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Does use of ICT-based market information services (MIS) improve welfare of smallholder farm households? Evidence from Kenya

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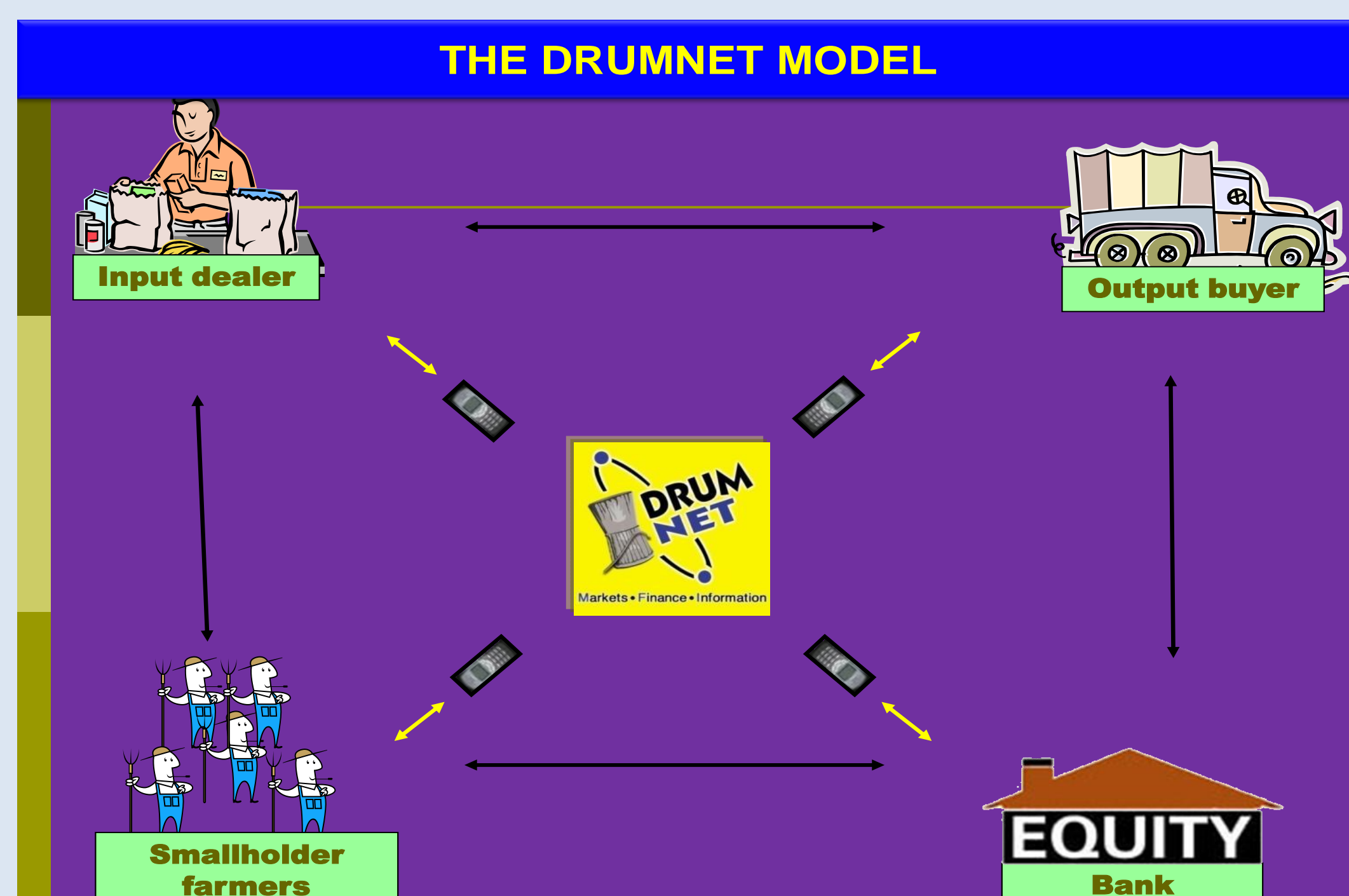


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Introduction & Study Objective

