

**THE ROLE OF NETWORKS IN INFORMATION DISSEMINATION IN
TANZANIA: THE CASE OF SELECTED COMMUNITIES IN MOROGORO
REGION**

BY

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ABSTRACT

The study on the role of farmers' networks in information dissemination in Tanzania was carried out in Mgeta Division in Mvomero District. Interest in this study was prompted by the recognition that farmers' networking was used as the best tool for communication compared to conventional assumptions of extension communication which was blamed to be the cause of low adoption and diffusion of extension messages. But the extent to which information concerning agricultural innovations is effectively passed among farmers within local networks is unknown. Hence it was necessary to test this assumption under Morogoro conditions. The study examined the sources of agricultural information among network members, awareness of agricultural messages received in local networks, individual perceptions on the role of networks in information dissemination, effectiveness of networks in facilitating communication of information and factors affecting information dissemination within networks. Population of the study consisted of 80 farmers from farmers' groups and seven MVIWATA promoters. Structured questionnaire was used to collect relevant information from the respondents. A checklist was also utilized to collect information from key informants. The data were then analysed statistically to obtain frequency distribution and percentages. Generally, this study revealed that contact farmers were frequently visiting each other on an average of three days per week in order to exchange information and share experiences concerning agricultural knowledge on crops they are cultivating. These interactions were done within individuals, groups and networks. In order to increase effectiveness in disseminating information concerning innovations as it is passed from one farmer to another through the local network, it is recommended that MVIWATA in collaboration with UMADEP and other stakeholders like Mvomero District Council should make efforts in training group members and other farmers on how to effectively pass information concerning

innovations from one farmer to another.

DECLARATION

I, PETER MWITA MUNANKA, do hereby declare to the Senate of Sokoine University of Agriculture that, this dissertation is my own original work and that it has neither been submitted nor concurrently being submitted for a degree award in any other University.

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Date

The above declaration is confirmed by;

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Date

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DEDICATION

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LIST OF ABBREVIATIONS

FAO : Food and Agriculture Organisation of the United Nations

IEN: Information Exchange Networking

MVIWATA: Mtandao wa Vikundi vya Wakulima Tanzania

NGO: Non Government Organisation

UMADEP: Uluguru Mountains Agricultural Development Project

UMHODEP: Uluguru Mountains Horticultural Development Project

SACCOS: Saving and Credit Co-operatives Societies

SNAL: Sokoine National Agricultural Library

SUA: Sokoine University of Agriculture

TAYOA: Tanzania Youth Alliance

INTRODUCTION

1.1 Background of the study

Change is a pervasive condition of our times. People have the opportunity to effect change or be affected by it. The growing complexity of society and the interdependence of the smallest community with the world economy make it almost impossible for individuals working alone to initiate, conduct and sustain efforts to improve their situation, to improve their social and economic well being (Christenson and Robinson, 1989).

The word community means “fellowship” in Greek language. Reflecting on the meaning of the word, the philosopher Thomas Hobbes saw community as a natural process of people coming together to maximize their self interest (Christenson and Robinson, 1989). For Christenson and Robinson (1989), development implies improvement, growth and change. It is concerned historically with the transition of cultures, countries and communities from less advanced to more advanced social stages.

Networking is a powerful and cost effective way of sharing information and achieving various goals that individuals cannot attain alone. Alders et al. (1993), define a network as any group of individuals and/ or organisation(s) that, on a voluntary basis, exchange(s) information or goods or implement joint activities and organise themselves for that purpose in such a way that individual autonomy remains intact. During this process, members take part on a voluntary basis whereby networking assumes the willingness to

share information and other resources in an environment of mutual trust and respect; members carry out joint activities that cannot easily be performed alone; networks can have many different forms and use different procedures depending on the specific situation. There is, therefore, considerable diversity in networking experiences.

According to Nelson and Farrington (1994), a key feature of networks is their low cost. Once one or more nodes have been set up, network members can share information on their own experience, and benefit from that of others, at the lowest resource cost to themselves than would be the case if they had to submit articles and take out subscriptions to professional journals.

As stated by Alders et al. (1993), rural people like city dwellers, like to get together to share information and other forms of mutual support with others whom they trust. FAO (1994), pointed out that by working in groups, rather than individuals, the rural poor are able to combine and make best use of their skills and resources as they exchange views and ideas and choose their options. For example McCorkle et al. (1988), as cited in Alders et al. (1993), describes some 20 case studies of successful farmers' innovations through networking in Niger. These include the introduction of short-cycle millet varieties, new land preparation methods, the construction of mini-catchments, seed pocket manuring, dry season gardening, forage utilization, biological pest control, and a range of ethnoveterinary medicines. He also found that farmers' can plan, implement and evaluate on-farm research trials and demonstrate a sophisticated understanding of the complex interactions among the many variables they manage. The channels of network communication and their degree of formality will vary according to the size and objectives of networks.

Conventional assumptions of extension communication have been blamed to be a cause of low adoption and diffusion of extension message, and farmers networking has been used as the best alternative tool for communication. In Tanzania, following new policies about co-operatives and the disengagement of the state in production-oriented activities, the idea of networking for small scale farmers is seen as an alternative in the process of self development in the rural environment (Shenduli, 1998).

