Bridging the information gaps on livestock market through information communication technology (ICT) in Ethiopia

Background

The livestock sector in Ethiopia contributes a significant amount to the country's economy accounting for about 15% of export earnings and 36% of the agricultural GDP. Moreover, Ethiopia has the largest livestock population in Africa with about 35 million tropical livestock units. Although with the largest livestock population in Africa, Ethiopia has not benefited from its livestock resource to the scale that is expected due to several factors. Lack of a well-established market information system, which provides timely and reliable information across the primary and secondary markets, is one of the main challenges facing the livestock sector in Ethiopia. The absence of timely information to the livestock producers and traders makes it difficult to create market linkages and found to be challenging to increase the off-take rates particularly in the pastoral regions where higher livestock (camel, cattle, sheep, and goat) supplied for export purpose.

To overcome these challenges, the use of information communication technology (ICT) is important and plays a critical role in bridging the information gaps on the livestock marketing and early warning related information to monitor the situation in the value chains. It also creates enabling environment to collect the market data in such large country in cost effective ways and reduce paper workloads for the government enumerators. Furthermore, the use of short message service (SMS), web-portal, etc., increases the information dissemination to the stakeholders (pastoralists, traders, government and non-government) in near real time to support the decision-making.

The national livestock market information system (NLMIS)…

The national livestock market information system (NLMIS) was designed to collect timely price and volume data from designated national livestock markets across the six regions and two city administrations. The data is then conveyed to the NLMIS server at Addis Ababa using a short message system (SMS) through enabled cell phones and a data coding system. Pastoralists, livestock traders, and other interested stakeholders can then request the price and volume information for specific markets using SMS or through a market information portal http://www.lmiset.gov.et including historical time series data for policy and research. Therefore, the system is expected to enhance decision-making at multiple levels in the livestock trade and improve the

Figure 1 National livestock market information web portal www.lmiset.gov.et

bargaining power of sellers or livestock producers to negotiate for better prices and to create a stable market environment in the country. In addition, the system will also help to support the
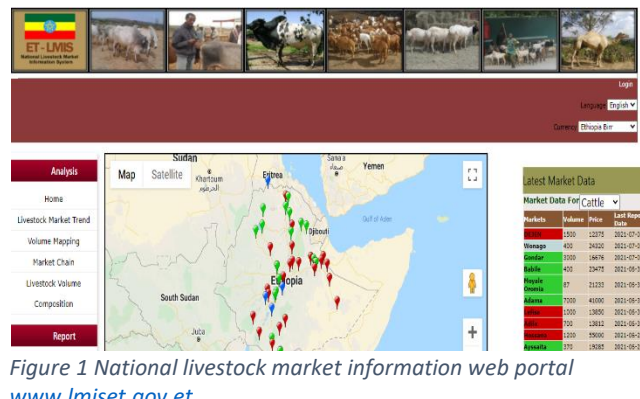
government and the community to tackle the illegal livestock market challenge through the provision of timely and reliable market information to the respective stakeholders.

Building the human capacity of the ministry…

The Alliance Bioversity International and International Center for Tropical Agriculture (CIAT) and Livestock Improvement Cooperation (LIC), as part of the Bill & Melinda Gates Foundation funded A Livestock Information Vision for Ethiopia (aLIVE) project supported the national-level implementation of NLMIS through building the technical and management capacity of Ministry of Trade and Industry (MoTI), Ministry of Agriculture, and strengthen the coordination with the regional Trade and Market Bureau or Agency. The project also intended to ensure the system will be owned and sustainably implemented by the MoTI at the federal level, while at the same time creating the ownership by the regional bureaus and offices. Furthermore, it enabled MoTI to liaise with each region's office, training them and building their awareness of the NLMIS. Under the aLIVE project the system coverage has expanded to cover 56 major primary and secondary markets and trained 157 government enumerators across Ethiopia.
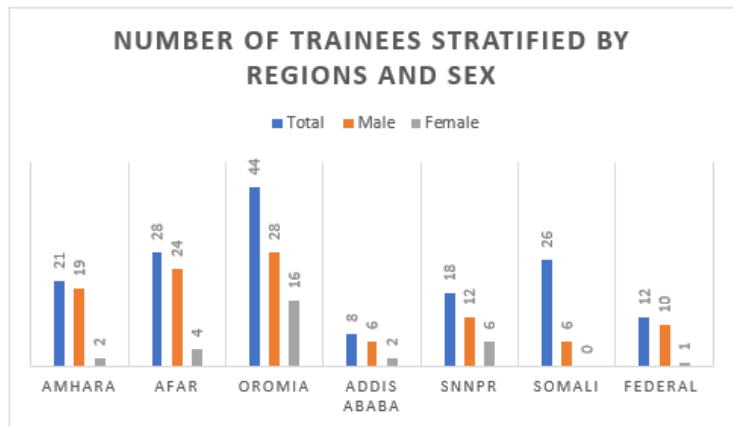
Figure 2: Number of NLMIS data collectors trained