- The Information and Community Technology (ICT) revolution in developing countries has generated considerable excitement among development agencies.
- The excitement relates to potential ICT tools have in resolving market information access problems agricultural sectors in such countries face.
- Indeed, recent studies document widespread application of mobile phones, internet, interactive CD-Roms, radio and TV in developing country agriculture.
- Evidence suggest that these initiatives improve farmer linkage to input and output markets by improving information access.
- Past studies argue that poor market linkage traps smallholder farmers in subsistence farming and aurtaky thus entrenching poverty
- Does this stronger market linkage translate into improved welfare of smallholder farm households?
- This study uses one such ICT intervention in Kenyan smallholder agriculture, known as the DrumNet project, to examine the effect of ICT-based MIS on participating farm household's well-being.
- The DrumNet project used mobile phone based computer platform to link farmers to various actors in the value chain



DrumNet used mobile phone to link various transaction partners in the value chain

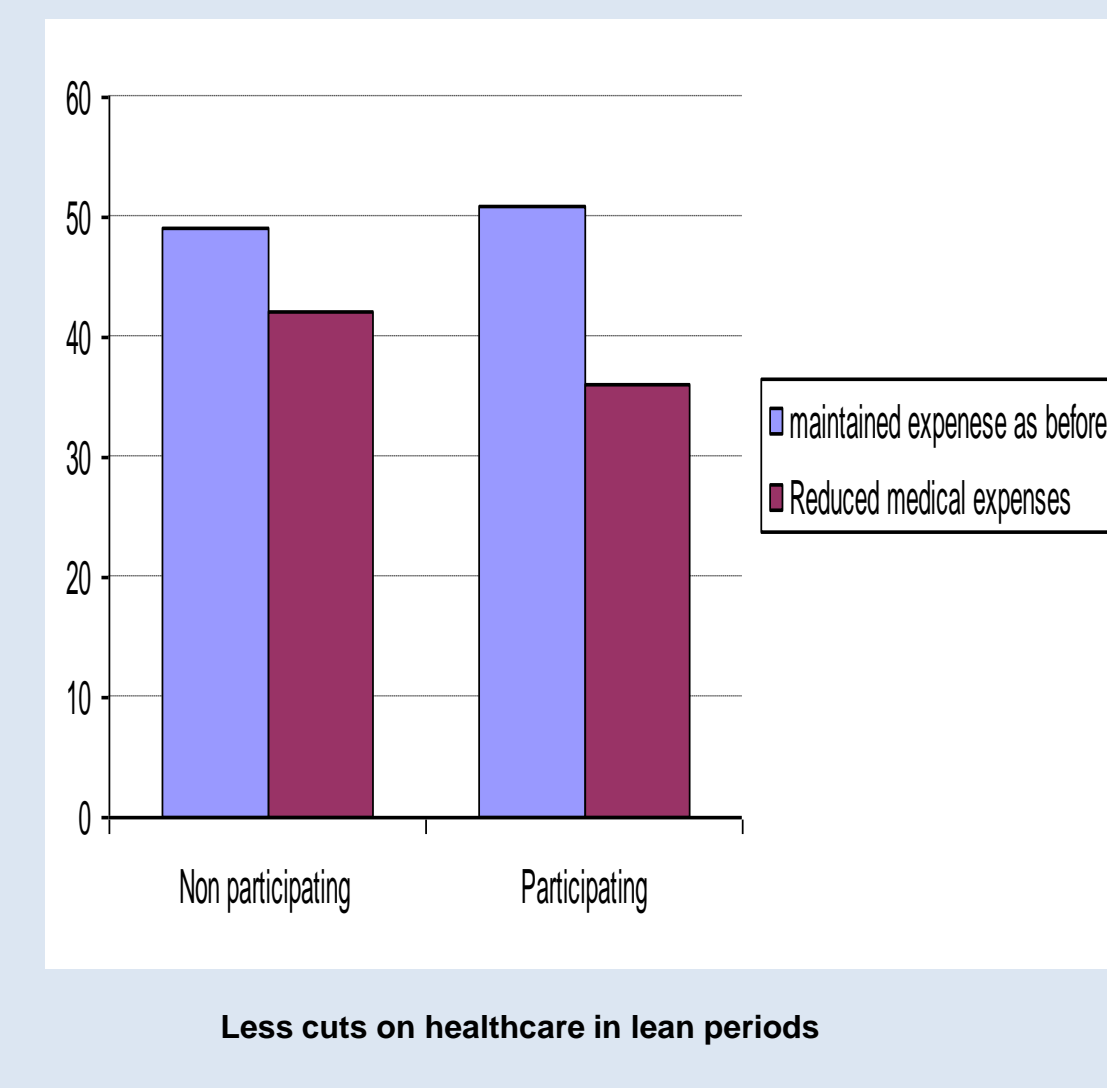
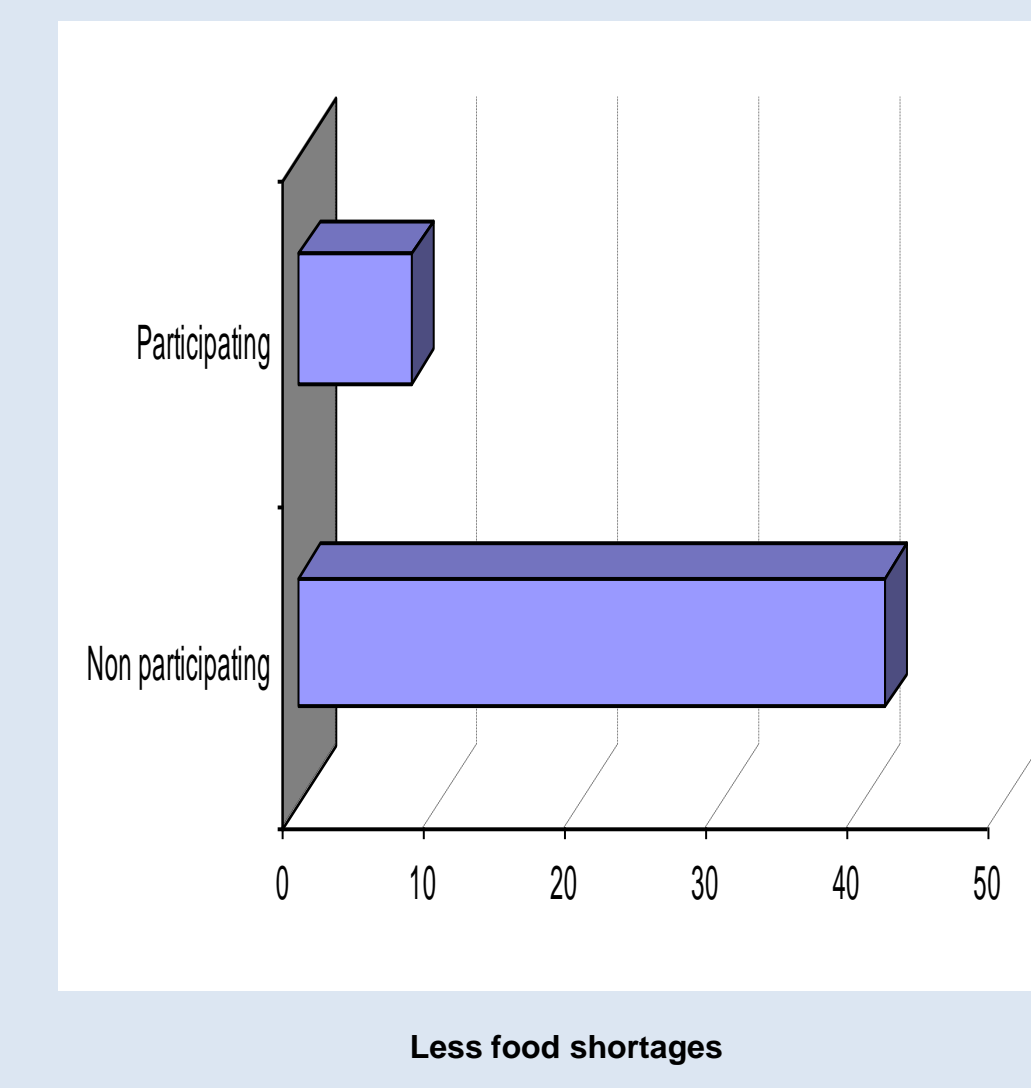
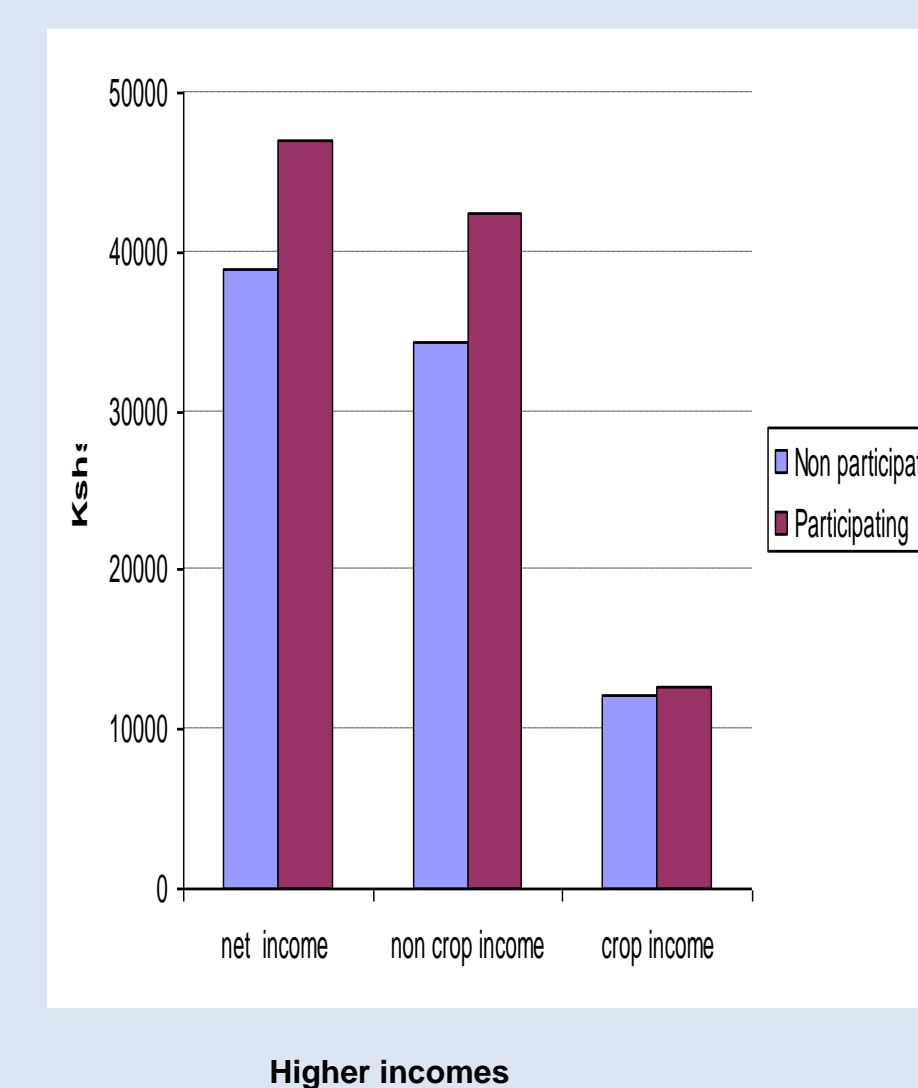
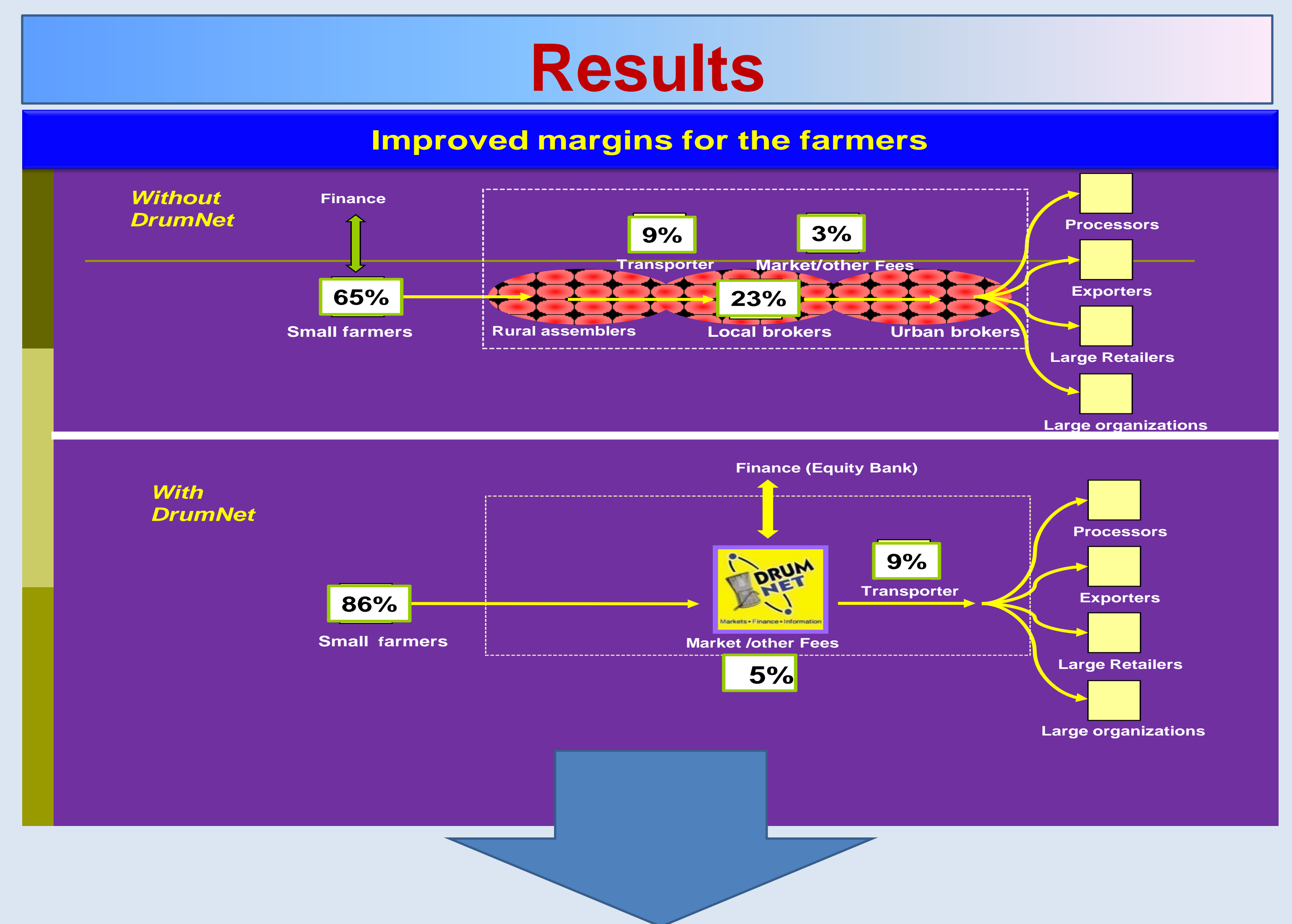
Methodology

