistics for funding through the donor basket fund, which supports the implementation of Tanzania Statistical Master Plan 2009/10- 2013/14.

**Communication and information platforms**

- **Advocacy/Communication**

A website has been created [www.africalivestockdata.org](http://www.africalivestockdata.org) and most of the activities / outputs of the Livestock Data Project have been documented and uploaded on the website. In particular, the following items are now available on the website.

- **Drawing in the livestock community to identify data gaps and priority indicators**

Four online surveys have been conducted to identify data gaps in the livestock sector as well as the most demanded/used livestock data/indicators. Two surveys have been administered at national level (Uganda and Tanzania; about 60 respondents for both), one to participants in the 2011 Inter-Agency Livestock Donor Group Meeting (IADG) (about 40 respondents), and one to FAO, World Bank and ILRI contact lists (more than 625 respondents). Results of the Tanzania / Uganda / IADG surveys have been analysed, while results from the last survey needs to be analysed (survey has been closed on 6 February 2012).

- **A livestock module for ADePT**

ADePT is a Software Platform for Automated Economic Analysis developed by the World Bank. It is a free program that uses micro-level data from various types of surveys (including Living Standards Measurement Surveys) to produce standardised tables and graphs for a particular area. The current version of ADePT contains modules on poverty, labour, gender, social protection, education, inequality and health. The LSMS-ISA and the Livestock Data Project have agreed on 15 major livestock-related tables which will be developed by the ADePT team. They will form the core of the ADePT livestock module.
Partnerships/institutional linkages

• **Core livestock indicators in Uganda**
  With support from the Livestock Data Project, the Uganda Bureau of Statistics (UBOS) and the Uganda Ministry of Agriculture, Animal Industry and Fisheries (MAIFF) have agreed to sign a Memorandum of Understanding focusing on the joint analysis of the National Panel Survey, with the objective to identify core livestock indicators and options to improve systems of data collection in the country. The MoU has been commented by the Solicitor General; it has to be amended and re-submitted for approval.

• **Data Integration in Tanzania**
  The Livestock Data Project and the Ministry of Industry and Trade of Tanzania, which manages a national livestock market information system, drafted a paper titled: ‘Linking smallholders to livestock markets in Tanzania: Combining Market and Household Survey data’. Options to promote integration of household-level data and market data are discussed, which would facilitate the implementation of the Tanzania Statistical Master Plan 2009/10 – 2013/14.

• **Livestock Technical Conversion Factors in Tanzania**
  The project assisted the Tanzania Ministry of Livestock Fisheries Development and the Agricultural Sector Development Programme M&E Technical Working Group – the members of which participated in the Arusha workshop – in drafting a proposal to estimate livestock technical conversion factors in Tanzania. MLFD is going to submit the US$ 107,000 proposal to the National Bureau of Statistics for funding through the donor basket fund, which supports the implementation of Tanzania Statistical Master Plan 2009/10 - 2013/14. A decision will be taken by NBS by June / July 2012.

• **Tanzania Population and Housing Census**
  The Livestock Data Project partnered with World Bank-Tanzania, DFID-Tanzania, JICA-Tanzania, the FAO Statistics Division, the Tanzania Ministry of Livestock and Fisheries Development and the Tanzania Ministry of Agriculture and Food Cooperatives to ensure that a livestock screening question was included in the Population and Housing Census, which will be administered in August 2012. Two questions on livestock have been included as follows: (i) Was any member of this household engaged in raising cattle, goats or sheep on the census day? Yes / no; (ii) (if yes) How many cattle, goats or sheep were available on the census day? The inclusion of the livestock questions in the Population and Housing Census will allow generating a master sample frame for future specialized livestock surveys, providing an unprecedented opportunity to generate high quality livestock-related data and statistics.

