

Mobile Phones are Just More than Phones in the Hands of Farmers

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1. Background

Ethiopian government promotes market oriented agriculture but inefficient marketing system hinders its progress. Among many factors affecting the performance of marketing system, unavailability of timely and relevant market information to small scale farmers is a critical one. This contributed for low productivity of the agricultural sector and poor orientation of the farmers to commercialization.

The absence of or poor performance of such services does not seem to be due to any lack of appreciation of their importance. However, problems with operating market information system are numerous. The main constraints appear to stem from lack of resources, not so much to establish an MIS, where donors are often prepared to assist, but to maintain it in efficient operation after the donors have left. Particularly in this day and age when governments are under strong pressures to cut expenditures, it is often difficult to maintain political support for services with few visible benefits.

To alleviate these problems some attempts were made to establish formal public market information system (MIS) in the late 90s, however, it did not continue. In the recent years, the marketing project which was supported by JICA-FRG made some efforts to collect time series price data in some market places of central rift valley by employing data collectors in the market and delivering reliable and updated market information to FRG farmers through mobile phone and posting at public places which helps them in better and informed decision making. Survey conducted in 2007 indicated that 6.5 billion people use a mobile phone. In 2005 it was around 2 billion people who used it. Mobile owners in developing countries were more than twice as developed countries. In LDCs subscriber growth rate were 25 percent per year and double that in Africa (id21 insights 69, sept.2007). Mobile phone was introduced to Ethiopia in 2000? The use of mobile phones in developed countries is not the same as developing countries. This paper highlights the use of mobile phone in improving market efficiency under small scale farmers' condition.

2. Materials and methods

Farmers Research Group (FRG) marketing network were established at four districts of which one group is established at each district, namely, Rafu Hargissa (Arsi Negelle district), Anano (Adami Tulu Jido Konbolcha district), Abinegabriel (Dugda district) and Bishola (Adama District). Abinegabriel, Anano and Rafu Hargissa are located at 175, and 230 kms respectively from Addis Ababa to the south west on the main road to Awassa. Bishola is located at 40 km from Addis Ababa to the east on the main road to Harar. The project should fill

The project period was from July 2007 to March 2009. Each established FRG constitutes 25 members on average. Firstly, trainings were conducted for the four groups on marketing and record keeping. Following this each group has developed rules and regulations (bylaws) and its contents on the use of mobile phones. The bylaws mention the use of mobile phones, roles of each elected person, cost sharing methods for the prepaid card, mechanism of information dissemination, role of other stakeholders such as enumerators, researchers, monitoring and evaluation mechanism, etc. Detail description of the group constitution is mentioned under annex 1 and 2.

Each group elected chairperson, secretary and treasurer. The chair person is the device holder who contacts with traders, group leader of other FRG market network and market enumerators to collect market information and share it with members. In the market there were enumerators who have been collecting weekly market data. Each group member has the full right to use the mobile phone for common concerns of the group or for individual concerns. The cost for prepaid card is covered by members' monthly contribution and charges paid for private calls. Arrangements were made with the enumerators, traders and other FRG marketing network group leader in the nearby five market places - Arsi Negelle, Ziway, Bulbula, Meki and Adama in order for the group leaders able to provide market information to the farmers. Farmers now days have made an arrangement by themselves with traders of central market like Addis Ababa to get market information. Mobile phones were leased out to the group by the FRG project. The contacts of information resource were not necessarily fixed. The mobile phones could be used regularly (daily) to get daily market information based up on the requests of the group but it was intensively used on big market days of the areas. The information was delivered to the group members via personal contacts, contact

‘gox¹’ leaders who were the leaders of the sub groups with in the group because of geographical locations and farmers to farmers dissemination from those who gox first information from the group leaders (mobile holders). Figure 1 below shows the Basic model of the project approach which was basically Adopted and modified from FRG project approach.

