

Low-Cost Market Information System: Experience from Smallholder Dairy Commercialization Project in Kenya

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ABSTRACT

This paper uses household and key informant survey data from Kenya to analyse the experiences of dairy groups in using Low-Cost Market Information System (LCMIS) and identify intervention points for strengthening the system. Survey research design approach was used to collect data from 220 respondents who were selected using multistage sampling procedure Results revealed that the performance of the system in the provision of market information was moribund. This was due to the fact that the operationalization of the system had not taken off. As important, respondents interviewed in the field had scanty knowledge about the technology. LCMIS being an important new and innovative marketing technique intended for the resource poor actors in the production and market segments of the milk value chain, there is need for its enhancement.

Keywords: Low-cost market information system, Smallholder Dairy Commercialization Programme, dairy farmers, Kenya

INTRODUCTION

Dairy farming accounts for four percent of the Kenya's Gross Domestic Product (GDP) and fourteen percent of total value of agricultural output thus making it a significant economic activity. Smallholder Dairy Commercialization Programme (SDCP) commenced in July 2006 with an overall goal to increase the income of poor rural households especially smallholder dairy farmers and small-scale milk traders who depend on production and trade of milk and dairy products for their livelihood. The Programme had five components, namely Components A, B, C, D and E: Component C dealt with development of the milk marketing chain and aimed at improving the efficiency of milk market value chain and the smallholder dairy operators' access to it. The achievement of this component included establishment of Sustainable Low-Cost Market Information System (LCMIS) set up and operational and linked to the Dairy Information Centre at Kenya Dairy Board. The paper provides findings of a study carried out to analyze the experiences of dairy groups in using LCMIS. Survey research design approach was used to collect data from 220 respondents who were selected using

multistage sampling procedure. LCMIS is an important new and innovative marketing technique intended for the resource poor actors in the production and market segments of the milk value chain (Ministry of Agriculture, Livestock and Fisheries, [MOALF], 2017).

According to Obert F, *et al.* (2015), there are over 850,000 small holder dairy farmers in Kenya, about 85 percent of whom do not have access to the national electric power grid. Thus, there has not been an economical method available for on-farm milk marketing hence the need for LCMIS. The typical Kenyan dairy farmer has about 3 to 5 cows, producing an average of about 8 liters per day of milk per cow (typically ~60% as morning milk and ~40% as evening milk). Low innovation capacity (Juma, 2011), low productivity (UNDP 2012; World Bank 2008), demographic pressures, dwindling natural resources and climate change (Jenny, *et al.* 2010) have all made agricultural development more complex. Recent studies (UNDP 2012; FAO 2016) argued that, the agriculture sector in Africa, Kenya included, is performing below its potential. Agricultural productivity remains low-much lower than in other regions. Cereal yields stagnated for

decades in sub-Saharan Africa and it remains the world's most food insecure region. Although the level of awareness of LCMIS was relatively high, its operationalization was not reflected on the ground. Ideally the LCMIS marketing technique was intended to revitalize the market segment in the smallholder dairy subsector through a unique and cost-effective marketing practice.

METHODOLOGY

The study was carried out in the Smallholder Dairy Commercialization Project (SDCP) project area of the Republic of Kenya namely Bungoma, Kakamega, Uasin Gishu, Trans Nzoia, Nakuru, Lugari, Nandi, Bomet, Nyamira and Kisii. It employed descriptive survey research design with ex post facto approach in which the researcher examines retrospectively the effects of a naturalistically occurring treatment on a subsequent outcome (Kothari and Garg, 2014). Multistage sampling techniques were used to identify the respondent. Stage one was a saturated sampling of all the dairy groups(DGs) in the project area. Stage two was proportionate stratified sampling of DGs in each DCA. This ensures that no subgroup is omitted from the sample and avoid over loading in certain sub population (Koul, 2013). Stage three was systemic selection of farmers from the selected DGs.

Kothari and Garg (2014; 62) explains that this method is applied in heterogeneous big enquiries extending to considerable large geographical area where list of respondents is available. A total of 250 respondents were sampled for the study. However, during the survey, only 220 farmers were accessed representing 88 per cent responses.

RESULTS AND DISCUSSION

Development of Milk Marketing Chain

In order to improve access to market information by small holders, the project setup and operationalize a Low-Cost Market Information Service (LCMIS) and linked to the Dairy Information Centre (DIC) at the Kenya Dairy Board (KDB). This was meant to provide timely and relevant market information crucial for meeting the Programme's goal of enhanced incomes for smallholder dairy households. Stakeholders would submit and also receive information from the DIC through the LCMIS. It was noted that, benefits from improved farm level productivity could only accrue to smallholder dairy farmers if they had access to reliable information regarding prices and existing market opportunities. Figure 1 shows the level of awareness of the respondents on the existence of LCMIS in the programme area.