Moving forward from traditional to modern technology…

In recent years the use of mobile technology in the livestock sectors particularly in the livestock producing areas or pastoral, the use of mobile phone both for marketing and social interaction

has increased rapidly. Given the expansion of the mobile technology infrastructure in the country including in the remote areas the adoption rates have increased significantly. The NLMIS has created an excellent environment for the government to transit from paper-based data collection to mobile using the existing infrastructure. The system uses all types of mobile apparatus, cheap or expensive, both for data collection and accessing market data.
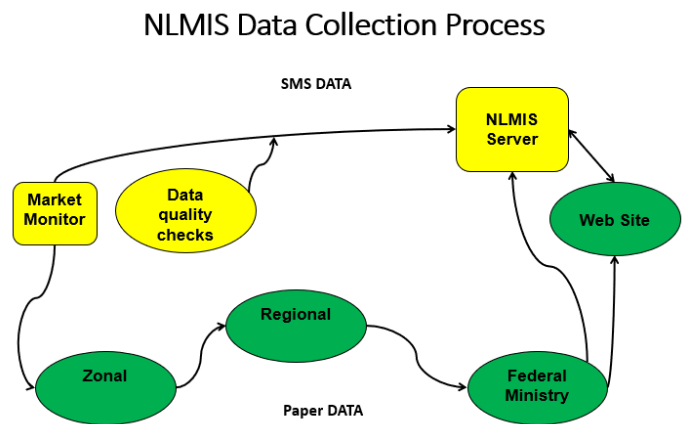
Figure 3: NLMIS data collection paper vs SMS

The government has been using a traditional method to collect and compile price and volume data in the country which was mainly paper based and not only incurs costs for printing but is also found to be cumbersome for transporting hardcopies from Woreda to Zone and Region. Furthermore, the information doesn't reach to the stakeholders on time to make market-oriented decisions.

Werkalemahu Mulugeta is a government extension officer and enumerator based at Babile Oromia, one of the largest livestock market centers. He indicated "The conventional data collection formats are not easily available, and the cost of printing is expensive." He also remarked "Now, with the help of ICT, the data collection is performed using mobile technology through SMS at the same time the information can currently be easily accessed on a real-time basis using any mobile phone". Thus, the use of the ICT in data collection has given enumerators like Werkalemahu the advantage to overcome the above-mentioned challenges. "

Figure 4: Enumerators recording market price using a cellphone

Dissemination of the livestock price information by the ministry

The traditional method of data collection and dissemination in the past has hindered the timely information flow to the intended stakeholders to make prompt, informed decisions. Currently, the MoTI has taken the advantage of the ICT tool such as web-portal including social media, etc., to disseminate the price and volume covering the markets in the NLMIS system. Additionally, the MoTI has begun to disseminate the information through the national media aired on weekly basis reaching the public at large. As the NLMIS system has the capability to disseminate information through a short code using SMS, the information now can be accessed in efficient and cost-effective ways to increase the market linkages and create enabling environment in the livestock sector. However, awareness creation on the overall use of the system requires an increase in the number of users engaging with it regularly with a focus on targeting traders, producers (pastoralists), and other potential stakeholders in the livestock value chains.

Figure 5: Weekly livestock price data report by MoTI Facebook account.

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