In Morogoro Region, the Network of Farmers Groups in Tanzania (MVIWATA) has been working to network small scale farmers groups with the main objective of strengthening and capacity building of farmers groups and networks at local, regional and national level through sensitisation; empowerment of small scale farmers through training of network members; affiliation with national and international networks and organisations for lobbying and advocacy purposes (MVIWATA, 2004). Another organisation that deals with information exchange networking is Tanzania Youth Alliance (TAYOA). It provides HIV/AIDS, entrepreneurship, and civic/human rights education for the young people in Tanzania under Trustees Ordinance. TAYOA is devoted to building the capacity of African youth for leadership and management of socioeconomic development (www.tayoa.org/abouttayoa.php). The underlying assumption of networks is that they facilitate communication of information among those involved in the networks.

1.2 Problem statement

Effective communication creates awareness about the problem among people; initiates among them an urge to know and learn; stimulates a desire to action by agitating their minds; spurs on individuals and communities to local efforts; leads to a change in outlook and values of the people; opens up a two-way channel of transmitting

information on individual and communities needs, activities, programmes and experiences; and finally results in the utilisation of new techniques and skills after proper training for the people's benefit (Krishan, 1968).

According to Shenduli (1998), farmer to farmer communication of agricultural knowledge offers more incentives for farmers to experiment for themselves and strengthen farmers feedback loops in research and extension. Belonging to groups enhances the level of communication amongst farmers belonging to the groups and between group members and change agents while the enhanced communication can facilitate awareness of extension messages received. Farmers belonging to the network have more access to different sources of information compared to those who do not belong to the network.

However, there is minimum documentation on how effective networks are in facilitating the flow of information to farmers. Therefore, the purpose of this study was to assess the role of networks in information dissemination in Tanzania, particularly in Morogoro Region.

1.3 Justification of the study

Networking for small scale farmers is an essential ingredient in the process of self development in the rural environment. In this case, assessment of the role of existing networks in information dissemination in Tanzania, particularly in Morogoro Region, was very important as it will give an awareness on whether it (network) is a contributing factor to information dissemination taking into consideration its effectiveness in disseminating information concerning innovations as they are passed from one farmer to

another through the local network. Few studies have been done to test this assumption under Tanzanian conditions. Results of this study will be useful to farmers and farmers' networks in regulating their systems of transferring information concerning innovations between members. They will also help government policy makers to design relevant programmes and policies which will help other people to adopt this system as a tool for development. Based on the findings, interventions may be designed to increase the effectiveness of farmers' networks in dissemination of agricultural information hence contributing to the agricultural revolution that is envisaged during the fourth phase government of the United Republic of Tanzania.

1.4 Objectives of the study

The general objective of this study was to assess the role of networks in information dissemination in Tanzania. The specific objectives were to:

- i. Determine sources of agricultural information among network members.
- ii. Determine farmers' awareness of agricultural messages received in local networks.
- iii. Determine individual perceptions on the role of networks in information dissemination.
- iv. Determine the effectiveness of networks in facilitating communication of information.
- v. Identify factors affecting information dissemination within networks.

1.5 Research questions

- i. What are the sources of agricultural information among network members?
- ii. Are farmers aware of agricultural messages received in local networks?

- iii. What are farmers' perceptions towards networking?
- iv. How effective are networks in facilitating communication of innovations?
- v. What factors affect information dissemination within networks?

CHAPTER TWO

LITERATURE REVIEW

2.1 Networking in information dissemination

In recent years, farmers' networking has been used as a tool for communication. This is due to the fact that conventional assumption of extension communication achieved little impact. In this section types and definitions of networking, evolution of a network, and the role of networking in information exchange and factors which may influence the effectiveness of network have been reviewed.

2.2 Types and definitions of networking

There are several definitions of networking depending on the outlook taken. Alders et al. (1993), have defined networking as any group of individuals and/ or organisation who on voluntary basis exchange information or goods or implement joint activities and who organise themselves for that purpose in such a way that individual autonomy remains intact. Nelson and Farrington (1994), have also defined networking as the motor of the work of groups with common goal or need; it exists solely to provide organisational structure in addition to providing information and inciting groups to act.

There are several types of networks according to different perspectives. Alders et al.

(1993), classified networks according to the pattern of flow of information. For example, in a hierarchy type network, information flow is controlled by the top while in a horizontal network information flows directly between members. They also classified networks according to membership composition and activities involved. In this case, networks can be formed by farmer's organisations, non- government organisations, researchers and extension workers with a variety of activities like information exchange, training, awareness rising etc.

2.3 Evolution of a Network

According to Velhuizen et al. (1993), networks usually evolve slowly and follow a development path dictated by their own internal logic. This is due to the fact that there seems to be a common denominator with which all networks start. Nelson and Farrington (1994), found that, from a review of the literature and discussion with information exchange networking coordinators, it appears that information exchange networking must pass through an evolutionary cycle as they mature, reach objectives and change their activities or cease operating. There are five stages in this evolutionary path and they are: Initiation, Inventory, Consolidation, Sustain activities, Evaluation and Adjustment.

2.3.1 Initiation

This normally results from discussions between a group of organisations or individuals who recognise the common need and objectives of the group. This commonly occurs during or after a workshop, when workers are meeting around a theme of specific interest to all the participants. This core group may formalise their association in some way (example, through the definition of a common mandate); it is important that such a definition be flexible at this stage so as not to exclude potentially relevant organisations

or activities that may come to light later (Nelson and Farrington, 1994).