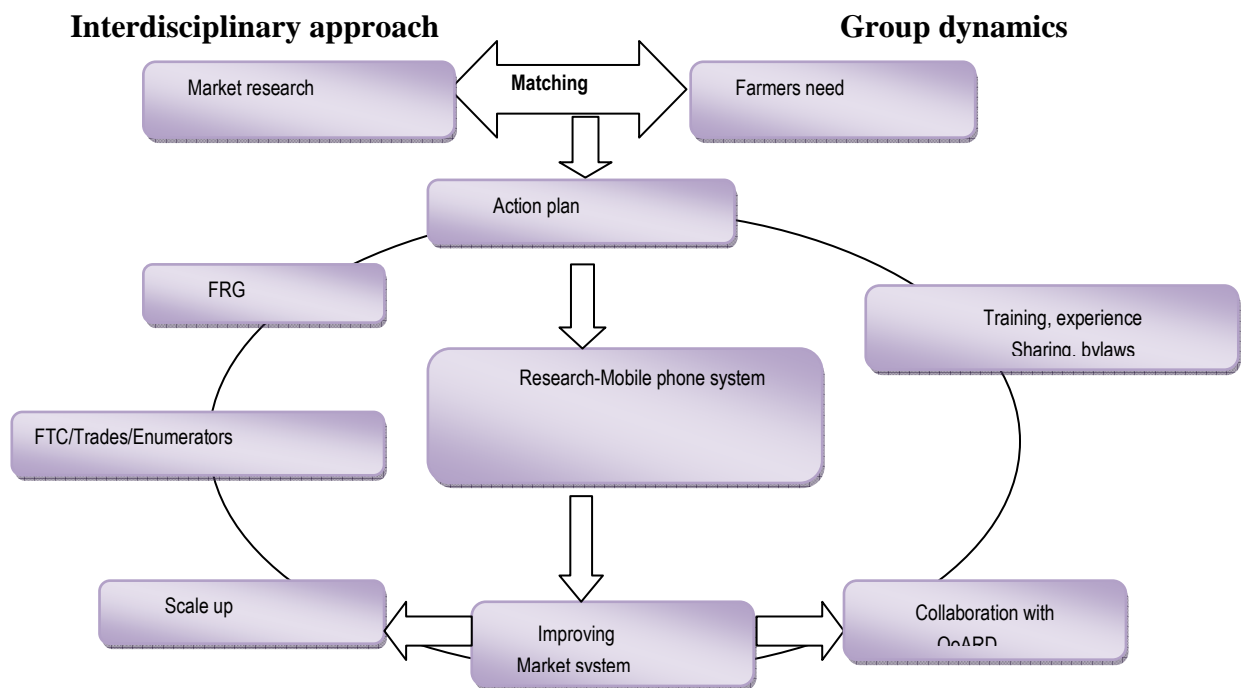


Figure 1: Approach of the project

3. Results and Discussions

3.1. Sources and flow of market information between group members and their marketing strategy before and after mobile phone intervention

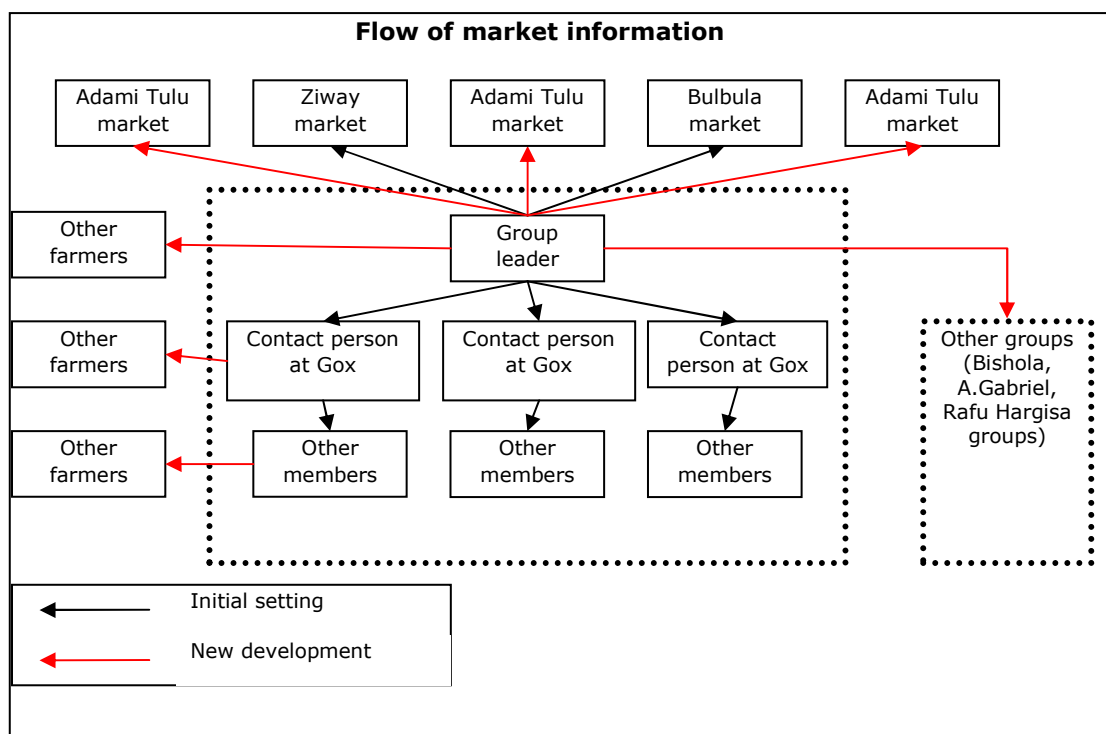
Before the intervention was made the main source of market information for farmers who need to sale their agricultural products were farmers who have visited the pervious market day and some times traders but traders hide the accurate and relevant information-they tell farmers cutting the price by some amount. For example, if the price of maize prevailing in the market is 150 birr per quintal they inform farmers as the price is 125 birr. It was found that the information available for them to make a decision on what, where and how to sale was a recalled information and always one week old. In summery the market strategies of farmers before mobile intervention made were:

¹ Gox is local language which is to mean the small administrative unit in the Kebele(PA). one kebele may consists of three or more gox. **Explain more**

- Farmers strongly and mainly rely on the recalled information-one week old
- Decision is based on the recalled information
- Possible market source of information are few or limited

After the intervention was made the source of market information is from a farmer who holds a mobile for the group (group leader), reliable traders whom they made as a contact person in the market, and other farmers who have mobile and near to market places and enumerators in the market. It was reported that the information is on time and accurate that helped farmers to make a correct decision on appropriate time and place. The market place used for assessment of market information is now broadened. Farmers started to assess price information from different markets and also some times from central markets such as Addis Ababa and Adama. In summary farmers marketing strategy after the intervention becomes:

- They rely on the on-time market information for marketing decisions
- Farmers assess extra market information than before which may include information on type of traders who come to market before they decide product to be sold. They also assess different market place prices to maximize their return from sale or to reduce the cost of marketing in buying and selling products. In short information of more market places is used for decision making.
- Traders who tell them –rely on traders’ information, enumerators and other group members who have the updated information.



During our survey we have identified

ntified that the group members are scattered in to three 'gox'. For example in the case of Ananno the goxs are: Anano, Tabo and Tora. As a result of this geographical location of the sites, the main groups formed three sub groups based on their gox within the group and assigned a contact person at each gox. The group leader conveys the market information to the contact persons and the contact persons share the information immediately to their subgroup members. There are also many cases in which the device holder conveys the information to all group members.

Figure 2: flow of information: the case of Anano FRG market network

3.2. Impact of the access to on time market information through mobile phones

The following are some of the major impacts that come as a result of establishments of farmers' market group network through mobile phone system.

- Sources and places of market information have been changed. Since farmers communication and linkage broadened the source and place from which farmers access for decision making in selling and buying has been changed. For example, there were three market places (Ziway, A,Tulu and Bulbula) from which farmers assesses the price information in the initial phase of intervention but now(they are able to assess from Meki,Jodo and other market places in addition to those market places.
- New and short market channel has been created by farmers as a result of unnecessary and costly brokers' removal from the buying and selling system as well as due to the efforts by farmers in linking themselves to direct buyers at market places or at farm. Power and involvement of middle men in transaction making reduced and cut. For example, A.Negelle farmers group has started to link themselves directly to Addis Ababa.
- The majority of farmers' production pattern has changed. Some farmers' production pattern has changed. They started to produce which they learnt have steady and high market demand which is an indication that farmers have started to follow market oriented agricultural production.

- Group dynamics has been improved between farmers. Farmer's networking within the group has been improved.
- Decision pattern of farmers changed to make more precise amount and timing possible at home before embarking for the market. This has contributed in reducing market costs. Information of more market places is used for decision making. Farmers have started to make a choice on where, what and when to sell their produce. More information helped farmers to develop better bargaining power.
- Farmers have started to pool their commodity especially seed producers and sell in group.
- Connection and input flow among other farmers' market group has been established. Farmers group at A.Negele linked themselves with Anano group and purchased maize seed at fair price from the seed growers. It can be said that the interaction is facilitating the agricultural input flow such as seeds among farmers and is contributing in improving agricultural extension services for farmers by farmers. **It also makes trade fast, less costly and less risky.**
- The groups are enjoying from better social benefits as a result of better communication among group members. More active social interaction among the farmers through use of the mobile phones.
- Marketing costs has been reduced-extra transportation costs have been eliminated, risk of not selling their produce has been reduced. **In addition, communication costs in terms of time spent traveling, and the opportunity cost of income forgone when traveling have been reduced.**
- Some group members motivated and purchased the mobile device for themselves.
- On top of using mobile phones for agricultural marketing, farmers are using it for improving their access to health extension service in the rural areas.