• **Partnership with AU-IBAR**
  AU-IBAR and the Livestock Data Innovation Project have been collaborating in different areas, bearing in mind that AU-IBAR has a major comparative advantage in advocating for increased investment in the livestock sector. (i) They have jointly developed an ALive Policy Note on ‘Investing in Livestock to Drive Economic Growth in Africa: Rationale and Priorities’; (ii) they gave a joint presentation at the 2011 Inter-Agency Livestock Donor Group Meeting (IADG) on ‘Livestock Data on Investments in sub-Saharan Africa: Availability and Issues’; (iii) they jointly developed the TOR for a livestock-analysis of the CAADP Compacts and the development of
guidelines for the adequate inclusion of livestock in the Compacts, which will include a section on livestock data / indicators. Thanks to the financial support from the IGAD Livestock Policy Initiative, AU-IBAR drafted a document titled ‘The Livestock Sector in the CAADP Compacts: Evidence from IGAD countries’. The Data Project commented on the paper and suggested a list of potential livestock-related indicators relevant for the four pillars of the CAADP. A final version of the document is due in the second quarter of 2012; (iv) AU-IBAR and the Livestock Data Project had some meetings in Nairobi and AU-IBAR participated and gave a presentation on the Animal Resources Information System at the Arusha workshop in August 2011.

- **Partnership with ICRISAT and IFPRI (Harvest Choice)**
  
  Through the LSMS-ISA Project of the World Bank, the Livestock Data Project is now collaborating with ICRISAT in Niger, with the objective to collect additional data on milk production so as to better validate findings from the ‘milk experiment’ conducted during the administration of the Enquête Nationale sur Les Conditions de Vie des Ménages 2011/12. It is also collaborating with IFPRI HarvestChoice to develop methodologies for data integration, with a focus on livestock data from the 2008 Uganda National Panel Survey and the 2008 Livestock Census.

- **On-going discussion with IFAD, JICA and FAO Statistics Division**

  IFAD has expressed interest in funding some research activities using the Niger data from the Enquête Nationale sur Les Conditions de Vie des Ménages 2011/12. The focus of the analysis should be on small ruminants / poultry and food security. The Japan International Cooperation Agency expressed interest in collaborating with the Ministry of Livestock and Fisheries Development of Tanzania and the Data Project to assess the quality of livestock administrative record data in selected districts of the country. The FAO Statistics Division and the Livestock Data Project have been discussing on how outputs of the project can be structured so as to best contribute to the implementation of the Global Strategy to Improve Agricultural and Rural Statistics, endorsed by the United Nations Statistical Commission in February 2010.

### Papers / Reports

2011

- Linking smallholders to livestock markets in Tanzania: Combining Market and Household Survey data
  
  *with Tanzania Ministry of Livestock and Fisheries Development and Tanzania Ministry of Industry and Trade. Presented at the 4th Meeting of the Wye City Group on Statistics and Agricultural Household Income, Rio de Janeiro, November*

- Measuring the Contribution of Livestock to Household Livelihoods: A Livestock Module for Multi-topic Household Surveys
  
  *presented at the 4th Meeting of the Wye City Group on Statistics and Agricultural Household Income, Rio de Janeiro, November*

- Measuring Income from Milk Production in Extensive Livestock Systems: Experimental Evidence from Niger
  
  *presented at the 4th Meeting of the Wye City Group on Statistics and Agricultural Household Income, Rio de Janeiro, November*

- "If it can't be measured, it tends to be ignored": the case of livestock data in Uganda
  
  *(in FAO Uganda Information Bulletin, 4(9))*

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• New Perspectives on Livestock Data: Workshop Proceedings
• Challenges in Collecting Household Level Data: Workshop Summary Report
• Supply and demand of livestock data in sub-Saharan Africa: evidence from a stakeholder survey
  (in UNECA African Statistical Newsletter 5(2))
• Investing in livestock to drive economic growth in Africa: rationales and priorities
  (with AU-IBAR. ALive Policy Note, April)
• Livestock Assets, Livestock Income and Rural Households: Evidence from Household Surveys
  (FAO ESA Working Paper 11-17)

2010
• 2nd Meeting of the Advisory Board of the Livestock Data Innovation Project: Report
• Integrating Livestock into Agricultural Statistics
  (with AU-IBAR. Presented at the V International Conference on Agricultural Statistics, Kampala, October)
• 1st Uganda Livestock Data Stakeholders Workshop: Report

