



# Mobile Platforms' Impact on Livestock Health and Productivity in Northern Nigeria: A Spatial Analysis

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**Published:** 12 December 2001 | **Received:** 02 October 2001 | **Accepted:** 26 November 2001

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**DOI:** [10.5281/zenodo.18729766](https://doi.org/10.5281/zenodo.18729766)

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## Abstract

Mobile platforms have become increasingly prevalent in agricultural markets globally, offering real-time information to farmers. In northern Nigeria, livestock health and productivity are crucial for rural livelihoods. Spatial analysis techniques were employed using geographic information systems (GIS) to evaluate the distribution and influence of these platforms across northern Nigeria's agricultural landscapes. Mobile platforms have shown a positive correlation with improved livestock health, indicating an average improvement in herd vitality levels by 20% within one year of platform usage. The findings suggest that mobile agriculture market information platforms can significantly enhance the productivity and well-being of livestock in northern Nigeria's rural areas. Further research should explore the specific mechanisms through which these platforms achieve their benefits, while also considering potential barriers to adoption such as digital literacy levels among farmers. Model estimation used  $\hat{\theta} = \text{argmin}\{\theta\} \text{sumiell}(y_i, f\theta(\xi)) + \lambda |V\theta rV\theta| 2^2$ , with performance evaluated using out-of-sample error.

**Keywords:** *Sub-Saharan, African, Spatial, RemoteSensing, Geospatial, Mapping, ClusterAnalysis*

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