2.3.2 Inventory

This deals with identification of other participants who have the potential to contribute to and gain from the activities of the network. Sometimes this involves questionnaire and visits to farms or institutions by motivated actors, as the core group attempts to target particular areas of activity. It is important to focus on clearly identified issues and to design the network's structure around them so that the objectives do not become too vague (Nelson and Farrington, 1994).

2.3.3 Consolidation

According to Nelson and Farrington (1994), consolidation stage is where members of the groups begin to act together. Meetings and workshops are organised, rules of association are discussed and drawn up, exchanges and study tours are organised, and need begins to emerge for some regular means of communication between members.

2.3.4 Sustain activities

After establishment, the network gradually becomes fully operational. It adapts according to environmental change and internal dynamics. A clear identification of the network's goals, structure and procedures and some training in network management will help guide the network through this stage (Velhuizen *et al'* 1993), where certain activities are being carried out regularly and experience in working together is highlighting strengths and weaknesses in the network. There may be a cycle of shifting responsibilities amongst network participants, as individuals adapt to its operations. A

core membership is maintained and new participants are regularly identified and included (Nelson and Farrington, 1994).

2.3.5 Evaluation and adjustment

Once a regular set of activities is being implemented, the network will be evaluated in some way, formally or informally. Strengths and weaknesses are identified and the relevance of the initial objectives is examined in light of experience. It may be found that the goals of the association have been reached and the more formal activities of the network may be terminated, although this is rarely the case (Nelson and Farrington, 1994). Haverkort *et al.* (1993), suggest that, instead of dissolving a network, it may make more sense to transform it to address new issues, or to merge it with other networks.

2.4 The role of networking in information exchange

Information exchange networks are based on interpersonal communication between different members. Communication is seen as a process in which participants create and share information with one another. The information flow within groups and between different members is an appropriate means of exchanging information. The relational model is able to describe interpersonal communication between connected actors. This model encompasses the communication relationship between the actors, of which each actor fulfils the same function at the transmitting and receiving end of the communication process. Information processing at the individual level involves perceiving, interpreting, understanding and action. The process of information sharing between individuals leads to mutual understanding, mutual agreement, and collective action (Weilgmann, 1999). In agricultural development, information exchange networks play following roles in creating and sharing information with one another.

(a) Risk sharing

A basic function of farmers' network is to build confidence among member farmers and to provide support and encouragement in risk taking. New farmers can learn from old farmers and inexperienced farmers can learn from experienced ones. All farmers can learn from each other and so avoiding the unnecessary repetition of mistakes (Compton and Joseffson, 1993 as cited by Haverkort et al., 1993).

(b) Experimentation and demonstration

The experiment conducted by farmers networks can effectively and efficiently serve to develop farming practices that respond to local conditions. This avoids duplication and enables farmers to investigate a proposed new practice more completely and more quickly. Experiment conducted by farmers also do take into consideration risk, labour requirement and community value; factors which are rarely considered by researchers. Networks allow participating farmers to discuss and analyse each others observations and experiences. This process results in valuable research questions. When forwarded to agricultural research organisations, these questions and requests should, presumably, carry more weight because they are put forward by a network rather than individual farmers (Compton and Joseffson, 1993 as cited by Alders et al., 1993).

(c) Extension and communication

In addition to generating and exchanging knowledge based on farmers experiences, farmers networking can get hold of, and disseminate, agricultural information from outside the network. They can serve as a link not only between individual farmers but also between farming communities and the agricultural extension system. Networks have

often emerged in response to absence of satisfactory extension services. Yet the existence of such networks can facilitate the work of extension workers and researchers provided that these accept the network for what it is (Compton and Joseffson, 1993 as cited by Haverkort et al., 1993).

(d) Empowerment

Farmers networking can focus around many areas of common interest and needs. As farmers join together and begin to support and learn from each other, a network develops strength. It becomes increasingly able to command respect and attention, and to promote the common interests of its members and larger community. Practical outcomes can be cooperative purchasing of suppliers, cooperative selling and marketing of produce. Well established networks can become effective advocates of policy change, claim improved access to public service for their members and help to enlist public services for, or at least interest in the issue of environment and development which affects farmers' lives (Compton and Joseffson, 1993 as cited by Alders et al., 1993).

The means and methods of communication of information, knowledge, and skills are almost the same everywhere, but they differ in their effectiveness and applicability from people to people and area to area (Krishan, 1968). Networking approach places the farmer at the centre, he/she communicates with the professional, extension workers and fellow farmers. Anybody in a network may be a source of extension messages at one point or another and at the same time the receiver, of which is not the case with the conventional extension communication model. This model relies entirely on the sender who is at the centre. He/she communicates with the professionals (researchers) and the farmers. In this model, the subject matter preparation, presentation and feedback from farmers is communicated by the sender (Shenduli, 1998).

2.5 Factors which may influence the effectiveness of network

According to Weiligmann (1999), influencing factors are considered to be those determinants which may potentially increase the exchange intensity in networks. In the case of IEN, factors imparting upon exchange intensity cannot be derived from market or competitive conditions. Effectiveness of networks may be influenced by three factors which are individual exchange behaviour, communication structure and external conditions. These three elements will be discussed in the light of the IEN in the following part.

2.5.1 Individual exchange behaviour

Individuals are only willing to cooperate with each other if they are likely to receive rewards from the collaboration. Only with the integration of members', individual objectives can active participation in the network be guaranteed. Identical targets are not possible in the networks with many members; neutral targets lead to less cohesion and in consequence, less active network participation. Conflicting targets put collaboration at risk from the beginning. Therefore, the target system has to reflect different individual subjective motives and to harmonise them as a sum to complementary network goal (Weiligmann, 1999).