Briefs
2011
• 12 - The Identification of Constraints and Opportunities in the Livestock Sector: Methods and Data Issues
• 11 - Livestock Data in the United States: How is it Collected?
  (with US Economic Research Service)
• 10 - Livestock Statistics in the European Union
• 9 - Livestock Data: What Do Tanzania Stakeholders Say?
  (with Tanzania Ministry of Livestock and Fisheries Development)
• 8 - Livestock Indicators for Effective Investments in Developing Countries
• 7 - Livestock Market Data: Collection, Dissemination and Use in Tanzania
  (with Tanzania Ministry of Industry and Trade)
• 6 - Livestock Data: What Do Uganda Stakeholders Say?
  (with Uganda Ministry of Agriculture, Animal Industry and Fisheries)
• 5 - A Livestock Data Survey of Participants in the 12th Livestock Donor Group Meeting
• 4 - The Tanzania National Sample Census of Agriculture 2007/2008: A Livestock Perspective
  (with FAO Tanzania)
• 3 - Sameer Agriculture & Livestock Ltd. (SALL): Milk and Data in Uganda
  (with Sameer Agriculture & Livestock Ltd)
• 2 - Routine Livestock Data Collection in Tanzania
  (with Tanzania Ministry of Livestock and Fisheries Development)
• 1 - What does Sex-Disaggregated Data Say about Livestock and Gender in Niger?

2010
• 3 - Routine Livestock Data in Sub-Saharan Africa: Collection and Use
• 2 - Routine Livestock Data Collection in Uganda
  (with Uganda Ministry of Agriculture, Animal Industry and Fisheries)
• 1 - Collecting Livestock Data: What, Who, Who Pays?

Presentations

2011
• Livestock Data In Tanzania: Options for Improvement
  (with Tanzania Ministry of Livestock and Fisheries Development. Presented at a meeting of the Agricultural Sector Development Programme – M&E – Technical Working Group, Dar Es Salaam, December)
• Linking Smallholders to Livestock Markets: Combining Market and Household Survey Data in Tanzania
  (with Tanzania Ministry of Livestock and Fisheries Development and Tanzania Ministry of Industry and Trade. Presented at the 4th Meeting of the Wye City Group on Statistics and Agricultural Household Income, Rio de Janeiro, November)
• Livestock Data in Tanzania: Status and Prospects
  (with Tanzania Ministry of Livestock and Fisheries Development. Presented at the technical workshop for Improving Agricultural Statistics: Challenges and Opportunities, World Bank. Dar es Salaam, October)
• Livestock Data for Investment
  (World Bank, Africa Region, Washington D.C., October)
• Are there market opportunities for livestock producers in Tanzania?
  (with Tanzania Ministry of Livestock and Fisheries Development. Presented at the New Perspective on Livestock Data Workshop, Arusha, August)
• The role of livestock in poverty reduction: Challenges in collecting Livestock Data in the context of living standard household surveys in Africa
  (by LSMS-ISA. Presented at the Atelier de formation collective. Systèmes d’information et outils de pilotage du secteur élevage dans les pays du Sud. Postures et méthodes. CIRAD, Montpellier, July)
• A Livestock Module for LSMS Questionnaires
  (Presented at the Workshop on ‘Challenges in Collecting Household Level Livestock Data in Africa’, IFAD, June)
• Livestock Data for Investments in Sub-Saharan Africa: Availability and Issues
  (with AU-IBAR. Presented at the Inter-Agency Livestock Donor Group Meeting, Nairobi, May)
• Improving Livestock Data From Household Surveys: the LSMS-ISA
  (by LSMS-ISA. World Bank, Africa Region, January)
• The Livestock Data Innovation Project
  (World Bank, Africa Region, January)

2010
• Routine Livestock Data Collection in Uganda
  (by MAAIF. Presented at the 2nd Advisory Committee Meeting, Nairobi, November)
• The Animal Resources Information System (ARIS) of the African Union
  (by AU-IBAR. Presented at the 2nd Advisory Committee Meeting, Nairobi, November)
• LSMS vs. Routine Livestock Data Collection Systems
  (presented at the 2nd Advisory Committee Meeting, Nairobi, November)
• An Inventory of Livestock Data in Uganda
  (by UBOS. Presented at a Livestock Data Stakeholder Workshop, Kampala, October)
• Integrating Livestock into Agricultural Statistics  
  (with AU-IBAR. Presented at the International Conference on Agricultural Statistics, Kampala, October)

Videos

• Smallholder and Livestock Markets  
  (K. Girvetz, Bill & Melinda Gates Foundation)

• Livestock Indicators in Household Survey Data  
  (G. Carletto, World Bank).