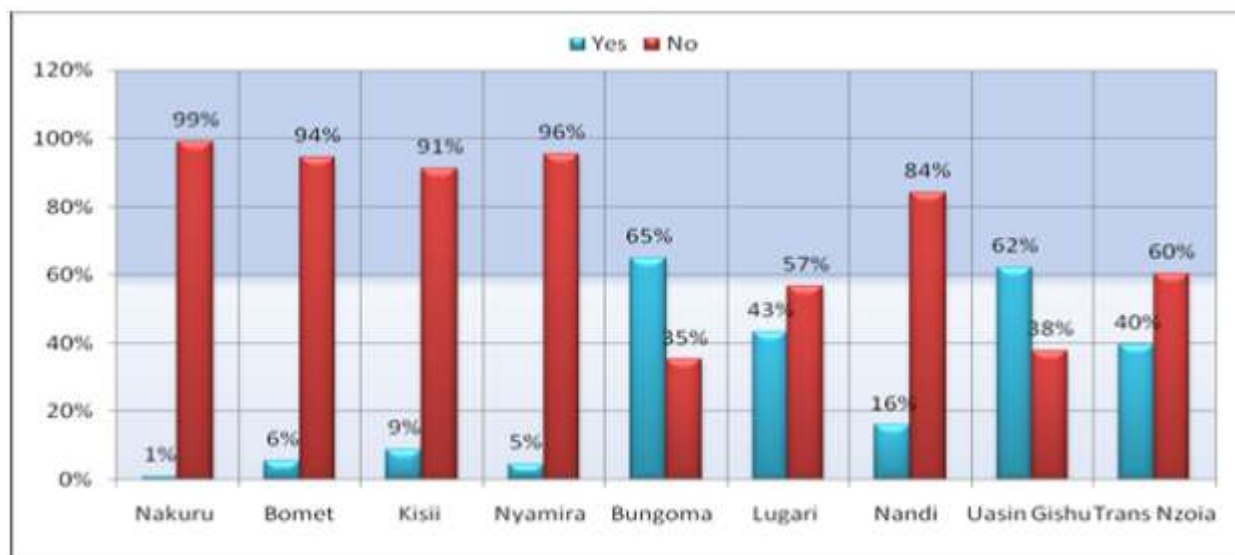


Figure 1:
Level of awareness of the existence of Low-Cost Market Information System (LCMIS)

There was a regional disparity associated with the level of awareness of the system in the programme area. Whereas, there was a relatively high level of awareness of the system in the Western Kenya programme area (Bungoma and Kakamega) as well as the North Rift programme area (Uasin Gishu and Trans Nzoia), the level of awareness was comparatively low in the South Rift programme area (Nakuru and Bomet) and Nyanza programme area (Nyamira and Kisii). The high level of awareness in particular Western Kenya programme area could be attributed to the strong presence of the Kenya Agricultural Commodity Exchange (KACE) whose role is to disseminate electronic market information on various agricultural commodities. Although the

level of awareness was relatively high in the Western Kenya and North Rift programme area, the operationalization of the marketing system was not reflected on the ground.

Staff Training on Low-Cost Market Information System

Discussions with SDCP desk officer at KDB established that 22 out of 27 dairy group resource persons and 100 percent of the staff targeted for training had been trained on LCMIS (Table 2). They were to gather information at Dairy Commercialization Area (DCA) level, in collaboration with the participating line ministries.

Table 1
Training on Low-Cost Market Information System

Planned Activity	Unit	Target	Achieved	%	Cumulative
Training DG resource Persons	No	27	22	81.5	22
No of staff trained	No	42	42	100	42

Information gathered was to be forwarded via SMS to the Dairy Information Center (DIC), based at the Kenya Dairy Board (KDB). It was further established that a service provider was contracted by the PCU to set up and operationalized the system which has been mainstreamed into KDB information services. However, from the analysis of the data collected from the field, operationalization of the system has not taken off as respondents interviewed in the field had scanty knowledge about the technology.

Performance of LCMIS in provision of market information

Ideally the LCMIS marketing technique was intended to revitalize the market segment in the smallholder dairy subsector through a unique and cost-effective marketing practice. Based on the discussions with the participants and the resultant findings in relation to the level of awareness on the system, the performance of the system in the provision of market information was moribund. According to Yogendra and Shankar (2021), the digitization of the agriculture has the potential to

transform the way we produce food and provide services. Many factors such as newness, high costs and weak demand in small landholding farmers especially in developing countries such as Kenya are some of the contributing factors (World Bank. 201 and World Bank. 2016). Other factor could include poor internet connectivity in rural areas and less use of smart phones as opined by Shobha *et al.* (2021).

CONCLUSION

There was inadequate usage of Sustainable Low-Cost Market Information System (LCMIS): Ideally the LCMIS marketing technique was intended to revitalize the market segment in the small holder dairy subsector through a unique and cost-effective marketing practice. Based on the discussions with the participants and the resultant findings in relation to the level of awareness on the system, the performance of the system in the provision of market information was moribund. This could have been due to factors such as newness, high costs and weak demand in small landholding farmers.

Paper received on 15.07.2022
Accepted on 24.07.2022

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