ANIMAL AGRICULTURE

Livestock trade maps in West Africa

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Around 20 million people in West Africa are involved in livestock trade serving 46% of the region's urban and coastal populations with meat and animal-derived products. Livestock trade mainly runs on an informal network of markets and trade corridors; accurate data and functional understanding of these networks have been difficult to obtain. Therefore, Valerie Valerio and colleagues set out to advance the formal study of regional trade networks in West Africa, aiming to inform policies that support trade and enable strategies for disease surveillance and control.

The authors enlisted the help of Comité Inter-Etats de Lutte contre la Sécheresse au Sahel (CILSS) and regional partner organizations to collect data on cattle, sheep, goat and donkey movements from 2013 to 2017. On the ground, teams of trained enumerators monitored animal loading and unloading on market trading days. Data were cross-checked within teams and reported up to the 'focal point': the person in charge of all data collection for each country in the study. Focal points verified data from multiple teams and uploaded it to CILSS databases. The authors then used these data to build a network model, assessing flow of livestock from origin to consumers.

Two-thirds of livestock cross borders using a limited number of established train networks or paved road routes connecting Benin, Burkina Faso, Côte d'Ivoire, Ghana, Mali, Niger, Nigeria, Senegal and Togo. Burkina Faso, Côte d'Ivoire and Ghana

sold the most livestock via internal trade or exports; Ghana, Côte d'Ivoire and Benin collectively accounted for nearly 75% of purchased livestock. Nine trade hubs, consisting of border markets, large urban markets and export markets, are key for international trade. The mapping exercise showed that cattle are the most valued and traded livestock. Trade communities in the region are strong and long-lasting — fluctuations in trade coincided with weather conditions, economic events and cultural celebrations. But, the authors note constraints on the networks — a lack of infrastructure and high border tariffs drive food prices up. In the context of other regional challenges such as climate change and conflict, the authors note an urgency for governments to address the resilience of the livestock trade networks.

Global messages around livestock and climate change must be interpreted with nuance — these findings suggest the livestock sector could help achieve the United Nations Sustainable Development Goals in this region (Z. Mehrabi et al., *Nat. Food* 1, 160–165; 2020). This mapping exercise of Valerio and co-authors highlights the economic, social and cultural importance of livestock trade networks in West Africa.

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