• Livestock data: the Perspective of GALVmed  
  (H. Nuru, GALVmed)

• Regional Livestock Database in Africa  
  (S. Noula, AU-IBAR)

• Livestock Data in Uganda  
  (J. Sserugga, MAAIF)
ANNEX 5. PROJECT OUTPUTS: TABLES OF CONTENTS

Advocacy Document

The Advocacy Document ‘provides empirical evidence on the role of livestock in the lives and livelihoods of the poor in developing countries and proposes strategies to enhance the role of livestock in poverty alleviation’. It aims to influence public-policy and resource allocation decisions in the livestock sector and, therefore, target policy makers and development practitioners. The proposed table of contents of the Advocacy Document is as follows:

PART I. A Profile of Livestock in sub-Saharan Africa

This part presents a set of core livestock indicators to assess the potential of livestock sector development in sub-Saharan Africa, including both availability and trends in several livestock-related variables, such as: (i) livestock inventories; (ii) production and consumption of animal foods; (iii) regional and international trade of different animals and livestock products; (iv) and others available. The World Bank Development Indicator Database and FAOSTAT will be the major sources of data for this section, but also other documents such as the 2011 FAO-ILRI Publication on Global Livestock Production Systems. Some comparison with livestock systems in other world’s regions will be presented.

PART II. Livestock: A snapshot approach to revaling the role of livestock in the household

Deepening the analysis of LSMS livestock-related data, including LSMS-ISA data, this section aims to identify common patterns / trends at household level in: (i) livestock ownership; (ii) herd composition; (iii) livestock derived income; (iv) access to financial services; (v) crop productivity; (vi) consumption of animal food. Households will be differentiated by income/expenditure quintile as well as by poor / non-poor using different poverty lines. The first part of the analysis (i, ii and iii) will focus on samples including only livestock keeping households. The second part of the analysis (iv, v and vi) will compare livestock keeping with non-livestock keeping households, with the objective to assess whether keeping livestock can be positively associated with access to credit, enhanced crop productivity and consumption of animal food / nutrition.

PART III. Building a bridge between livestock and poverty reduction

This chapter attempts to statistically validate the role of livestock in household livelihoods; to identify the major determinants of livestock keeping; and to identify the major constraints that limit livestock productivity. In particular, multivariate analyses will be conducted using LSMS and LSMS-ISA data to assess whether, after controlling for relevant variables, livestock can effectively contribute to some household-livelihood dimensions, such as (i) net household income and (ii) per-capita food consumption. The analysis will then identify the major determinants / variables that explain what are the incentives for households to keep or not to keep livestock, using dependent variables such as (i) tropical livestock units and (ii) number of large or small ruminants. Household size and composition, including gender-related variables, will be included among the possible explanatory variables. Finally the data will be analysed to explain productivity differences among livestock keeping households. Different proxies can be used to quantify productivity (e.g.
milk/day/cow or efficiency scores) and a variety of explanatory variables can be used to identify binding constraints / opportunities for investments (e.g. access to animal health services, vaccination rate, herd size, breeds).

**PART IV. Moving from data and analysis to investments**

By building on the micro-analysis of part III, as well as on information provided by national contacts in the pilot countries, this part aims to identify data systems required for producing the core indicators needed to formulate efficient and equitable livestock sector policies. Innovative ways of prioritizing and ranking the most binding constraints and opportunities for investment will be explored, such as a scorecard of ‘constraint and opportunity analysis’. The scorecard could be supported, to the extent possible, by selected case studies from the pilot countries. This section will also highlight data gaps which need to be filled to better inform investors and planners who are interested in supporting livestock sector development in sub-Saharan Africa.

