



Joint brief of the World Bank, FAO, ILRI, AU-IBAR with support from the Gates Foundation, 2010-2013

Issue 11

Livestock Indicators for Effective Investments in Developing Countries

The Global Strategy to Improve Agricultural and Rural Statistics, endorsed by the United Nations Statistical Commission in February 2010, notes that 'many countries, especially in the developing world, lack the capacity to produce and report even the minimum set of agricultural data necessary to monitor national trends or inform the international development debate'. It provides 'a framework for national and international statistical systems that enables them to produce and to apply the basic data and information needed to guide decision making in the twenty-first century', including:

- The establishment of a minimum set of core data that countries should regularly collect.
- The integration of agriculture into the national statistical system.
- Governance and capacity building to ensure the sustainability of the agricultural statistics system.

An essential step towards the implementation of the Global Strategy is the identification of core data, which are needed for countries to produce essential statistics and indicators on the various sectors of agriculture, including livestock. These are critical to formulate, implement and monitor effective sector investments.

What should be measured in the livestock sector?

The identification of core livestock data to be regularly collected requires agreeing on the livestock 'domains' for which information is needed. A domain represents a fundamental or distinguishing element of the livestock sector, such as the livestock population domain; the

livestock feed domain; and the animal health domain.

In order to effectively design livestock sector investments, both the public and the private sector need information on domains along all the livestock value chain, from access and use of inputs to the volume and value (i.e. prices) of livestock production. In particular, information is required on at least the following livestock domains:

- animal inventories;
- change in animal numbers, including livestock marketing and slaughter figures.
- animal feed and forage, water access;
- animal health, such as disease incidence;
- breeding practices;
- labour devoted to livestock;
- housing for livestock;
- production of meat, milk and eggs;
- production of hides and skins;
- production of manure;
- use of animal power.

If information is available on one or only a few domains along the livestock value chain, the risk is that resources will be misallocated. For instance, unless there is evidence that demand for animal products is strong and growing, investments in productivity-enhancing investment may generate only limited benefits for livestock producers. In the worst case scenario, it may even make them worse-off, as the increased production of meat, milk or eggs could contribute to lower market prices and reduced income for livestock producers.

Note that only if information is available on quantity / value of inputs and outputs some measure of productivity (e.g. animal / labour productivity) can be calculated; and that information is needed country-wide on all livestock domains - including quantity/value of animal stock, production from livestock and inputs used (intermediate consumption) - to calculate livestock value added, i.e. to estimate

the contribution of livestock to GDP. This information is of keen interest to planners and policy makers, allowing them to leverage resources for the sector.

What livestock indicators should be produced?

While it is clear that information is needed on livestock domains all along the value to design effective investments in the sector, the question becomes: **what are the core livestock indicators that have to be produced under each domain?** There currently isn't a standard set of core livestock indicators to be generated under each domain, and for a number of reasons.

First, different indicators could be generated that convey similar information. For instance, the proportion of cattle vaccinated against foot and mouth disease or the proportion of cattle affected by foot and mouth disease are both indicators that convey information on the health condition of the cattle population. The average distance in km from the village to the livestock markets or the travel time from the village to the livestock market are two different indicators, which both provide information of market accessibility for livestock keepers.

Second, the same indicator can be generated with different levels of detail. For example, information about livestock inventories could be generated by collecting data on the livestock population by species only or by both species and breeds. Off-take rate, i.e. the percentage of the herd that is removed through sales, deaths, gifts, home-slaughters or theft, could be either gross or net, depending on whether one takes into account animal births and animal purchases made by the livestock producers.

Third, country governments have incentives to produce different core indicators which serve their policy and investment priorities, as well as to build indicators on available data rather than setting up new systems of data collection. For instance, countries that are investing resources into valuing or conserving pure indigenous breeds of livestock, or into importing exotic breeds of cattle, may have good reasons to generate indicators for animal species by breeds. Countries that have a functional market information system for livestock prices may use market prices to value the livestock stock, rather than using border or farm-gate prices.

Overall, country governments are expected to generate core livestock indicators for all

livestock domains along the livestock value chain, from input availability and supply to production and consumption of livestock products. But there is no any blueprint list or an optimal set of livestock indicators to generate.

On the use of indicators

The generation of livestock indicators for all domains along the value chain is necessary but not sufficient to ensure that efficient and equitable livestock investments can be formulated and implemented. For this to occur, decision makers need to be able to jointly use indicators pertaining to the different domains.

The Global Strategy to Improve Agricultural and Rural Statistics recommends that the farm or agricultural holding, the household and the land parcel are used as statistical unit, i.e. the basic units of statistical observation should be the same for all indicators. To ensure comparability, it is also needed that data are collected in the same or in comparable moments in time, i.e. it does not make sense estimating a milk production index if data for outputs refer to the rainy season and data for inputs to the dry season.

The cross-country adherence to general guidelines on classifying and measuring indicators would facilitate the generation of indicators pertaining to different domains that are comparable. This allows the effective analysis of the linkages between economic, social and environmental dimensions of livestock, and the formulation of investments for an inclusive and efficient development of the livestock sector.

For further information please visit:

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