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## Bridging the Information Gap for Increased Livestock Productivity: Evidence from Use of SMS Messaging among Smallholder Farmers in Babati District, Tanzania

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### Abstract

Most farming systems in East Africa are mixed with poultry, cattle and small ruminants forming the major livestock component. Population growth has resulted in expansion of cropped areas consequently, resulting in decline of regeneration of soil fertility, crop productivity and feed resources. Inability to feed animals adequately throughout the year becomes the most widespread technical constraint for livestock production. Therefore, there is a need for innovative strategies to alleviate the situation. However, knowledge gaps are still a hindrance to the uptake of livestock technologies. The objective of this article is to assess the effect of ICT based extension services on knowledge, attitudes and practices among smallholder farmers in Tanzania. It focuses on MWANGA platform; a toll short message service (SMS) that connects farmers to vital information on livestock production. Using a random sample of 100 dairy farmers, the study utilises qualitative and quantitative research methods. A baseline was conducted, then short and clear messages on dairy and poultry production were disseminated over a period of 14 weeks. This was followed by an end line survey and focus discussion in Babati District, Tanzania. Quantitative data was analysed using descriptive statistics, whereas qualitative data described the whys.

The findings reveal that the SMS messaging significantly increased farmers' knowledge on the advantages of feed chopping ( $p$ -value <0.1). Additionally, from focus group discussions, farmers were able to identify more improved Napier grass varieties. Consequently, increased knowledge resulted in change in practices such as adoption of feed chopping and provision of adequate water for animals. SMS messaging had positive and significant effects on attitudes. At 1% level of significance, farmers value the importance of keeping improved breeds and believe that better formulated feeds yields better benefits. Moreover, they understand the cost and benefits of different technologies & is a key factor in adoption.

MWANGA platform has proved to be a valuable cost-effective extension approach reaching out to as many farmers as possible. The study recommends integration of ICT technologies in extension service provision. Additionally, such platforms should be interactive such that farmers can ask questions or share their experiences on crop and livestock production challenges.

**Keywords:** Extension, forages, ICT, livestock productivity, technology adoption