**Sourcebook**

The Sourcebook on ‘Livestock Data in Africa: Collection and Analysis as a Decision Making Tool’, is ‘a guide towards collecting and analyzing data with the objective of better understanding and responding to the key developmental questions facing livestock sectors’. The proposed table of contents for the Sourcebook is as follows:

**PART I. Livestock indicators for investments**

The first section contains two major chapters. (i) A definition of livestock indicators and the data needed to build them will be provided in the first chapter. Indicators provide evidence that a certain condition exists or certain results have / have not been achieved. They are compiled from data and are interpreted through comparison with standard or context-specific thresholds, such as the one-dollar-day poverty line. Data are the pieces of information that are collected from primary or secondary sources, such as censuses and surveys. (ii) The follow-up chapter presents a list of major livestock domains (area for which information is needed to design and implement effective investments) and relevant indicators. The former include: (a) livestock development domains (e.g. proportion of households keeping livestock; contribution of livestock to GDP; livestock multipliers: etc.) which are needed to generate awareness about the potential role of livestock for economic growth and poverty reduction; and (b) livestock investment domains (e.g. livestock inventory; feed and water availability (quantity and value), access to animal health services; milk production; etc.) which are needed to identify priority areas for investments. Both the proposed domains / indicators will be based on recommendations from the Global Strategy to Improve Agricultural and Rural Statistics; the Animal Resources Information System of AU-IBAR (ARIS II); and surveys / field activities of the Livestock Data Innovation Project.

**PART II. Livestock data collection and use**

The second section of the document provides a summary of major livestock data collection mechanisms, reviewing relative costs as well as major issues related to the collection, analysis and dissemination of livestock-related data. It will consist of three chapters. (i) The first chapter presents different systems of agricultural/livestock data collection, including their purpose and institutional needs for their functioning. In particular, since there are only few methods of data collection that
target livestock, the chapter attempts to identify the kind of information (domains / indicators) which can be derived from the many approaches of data collection, such as agricultural censuses, household budget surveys, living standards measurement surveys and other. (ii) This will be followed by a chapter that reviews the relative costs of different methods of agricultural/livestock data collection. It will present some simple guidelines to arrive at an estimate of costs associated with the different data collection systems. (iii) The final chapter summarizes major issues related to current systems of livestock data collection, analysis and dissemination. It presents a variety of so-called data gaps, generated, for instance, by missing data; inadequate data, in terms of coverage, timeliness, reliability, etc.; poor integration of different sources of data; poor coordination / collaboration among data suppliers / users; etc. It will suggest approaches to identify data gaps, including survey-monkeys; data users groups / workshops; supply chain approaches; and data analysis (constraint / opportunity analysis).

PART III. Improving livestock data systems
The Sourcebook then presents tools / approaches to collect good quality livestock data as well as methods to improve quality of existing livestock-related data. (i) Firstly, a livestock module generated for multi-topic household surveys, including its rationale and content, will be presented, including a discussion of the pros and cons of this framework as a tool to collect livestock-related data. (ii) The second chapter addresses how livestock gaps in LSMS-type surveys, whether due to measurement challenges or survey design, can be addressed through innovative experimentation. It reviews when experiments are appropriate, how they should be designed and how results can be incorporated into survey strategies. It presents project-implemented examples from Niger and Tanzania. (iii) This section of the document then presents approaches to improve data quality, including methodologies to estimate livestock technical conversion factors. (iv) A final chapter presents challenges related to data integration, as highlighted in the Global Strategy to Improve Agricultural and Rural Statistics. It draws in both macro and micro approaches to enhance integration between different sources of livestock-related data.

PART VI. Generation and analysis of key livestock indicators
The final section of the document provides examples on how to generate key livestock indicators and analyse / interpret them. (i) Firstly, guidelines are identified to produce policy/socio-economic relevant indicators from LSMS data, such as livestock-derived income and selected gender-related indicators. (ii) The next chapter focuses on methods to generate key productivity and profitability indicators using household-level data; examples of best practices on constructing these indicators, such as milk yield, will be presented. (iii) Moving on to market opportunities, specific indicators will be identified, classified in terms of data requirements and availability, and ranked in terms of potential importance for opportunities for investment. (iv) The following chapter will build on the constraint analysis and present ‘binding’ constraint / opportunity indicators, and the way they can provide guidance to identify priority areas for investment in the livestock sector. (v) Finally, this analysis will provide guidance on how integrating different sources of livestock-related data, which is critical to identify effective investment opportunities for the livestock sector, and will provide examples from Uganda and/or Tanzania.