Livestock
Data
Innovation
in Africa

INVESTING IN THE LIVESTOCK SECTOR

Why Good Numbers Matter

A Sourcebook for Decision Makers on How to Improve Livestock Data

FAO FIAT PANIS

ILRI
INTERNATIONAL LIVESTOCK RESEARCH INSTITUTE

THE WORLD BANK

AFRICAN UNION
INTERAFRICAN BUREAU FOR ANIMAL RESOURCES

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PREFACE

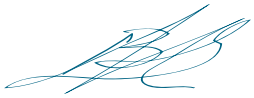
Limited access to quality data is a major constraint to economic development, making it difficult for public and private actors to design and implement policies and investments which maximize economic growth while being smallholder inclusive. This is overwhelmingly the case for agriculture, where output is generated by a series of inputs directly controlled by the producer, which are often difficult to measure, but also influenced by a series of variables beyond his control, such as temperature and rainfall. Within agriculture, livestock is a key sector which poses considerable challenges for collecting data, and hence designing effective policies and investments. As far back as 1957, the Chief of the Agriculture Division of the US Bureau of the Census, Dr. Ray Hurley, observed: *"in analysing the [US] census experience covering 16 nationwide censuses and almost 120 years, one concludes that the nationwide collection of satisfactory livestock data ... is a difficult task and involves a number of problems. Even the job of obtaining a count of livestock is fraught with difficulties. Livestock numbers change every day of the year. Marketing is a continuous process. Livestock inventories are affected by births, deaths, farm slaughter, and by growth and change in age of animals"* (Hurley, 1957, pp. 1420–1).

Recognizing that stakeholders contend that data availability which feed into evidence based livestock policies and investments is inadequate and fragmented, the World Bank, the FAO, the International Livestock Research Institute (ILRI) and the African Union — Interafrican Bureau for Animal Resources (AU-IBAR), with financial support from the Bill & Melinda Gates Foundation (BMGF), implemented the *Livestock in Africa: Improving Data for Better Policies* Project. The Project, implemented between 2010–2013 in collaboration with the pilot countries of Uganda, Tanzania and Niger, targeted an improvement of the quantity and quality of the livestock information available to decision makers through enhanced methods for data collection and analysis within the context of the overall agricultural statistical system.

This Sourcebook summarizes the outputs and lessons of the *Livestock in Africa: Improving Data for Better Policies* Project. It aims to present the challenges facing professionals collecting and analysing livestock data and statistics and possible solutions. While the Sourcebook does not address all conceivable issues related to enhancing livestock data and underlining statistical issues, it does represent a unique document for a number of reasons. To begin with, it is possibly the first document which specifically addresses the broad complexity of livestock data collection, taking into consideration the unique characteristics of the sector. Indeed, in most cases livestock data are dealt with, if ever, within the context of major agricultural initiatives. Second, the Sourcebook is a joint product of users and suppliers of livestock data, with its overarching objective being to respond to the information needs of data users, and primarily the Ministries responsible for livestock in African countries and the National Statistical Authorities. Finally, the Sourcebook represents a unique experiment of inter-institutional collaboration, which jointly places the World Bank, the FAO Animal Production and Health Division, the ILRI and the Africa Union — Interafrican Bureau for Animal Resources as well as national governments in Niger, Tanzania and Uganda at the forefront of data and statistical innovation for evidence-based livestock sector policies and investments.

This Sourcebook represents a first step towards a demand-driven and sustainable approach to enhance the livestock information available to decision makers. It is hoped it will provide a useable framework for significantly improving the quantity and quality of livestock data and statistics available to the public and private sector, and also increase the efficacy of investments that country governments and the international community allocate to generate information for livestock sector policies and investments.

World Bank | Juergen Voegele, Director, Agriculture and Environmental Services Department



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ABBREVIATIONS AND ACRONYMS

AI	Artificial Insemination
AMD	Average Milk per Day
AU-IBAR	African Union — Interafrican Bureau for Animal Resources
BMGF	Bill & Melinda Gates Foundation
CAADP	Comprehensive Africa Agriculture Development Programme
CBPP	Contagious Bovine Pleuropneumonia
CCPP	Contagious Caprine Pleuropneumonia
CCT	CAADP Country Team
CIRAD	Agricultural Research for Development
CPI	Consumer Price Index
EA	Enumeration Area
EPA	Enquête Permanente Agricole, Burkina Faso
FAO	Food and Agriculture Organization of the United Nations
FMD	Food and Mouth Disease
GDP	Gross Domestic Product
ILRI	International Livestock Research Institute
ISN	Institut National de la Statistique, Niger
JICA	Japan International Cooperation Agency
LC	Lactation Curve
LDIP	Livestock Data Innovation in Africa Project
LID	Livestock in Development
LSD	Lumpy Skin Disease
LSMS	Living Standards Measurement Study
LSMS-ISA	Living Standards Measurement Study — Integrated Surveys on Agriculture
LU	Livestock Unit
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries, Uganda
MEL	Ministère de Élevage, Niger
MLF	Ministry of Livestock and Fisheries, Zanzibar
MLFD	Ministry of Livestock and Fisheries Development, Tanzania
NDVI	Normalized Difference Vegetation Index
NBS	National Bureau of Statistics, Tanzania
NCD	Newcastle Disease
NDVI	Normalized Difference Vegetation Index
NGO	Non-governmental Organization
NLC	National Livestock Census
NPS	National Panel Survey
OECD	Organization for Economic Co-operation and Development
OiE	World Organization for Animal Health
SAE	Small Area Estimation
TCF	Technical Conversion Factor
TLU	Tropical Livestock Unit
UBOS	Uganda Bureau of Statistics
UNFPA	United Nations Population Fund
UNLC	Uganda National Livestock Census

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