- This study is based on transaction cost and livelihood theories. Transaction cost theory posits that improved access to market information reduces opportunistic behavior and improves Efficiency of input/output markets.
- Efficient markets result in higher margins and is expected to improve welfare of actors.
- This study uses quantitative data collected from 256 smallholders farmers in January and February 2009 through personal interviews, to examine these propositions.
- Farmers were stratified by participation in the DrumNet MIS project. Data collected included prices, volumes, marketing costs, indicators of household food insecurity (e.g., tendency to borrow food or depend and food assistance).
- Other indicators of welfare e.g., access to healthcare (proxied by household expenditure on medical services) were also collected.
- The quantitative information was supplemented with detailed personal interviews with various actors along the value chain.
- The study focused on smallholder farmers growing sunflowers in western Kenya.



DrumNet sunflower farmer in Western Kenya.
He hopes to build a better house some day from the crop

Results



Discussion

- The study finds that participation ICT-based MIS project improves the wellbeing of smallholder farm household by increasing the net household incomes.
- Higher incomes result from the improved margins from the sale of sunflower and also from non-crop agri-based activities.
- Higher margins in turn result from reduction in transaction costs due to improved access to input and output market information.
- The study also finds that participating households are more food secure. They borrowed less and also relied much less of food assistance even during the period of food price inflation.
- Improved net household income is thus used to smooth shocks resulting from food prices increases.
- Results also show that households that participated in the DrumNet project had better access to medical healthcare than their counterparts.

Conclusion & Policy implication

- This study concludes that participation in ICT-based MIS projects reduces the transactions costs to smallholder farmers by resolving information-related idiosyncratic market failures.
- This allows farmers to earn higher margins. The higher income improves access by such households to food and healthcare services
- The implication of this study is that new generation ICT-based can bring about progress in smallholder farm sector by resolving market-information related constraints.