According to Weiligmann (1999), stability of a network can be influenced by two conditions; for network effectiveness, the complementary targets have to accomplish the collective purpose and individual motives have to be satisfied to ensure network efficiency. Jarillo (1988), commented that the test of efficiency depends on the individual benefit calculation which functions when each participant in a network thinks he/she will gain more by being part of the network than by individual activities. Participants should

realize that there is a large pie to be shared than when working alone and there is a fair mechanism for sharing the pie.

As stated by Weiligmann (1999), trust is the prerequisite for increasing the information exchange intensity. Trust has two important functions for information exchange networks. Firstly, it serves as substitute for the supervision and control functions under the conditions of spatial and organisational decentralisation. Secondly, it serves as a substitute for the evaluation of information which is necessary considering information asymmetry and the information paradox. In these two vacuums of action, trust is the binding element. In networks, however, the measuring of trust can only be done indirectly by relating it to an analysis of the transparency of network activities.

2.5.2. The communication structure

An adequate selection of information services and communication media is the first factor affecting the communication structure in networks. Particularly in developing countries, the choice of the communication media used depends on the standard of communication technologies available. The main forms of information exchange in developing countries are personal, face to face communication, telephone and written contacts. Of these forms, face to face communication contains the highest media richness and is preferable for the starting phase of networks and for solving complicated problems (Weiligmann, 1999).

As stated by Weiligmann (1999), the second factor influencing communication structure refers to the structural components of networks: cohesive subgroups and communication roles. For a mutual exchange between members, communication research has to consider

the relationship between two individuals. Links, not individuals, are the unit of analysis for IEN. These links form subgroups where cohesive and dense relationships are evident. Cohesive subgroups are defined as subsystems whose individuals interact with each other more frequently than with members outside the group in question.

After the cohesive subgroups have been identified, an analysis of the special roles is possible. There are specific roles for the information flow within groups and between groups. Opinion leaders are largely responsible for the information flow within groups; they have the ability to influence other members' attitudes informally as they are well integrated in the subgroups and they normally receive the most sociometric choices of the group members. Liaison and bridges have the important function of channelling information flow between different subgroups. Liaison occurs when individuals connect two or more cohesive subgroups without themselves belonging to any subgroup. Thus the loss of such individual can disconnect the network. Bridges connect members of one subgroup with those of another subgroup. The removal of a bridge leads to two unconnected groups in the network. In this case, the communication structure of a network is most vulnerable where liaison and bridges are a part of it (Weiligmann, 1999).

2.5.3 External factors

Spatial distance between members is viewed as an obstacle for the establishment of communication links. This combined with a minimal infrastructure tends to aggravate the problem as the amount of time and money invested in travelling prohibits regular informal and formal meetings. This external condition cannot be changed by a network management but they have to be borne in mind (Weiligmann, 1999).

It is evident from the proceeding discussion that networking for small scale farmers is an essential ingredient in the process of self development in the rural environment. That's why government, non-government organisations and development partners have ventured into promoting farmers local network. Hence there was a need to assess effectiveness of networking for small scale farmers in disseminating information concerning innovations as they are passed from one farmer to another through the local network, which is the subject of the study.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter describes the methodology that was used in this study. It includes description of the study area, research design, population, sample size, instrumentation, questionnaire pre-testing, data collection, data processing and analysis.

3.2 Description of the study area

The study area was Mgeta division, Mvomero District in Morogoro Region. It is situated about 50 km southeast of Morogoro municipality in the slopes of Uluguru Mountains. Mgeta division is inhabited by people of the Luguru ethnic group, who are settled along the slopes of the entire Uluguru mountain range. The economic mainstay of the area is

smallholder agriculture, which consists of production of horticultural crops for commercial purpose, maize as a food crop and livestock keeping (mainly pigs, goats, and chicken) for manure, sale, and occasionally home consumption. The study was conducted in four wards of Mgeta division, i.e. Langali, Bunduki, Kikeo, and Tchenzema. Mgeta division was chosen based on the fact that farmers' networking has been commonly used as a tool for information dissemination by Uluguru Mountains Agricultural Development Project (UMADEP), which normally works in collaboration with MVIWATA.

Uluguru Mountains Agricultural Development Project (UMADEP) started in 1993 and operates in Mgeta and Mkuyuni Divisions. It is based at Sokoine University of Agriculture (SUA) with main collaborators as the District Agricultural and Livestock Development Office and the District Co-operative Office in Morogoro Rural and Mvomero Districts together with MVIWATA.

3.3 Research design

The cross-sectional research design was used in this study. A cross-sectional study consists of asking questions to a representative sample of the population at a single point in time, where instruments like questionnaires and interview schedules are used, among others (Babbie, 1990). The design is most appropriate for descriptive purpose as well as determination of relationships between variables. This method is also considered to be useful because of time and resource limitation.

3.4 Study sample

Study sample consisted of 80 farmers out of 350 farmers who were active group members from farmers groups and seven MVIWATA promoters. Key informants were also interviewed so as to get more information relevant to the objectives of this study.

From the identified survey population, a representative sample was drawn.

