

Influence of distance to urban markets on intensification of smallholder dairy production

S.A. Migose^{1,2}, B.O. Bebe², I.J.M. De Boer¹ and S.J. Oosting¹

¹*Animal Production Systems group, Wageningen University, PO Box 338, 6700 AH Wageningen, the Netherlands*

²*Department of Animal Sciences, Livestock Production Systems group, Egerton University, PO Box 536, 20115 Egerton, Kenya*

Corresponding author: Salome Migose. E-mail: sally.migose@wur.nl.

Short title: Dairy intensification and distance to urban market

Abstract

The objective of this paper is to determine the influence of distance to urban markets, as a proxy for market quality and availability of production factors, such as land and labour, on intensification of dairy production among smallholder farmers in Nakuru Country of the Kenyan highland. This was achieved by conducting interviews with 30 farmers and discussions with seven groups of farmers and stakeholders, in three locations that varied in distance to the urban market of Nakuru town: **urban location (UL)**; **mid-rural location (MRL)**; **extreme rural location (ERL)**. Data were collected about market characteristics, production factors, and technical and economic performance of farms. Thematic content analysis was applied to qualitative data while quantitative data were subjected to analysis of variance. The results indicated that market quality was higher and production factor availability was lower in UL than

in MRL and ERL, but intensification was low in all locations indicated by relatively low levels of input and output in all locations. Use of zero-grazing, artificial insemination and milk yield per cow were slightly higher in UL than in MRL and ERL. Intensification was limited by the following reasons: in UL, by inadequate fodder supply, lack of organized formal milk market chains and high importance of family livelihood support function of dairy cattle; in MRL and ERL, by low market quality for milk and lack of specialization on dairy production. We conclude that intensification of smallholder dairy production requires simultaneous development of feed supply and formal milk market chains, and external source of financing in UL and improvement of formal milk market chain and infrastructure in MRL and ERL.

Key words: Kenyan highlands, market quality, farm performance, production factors, cattle functions