**FAO/AMIS: Feed use estimation – Data, methodologies and gaps Terms of Reference for Country Case Studies**

1. Background

Increases in population, disposable income and urbanization in many developing countries are driving an unprecedented rise in demand for foods of animal origin. Apart from stretching the capacity of livestock production and distribution systems, this development will also impact on countries’ feed demand, including crops that would be otherwise available for human consumption.

In the framework of the Agricultural Market Information System of the G20, the objective of this IFAD-financed project is to assess current patterns of feed consumption, and identify key drivers and trends of feed utilization at national level. Results of this project will contribute to a better understanding of the feed utilization component in selected AMIS participating countries’ balances for cereals. Focusing on six target countries in South- and Southeast Asia (China, India, Indonesia, Philippines, Thailand, and Viet Nam), the project aims to:

1. Take stock of existing data sources in the six target countries which contribute to the calculation of national feed use.
2. Better understand the process for generating feed estimates in the selected countries.
3. Identify weaknesses in national data systems and knowledge/information gaps that impede a better understanding of national feed systems.

##### Specific Objectives of the Assignment

## Within the above context, draft a country case study which addresses the above points to be reviewed by the AMIS Secretariat, the livestock and statistics divisions in FAO, as well as other interested members of AMIS. The country study results will be used to reveal inconsistencies between data sources and need for further work, especially related to methodological development and capacity building activities of AMIS.

##### Proposed Outline of the Country Case Studies

## Between June 2013 and December 2013, you will draft a country feed profile and undertake an analysis which focuses on assessing current patterns of feed consumption, identifying key drivers and trends in feed utilization at the national level, identifying and reviewing availability and quality of feed data, their underlining sources and methodologies used for their calculation. In particular, the final case study should:

* 1. **Country feed profile:** provide a brief overview of trends in livestock production/feed consumption over the past 10 years which 1) describes trends in the country’s livestock sector, distinguishing between the various types of livestock (e.g. poultry, pig, beef, dairy) and reviewing structural changes in the sector, 2) review trends in other sectors which have implications for feed demand, notably the aquaculture sector, and 3) presents trends in feed utilization, by feed type, changing structure of sector. Where appropriate provide graphs which depict the trends/relationships between animal/fish product production and feed use.
  2. **Livestock structure and recent trends:** This section will provide a more detailed review of the evolution of livestock populations, type and volume of the meat/animal product production.
     1. The structure of animal herds will be reviewed, particularly the changing composition of the animal populations (referencing the growth of non-ruminents versus ruminents).
     2. Changes in the size/location of livestock operations will be assessed. The status and evolution of average farm sizes will be reviewed as they have implications for livestock production technologies in that larger commercial farms may rely on more intensive animal feeding while smallholder farmers may rely more on grazing and crop roughages. Capturing the evolution of farm size will thus provide important insights in better estimating feed utilization.
     3. Feeding efficiency: the efficiency that is achieved in converting feed into meat by the various types of livestock operations impacts on overall feed utilization. This section will review trends in structure of livestock operations which have implications for feeding efficiency (amount of output produced based on amount of input). Discuss and document any offsetting tendencies, such as a shift towards more grain-based livestock diets in modern operations that would imply greater usage of grains per animal. Such shifts would be associated with an increased feed efficiency, pointing to a lower usage of grain per unit of meat produced.
  3. **Feed consumption and composition:** In addition to documenting the role of the livestock sector in driving trends in feed utilization, the study should present a profile of the feed sector which provides a detailed assessment of current and past trends in feed consumption, the composition of feed, and the structure of the sector. In particularly, this section will:
     1. Provide a more comprehensive overview of trends in feed consumption, the structure of the sector, as well as a review other factors influencing feed utilization. These could include policies, preferences, structural change in the feed industry, such as concentration/consolidation. Describe evolving shifts in feed rations and sources of inputs. Identify any new feed ingredients which are being incorporated into feed rations and discuss implications. Provide a brief description of the relative important of cereals as a feed input compared to other sources of feed, such as forage, roots and tubers, food/processing waste, etc. How has this share been changing?
     2. Document relative prices of feedstuffs and review the substitutability across feedstuffs Estimate, as possible, technical rates of substitution among those elements and the likely impacts of changing relative prices on the composition of animal rations and, consequently, on feed usage. While particular emphasis will be placed on the commodities covered by AMIS, the analysis should also cover non-grain feed ingredients, cereal by-products, and distillers grains for livestock feed.
  4. Review the availability of national statistics on feed, review sources, uses and underlining methodologies. Provide examples on how feed usage is estimated in your country and review potential inconsistencies (for example, between published data on feed use of grains and livestock production numbers at any given year) and any weakness in national data systems.
  5. Using national statistics and other indicators, collect data and test a framework for feed estimation generated by the Statistical Division of FAO.
  6. Highlight gaps which need to be filled to ensure timely and quality national feed use data.

1. **Methodology:** the country study is a desk review; however, consultations should be held with different stakeholders in the feed/livestock chain. These could include discussions with feed millers, national bureaus of statistics, Ministry officials, feed importers, livestock operators, etc.

## **Specific deliverables/outputs include:**

* Annotated outline based on the above (end July)
* Final country document to be reviewed by FAO and other AMIS stakeholder (October)
* List of any questionnaires used/circulated.
* All accompanying data tables.
* List of contacts