3.5 Sampling

The four ward networks which were under Mgeta network were included in the sample basing on their involvement in UMADEP, which normally works in collaboration with MVIWATA. Farmers' groups with not less than 15 members were purposefully selected from the list of farmers groups who were members of Mgeta network. The selected farmers were stratified according to sex in order to have equal gender representation in the sample. A total number of 80 farmers (20 from each of the four wards) who were members of Mgeta network were randomly selected out of the list of existing members of farmers groups with not less than 15 members. The table of random numbers was used to randomly select individuals for the sample. Seven MVIWATA promoters were purposively selected based on their working station. Key informants (knowledgeable individuals who were in a position to provide relevant information on information exchange networks) were selected by using snowball technique. After interviewing a respondent, the author had to ask him/her to recommend another respondent considered very knowledgeable about the study.

3.6 Data collection methods

Data were collected through personal interviews with randomly selected respondents from the study area. Primary data were gathered using questionnaires with both closed and open ended questions that were administered to farmers and MVIWATA promoters in Kiswahili, and therefore understandable to the respondents. A check-list was employed to collect information from key informants. Researchers diary was used to collect additional information through minutes of network meetings to know exactly what issues were

being discussed in the meetings. Relevant literature was obtained from Sokoine National Agricultural Library (SNAL), MVIWATA and UMADEP offices.

3.7 Data processing and analysis

Data collected using the check list and researcher's diary were summarised manually. During this process, great care was taken to ensure the data accurately reflected the original meaning of the statements made. Data collected using the questionnaire were coded and analysed using the Statistical Package for Social Science (SPSS) computer programme. In this statistical package, descriptive statistics such as frequencies, percentages and means were determined.

3.8 Data quality control

Pre-testing of the questionnaire was done before actual collection to determine their clarity and relevance to the objective of the study. Pre-testing was done for the purpose of controlling quality of questionnaire and information that was obtained from them. The questionnaires for pre-testing were administered to fifteen respondents drawn from the population that was in the survey prior to the commencement of the study. Those respondents had similar characteristics as the respondents included in the main survey. The questionnaire was modified to incorporate lessons drawn from the pre-testing. All the respondents who were involved in the pre-testing were excluded from the sample.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents results and discussion from the data obtained from the role of networks in information dissemination in selected communities in Morogoro Region. The data, which are treated here, were gathered using a questionnaire and an interview guide that were prepared and administered according to the research objectives. The findings are based on the five objectives of the study. These were to:

- Determine sources of information among network members;
- Determine farmers' awareness of messages received in local networks;
- Determine individual perceptions of the role of networks in information dissemination;
- Determine effectiveness of networks in facilitating communication of information;
- Identify factors affecting information dissemination within networks;

4.2 Respondents' socio-economic characteristics

This section discusses the socio-economic characteristics of the respondents, including farmers who were group members in Mgeta network and MVIWATA promoters. The socio-economic characteristics examined were age, marital status, educational level, food crops grown, source of labour and specific source of income out of farming activities. These were chosen so as to determine whether membership in networks was dependent on any of them.

4.2.1 Age

Table 1 show that the age of the respondents ranged from 22 to 72 years. Average age of group members was 40 years and for MVIWATA promoters, average age was 42 years. The majority (58.8%) of group members were found in the age category of 21-40 years; 33.7% were between 41-60 years and 7.5% were above 60 years. While the majority (71.4%) of MVIWATA promoters were found in the age group of 41-60 years; the minority (28.6%) were between 21-40 years. The results show that there is a difference in age composition amongst group members and MVIWATA promoters. The most plausible reason is that the middle aged group is more active in farming in rural areas whereas older farmers had more experience and authority which allowed them to effectively and efficiently transmit information concerning innovations.

4.2.2 Marital status

The summary in Table 1 indicates that 65% of group members were married; 15% single; 13.8% divorced and 6.2% widowed. The majority (71.4%) of MVIWATA promoters were married; 14.3% single and another 14.3% divorced. These results indicate that there was little difference among group members and MVIWATA promoters with regard to marital status. The majority of respondents in both categories were married.

Table 1: Distribution of respondents by socio-economic characteristics

Parameter	Group members (N=80)		MVIWATA Promoters (N=7)	
	Number	Percentage	Number	Percentage
Age Category				
21-40	47	58.8	2	28.6
41-60	27	33.7	5	71.4
Above 60	6	7.5	0	0.0
Total	80	100.0	7	100.0
Marital Status				
Single	12	15.0	1	14.3
Married	52	65.0	5	71.4
Divorced	11	13.8	1	14.3
Widowed	5	6.2	0	0.0
Total	80	100.0	7	100.0
Educational Level				
Adult education	6	7.5	1	14.3
Primary education	66	82.5	6	85.7
Secondary education	8	10.0	0	0.0
Total	80	100.0	7	100.0

4.2.3 Educational level

The results in Table 1 indicate that 82.5% of group members had primary education; 10% had secondary education and 7.5% had adult education. Likewise 85.7% of MVIWATA promoters had primary education and 14.3% adult education. In this case, there was no significant difference in educational level for the two categories. The results show that there was a reasonably high literacy rate. Such high literacy rates among the respondents have a number of implications for rural development. One among them could be that MVIWATA promoters can communicate agricultural innovation easily through posters, newsletters and other written materials hence reduce the risk of distorting information concerning agricultural innovation as they pass from one farmer to another. Another implication could be that when it comes to entering into business contract, farmers will be able to read and understand terms of the contract before signing that contract.