3.3. Farmers witness

“When people say market oriented agricultural production it was confusion for me but I have seen practically through the impact of mobile phone on my red gold-pepper. Mobile phones are just more than a phone in the hands of FRG farmers.” -Mr.Husen, Angele FRG market net work member-

“At the beginning I assumed that the phone was given only to chairperson rather than to the group but now I have seen with my naked eye that the phone is for the benefit of the group. I have got additional benefit of 80 birr by selling 2 heads of goats at the correct timing due to the mobile phone. Thank you all” -Mr.Jemal, FRG market net work member, A.Negele

“I had purchased a mobile phone a year ago. But after I became a member of the marketing FRG, I realized that the phone can greatly contribute in boosting our income from the sale of our products wisely. We have lost much money before the introduction of the system to our groups. Thank you for opening our eyes”

-Mr. Mohammed, FRG market net work member, Annano

“I got 1000 birr from selling a head of ox by learning price change within 2 hours due to this precious mobile. Not only this, I made a price assessment at different markets through the phone and finally called a wholesale trader in Addis Ababa from my homestead. On that day, I sold haricot beans of 25000 birr and pepper of 50000 birr. You can imagine how information can change livelihood” -Ms. Ayelech, FRG market net work member, A.Negele

4. Conclusions and Policy implications

Rural farmers lack market information that they need to help improve their marketing and livelihoods strategies. Such information exists but is often denied to them by the lack of connection to reliable information sources. Under such conditions mobile phones can solve the problems.

Market channel and outlets are widened but become short and cut involvement of middle men that helped them in reducing market costs. Information of more market places is used for decision making. Farmers have started to make a choice on where, what and when to sell their produce. **Therefore, it is vital for the policy makers to incorporate in the design and**

promotion of rural development to include technologies like mobile phones that can solve the complexity of markets and contribute for the efficiency of markets.

Information plays a great role in making accurate and reliable decisions by farmers what to produce and make a choice on where, what and when to sale their produce. More information helped farmers to develop better bargaining power. In addition mobile phones are helping farmers in increasing the awareness of opportunities for trade, shorten the time taken to fulfill the orders and need for agricultural extension services such as seed and the like. Facilitated and make efficient input flow between farmers –contributed for better input flow.

Government needs to focus on the wider distribution and coverage of mobile telephone networks than fixed line in the rural areas to benefit and help farmers derive better income from their produce and faster the promotion of market oriented agricultural production as mobile phone is more convenient and applicable under farmers' condition in terms of investment costs than fixed line because fixed line telephone is costly than mobile telephone. In addition, mobile is more convenient in terms of accessing up dated market information at any places. Further more reducing the cost of prepaid expenses also needs attention from the government in order for the government benefit farmers' from such services that has multiple effects.

Mobile phone communication is also helping rural farmers in gender reinforcement as a result of better communication among farmers by creating opportunities for both men and women benefit from MIS. Thus government should promote such technology in tackling problems as a result of gender imbalance.

Better and frequent flow of information through mobile phones helped to promote group approach by making the group to pool their produces for sale and also helps cooperatives/groups more active and efficient in resource utilization and allocation. Group dynamics improved as a result of effective and efficient information flow with in and among groups. Therefore, government should promote such policies/technologies through any development plan for efficient utilization of resources as well as to make groups effective in group approach.

On the top of using mobile phones for market information, it was found that mobile phones are helping farmers in improving their access to health extension service in the rural areas. For example, one of the Anano group members called Ambulace to homestead in order to save the life of one woman who was extremely injured during farm works. This indicates that better and frequent information flow and having access to information would improve the performance of every sector that need attention from the policy makers to incorporate such technologies that has multiple effect.

Mobile phone applications in developing countries will not be used in the same ways as developed countries. However, there is still the need for specific research to determine, further investigate and exploit the use of mobile phones under farmers' condition and see the impacts of mobiles in future development.

In general, the attempt made was very promising and encouraging results on farmers' decisions in their production and marketing strategies have been observed. In addition, it helps to generate much information on the market information delivery system and decision making patterns among farmers and other stakeholders which will further be used by research organizations and development practitioners.