4.2.4 Crops grown by farmers

In this study, efforts were made to ask farmers types of crops cultivated in their fields. The results show that 82.5% of group members cultivate beans; 73.8% maize; 53.8% tomatoes; 100% vegetables (peas, cabbage, carrot, cut flower, spinach, African eggplant, Chinese, sweet pepper); 21.3% Irish potatoes; and 17.5% cassava. Also 100% of MVIWATA promoters cultivate beans; 85.7% maize; 42.9% tomatoes; 85.7% vegetables (peas, cabbage, carrot, cut flower, spinach, African eggplant, Chinese, sweet pepper); 28.6% Irish potatoes; and 42.9% cassava. The findings indicate that large numbers of both group members and MVIWATA promoters cultivate horticultural crops, maize and Irish potatoes. It could be due to the fact that horticultural crops, maize and Irish potatoes perform well in the area and there was reliable market for such kind of crops hence assisted farmers to create additional income to sustain life and improve their living standards.

Table 2: Distribution of respondents by crops grown by farmers

Crops Grown	Group members (N=80)		MVIWATA Promoters (N=7)	
	Number	Percentage	Number	Percentage
Beans	66	82.5	7	100.0
Cassava	14	17.5	3	42.9
Irish potatoes	17	21.3	2	28.6
Maize	59	73.8	6	85.7
Tomatoes	43	53.8	3	42.9
Vegetables	80	100.0	6	85.7

Key: Vegetables include- Peas, Cabbage, Carrot, Cut flower, Spinach, African eggplant, Chinese, Sweet pepper

4.2.5 Source of labour

The results indicate that 67.5% of group members were using both family and hired labour in their farming activities while 32.5% were only using family labour. Likewise, 71.4% of MVIWATA promoters were also using both family and hired labour in their

farming activities while 28.6% used family labour. The findings indicate that most of the group members and MVIWATA promoters were using hired labour in their activities. According to the survey, farmers and MVIWATA promoters who used hired labour were the ones with farm size not less than two acres and were cultivating for commercial purpose thanks to reliable market of their produce.

Table 3: Distribution of respondents by source of labour

Source of labour	Group members(N=80)		MVIWATA Promoters (N=7)	
	Number	Percentage	Number	Percentage
Family labour	26	32.5	2	28.6
Both family and hired labour	54	67.5	5	71.4
Total	80	100.0	7	100.0

4.2.6 Types of livestock kept

This part describes types of livestock kept within Mgeta Division. Results presented in Table 4 show that 48.8% of group members were keeping pigs; 28.8% chicken; 25% dairy goats; and 12.5% goats. The results also indicate that 71.4% of MVIWATA promoters were keeping chicken; another 71.4% pigs; 28.6% goats; and another 14.3% dairy goats. According to the survey, livestock keeping is an investment made out of profit obtained from selling agricultural produce. Livestock keeping helps farmers to increase income through sale of milk in the case of dairy goats and also sale of pigs, chicken, goats and dairy goats; it also helps farmers to obtain manure for their farms.

Table 4: Distribution of respondents by types of livestock kept

Types of livestock kept	Group members (N=80)		MVIWATA Promoters (N=7)	
	Number	Percentage	Number	Percentage
Chicken	23	28.8	5	71.4
Dairy goats	20	25.0	1	14.3
Goats	10	12.5	2	28.6
Pigs	39	48.8	5	71.4

4.3 Sources of agricultural information

A theoretical understanding of exchange follows logically from the assumption that individuals enter relationships because they expect to obtain rewards from their partners (Weiligmann, 1999). Most agricultural information within networks is obtained through visits to and from other farmers, MVIWATA promoters and local network meetings through group representatives. In this study, sources of agricultural information were determined by asking respondents about their major day to day activities in which they engaged in themselves with other farmers, number of times in a week an individual meets with other farmers, number of times an individual meets with MVIWATA promoters, functions of day to day activities in local network, and number of times MVIWATA promoters used to advice other farmers on new innovations.

4.3.1 Frequency an individual meets with other farmers

According to Nelson and Farrington (1994), the key characteristic of networking is that it is a process of exchange. Most activities undertaken by Information Exchange Networks are directly to the exchange of information and experiences. Word of mouth is the tool of information exchange most commonly used by networks. Most networks are informal and personal, and speaking directly to another person is the quickest and most efficient way of sharing information. FAO (1994), pointed out that, by working in groups rather than individuals, the rural poor are able to combine and make the best use of their skills and resources. They exchange views and ideas and choose their best option among the shared experiences that will help them to develop their skills on agricultural innovations. The results in Table 6 show that 28.7% of group members do interact with each other three days in a week in markets, local brew shops, farm visits or home visits; 23.8% two days in a week; 20% one day in a week; 15% four days in a week; 10% seven days in a

week; 2.5% five days in a week; none of the farmer meet six days in a week. On average, group members interact with each other 3 days in a week. According to the survey made, group members were meeting with the aim of sharing experiences and transferring information concerning agricultural innovations originated within and outside the network. During that process, new farmers were learning from old farmers, inexperienced farmers were learning from experienced ones and so avoiding the unnecessary repetition of mistakes.

Table 5: Distribution of respondents by the frequency an individual meets with other farmers.

Frequency of meeting other farmers	Group members (N=80)	
	Number	Percentage
1 day in a week	16	20.0
2 days in a week	19	23.8
3 days in a week	23	28.7
4 days in a week	12	15.0
5 days in a week	2	2.5
6 days in a week	0	0.0
7 days in a week	8	10.0
Total	80	100.0

4.3.2 Number of times an individual contacts MVIWATA promoter

According to FAO (1994), promoters are key figures in community development. They have three important tasks: to help the rural people to form small autonomous groups, to help group members develop their skills and to facilitate communication between groups and development services. According to the result presented in Table 6, 41.3% of group members have never interacted with MVIWATA promoters in markets, local brew shops farm visit or home visits; 32.6% do interact with MVIWATA promoters once per month in markets, local brew shops farm visit or home visits; 17.3% twice per month; 5% three times per month and 3.8% four times in a month. According to the survey, there were few

MVIWATA promoters compared to the division size. Even those promoters who were around lacked skills and motivation to perform their tasks which are to teach group members basic techniques like group formation, group management, project formulations and management and also problem solving issues as they are having in-depth knowledge of local crops, practices, culture and individuals; to facilitate effective communication between the groups, government and Non Government Organisations (NGOs), and service providers such as SACCOS, the extension staff and input suppliers. This is due to the fact that promoters are given little time for training (mostly one month or less) and there is no follow-up training of promoters to evaluate their performance and also identify and solve problems in their work areas.

Table 6: Distribution of respondents by number of times an individual contacts MVIWATA promoters

Frequency of contact with MVIWATA promoters	Group members (N=80)	
	Number	Percentage
1 per month	26	32.6
2 per month	14	17.3
3 per month	4	5.0
4 per month	3	3.8
No contact	33	41.3
Total	80	100.0

4.3.3 Function of day to day activities in local network

Scarborough *et al.* (1997), in Namwata (2004), stated important roles of promoters as adopting, listing and adapting an innovation, providing training to other farmers, sharing experiences at meetings, workshops, training courses, strengthening small farmers groups problem solving, resource mobilisation (savings), group business management capacities, encouraging inter-group visits, meetings, actions on topics of common interest and concern, facilitating rather than leading, leaving the main initiatives up to the small

farmer groups. However, this study found that 57.1% of MVIWATA promoters were active in promoting group formation; 28.6% were active in promoting group development; and another 14.3% were active in co-ordinating group activities. The possible explanation could be that, promoters are not having enough time of training thus not being able to perform their duties fully which are to teach group members basic technical skills like group formation, group management, projects formulations and management and also problem solving issues as they are having in-depth knowledge of local crops, practices, culture and individuals; to facilitate effective communication between the groups, government and Non Government Organisations (NGOs), and service providers such as SACCOS, the extension services and input supply agencies as they are almost permanently available in the community. During survey made in Mgeta Division, some respondents commented that some farmers who were selected to be trained as promoters were not model farmers and others not fully committed to the community.

Table 7: Distribution of respondents on function of day to day activities in local network

Function	MVIWATA promoters (N=7)	
	Number	Percentage
Co-ordinating group activities	1	14.3
Promoting group development	2	28.6
Promoting group formation	4	57.1
Total	7	100.0

4.3.4 Number of times an individual promoter advises other farmers on new innovations

FAO (1994) identifies different roles to be performed by group promoters as a key agent in rural development and the development of his/her country. His/her task is to help the rural poor to build farmers' capacity to organise and manage their own activities.

Essentially, a promoter has to serve as a facilitator with three basic roles; first as group adviser, he/she strengthens the rural poor leadership, organisation and building capacities, secondly, as participatory trainer he/she teaches group members basic technical skills and problem solving issues and thirdly, as link person, he/she facilitates communication between the groups and government and Non Government Organisation (NGO), service providers such as banks, the extension staffs and input supply agencies. According to the results obtained in this study, 71.4% of MVIWATA promoters were spending two days in a week to advice other farmers on new innovations; 14.3% were spending three days in a week to advice other farmers on new innovations and another 14.3% were spending one day in a week to advice other farmers on new innovations.

Table 8: Distribution of respondents on number of times an individual promoter advises other farmers on new innovations

Number of times	MVIWATA promoters (N=7)	
	Number	Percentage
1 day per week	1	14.3
2 days per week	5	71.4
3 days per week	1	14.3
Total	7	100.0

According to the survey made in Mgeta Division, 100% of group members who were interviewed were getting agricultural information from network meetings which involve exchanging experiences concerning agricultural innovation through group representatives. According to the information obtained during the survey, every month there is one Ward network meeting in each of the four Wards of Mgeta Division (i.e. Tchenzema, Langali, Bunduki and Kikeo) where every group member has the right to represent his/her group within that meeting. Network meetings are important avenues in channelling messages concerning agricultural innovations. These are places where group members can exchange ideas with agricultural professionals. This plays an important role

in helping group members identify and prioritise their problems. Farmers can receive knowledge from agricultural experts and among themselves. After network meeting, group representatives have the responsibility of giving other group members information from the network.

Generally, the results show that other group members and MVIWATA promoters were considered as major source of agricultural information for group members. Also the major role of farmers' networking which is exchanging experiences concerning agricultural innovation has been attained though not in its totality. Thus provokes the need to raise skills of both farmers and promoters on how each one could entirely fulfil his/her duty as source of agricultural information within farmers' network.

4.4 Farmers' awareness of message received

The central aspect captured in an analysis of network is human communication. According to Shenduli (1998), communication processes are influenced by the senders' and receivers' feelings towards each other, towards the message, and towards the channel. Farmers learn from their own experiences in this way, but they also learn from communicating with others and experts about their experiences. This is why other farmers are very influential as information sources in the diffusion process. Whether they perceive their environment and the message they receive from others correctly depends, amongst other things, on how clear this information is. According to this study, messages concerning irrigation, marketing, mountain terracing, planting, saving and credit, use of chemical fertilizer and manure, use of improved seeds, and use of pesticide were disseminated to local networks through UMADEP and MVIWATA.

From the study, technology on the use of chemical fertilizer and farm-yard manure was

promoted by UMADEP through on-farm trials in the year 2000. This technology comprised mixing chemical fertilizer and farm-yard manure together with the use of appropriate rates. The above technologies were disseminated to farmers through training which was made by UMADEP staff. According to the results obtained in this study, 87.5% of the group members received and adopted message concerning use of manure and chemical fertilizer while 85.7% of MVIWATA promoters received and adopted message concerning use of chemical fertilizer.

The technology on mountain terracing was introduced by Germans during colonial times (though no one among farmers interviewed remembers the exact year when it started) and was promoted by UMADEP staff as a revival of an old practice from the year 1994. Results obtained by this study found that 81.3% of the group members together with 100% of MVIWATA promoters received and adopted messages concerning use of mountain terracing as it helps to conserve soil.

During the survey, it was revealed that innovation concerning planting and use of improved seeds was introduced in the said area by Uluguru Mountains Horticultural Development Project (UMHODEP) and UMADEP. According to the information that was obtained in the surveyed area, innovation concerning planting and use of improved seeds on indeterminate tomatoes was introduced in the said area by UMHODEP in the year 1988, determinate (dwarf) tomatoes by UMADEP in the year 1997, cut flowers by UMHODEP in the year 1992, Irish potatoes (as cash crops) by UMHODEP in the year 1992 and it was seriously promoted by UMADEP from the year 2000, fresh beans by UMADEP in the year 1994. Results obtained by this study revealed that 76.3% of the group members together with 57.1% of MVIWATA promoters received and adopted messages concerning planting; 10% of the group members received and adopted

messages concerning use of improved seeds. None of MVIWATA promoters interviewed received or adopted messages concerning use of improved seeds.

Results revealed that information concerning the use of pesticides was introduced in the area by UMADEP in the year 1997. Farmers in Mgeta Division were taught the use of integrated pest management (mixing local and industrial pesticide) together with the use of appropriate rates of pesticides. According to the results obtained in the surveyed area, 51.3% of the group members and 71.4% of MVIWATA promoters received and adopted messages concerning use of pesticides.

The use of irrigation system was common in the area even before local networks started to operate whereby people were using traditional irrigation systems. When UMHODEP started its operations around Mgeta Division to promote horticultural farming in 1986, it brought new improvement on the use of irrigation system like use of hose pipes and S-form irrigation system. In the year 2003, UMADEP in collaboration with MVIWATA through its Rural Market Development Project (RMDP) also contributed much in developing the use of irrigation system by improved structures like intakes (weirs), division boxes and lined canals. All the above technologies were disseminated to farmers through training which was made by UMHODEP and UMADEP staff. Results obtained in this study revealed that for the respondents who were interviewed, 40% of the group members and 28.6% of MVIWATA promoters received and adopted messages concerning new improvement on the use of irrigation system.

Savings and credit co-operative societies were introduced in the area in the year 1997 by UMADEP. This aimed at imparting farmers with the culture of saving money for future use together with helping farmers to have a place where they could borrow money for

use in the various development activities like buying agricultural inputs, building houses, buying grain mills, buying mini buses for commercial use at a reasonable interest rate. Results obtained within this study revealed that, 25% of the group members received and adopted messages relating to savings and credit. None of MVIWATA promoters interviewed had received or adopted messages relating to savings and credit.

During the survey, it was revealed that market innovation was promoted within the said area by MVIWATA in the year 2003. During that process, MVIWATA had to improve feeder roads to facilitate easy movement of people and produce to and from Mgeta Division. MVIWATA also had to construct a market structure i.e. Nyandira market so as to enable farmers within Mgeta Division to have a common place where they can sell their produce together with having a place where they could temporarily store their produce until they sell them; MVIWATA helped farmers from the said area to establish a market board which among other things, it had the task of assisting farmers from Mgeta Division to lobby for better prices for their produce through searching for market information on market prices for their produce in Kariakoo, Tandale and Morogoro town markets so as to set prices that will benefit farmers; the market board has the task of meeting with farmers to promote production of commercial crops with accepted qualities. Results in Table 9 show that for the respondents who were interviewed, 7.5% of the group members and 28.6% of MVIWATA promoters received and adopted messages concerning use of markets.

Table 9: Distribution of respondents on awareness and adoption of the messages received from UMADEP and MVIWATA

Messages	Message received		Message adopted	
	Group members (N=80) Percentage	MVIWATA promoters (N=7) Percentage	Group members (N=80) Percentage	MVIWATA promoters (N=7) Percentage
Irrigation	40.0	28.6	40.0	28.6
Marketing	7.5	28.6	7.5	28.6
Mountain terracing	81.3	100.0	81.3	100.0
Planting	76.3	57.1	76.3	57.1
Saving and credit	25.0	0.0	25.0	0.0
Chemical fertilizer	87.5	85.7	87.5	85.7
Improved seeds	10.0	0.0	10.0	0.0
Use of manure	87.5	0.0	87.5	0.0
Use of pesticide	51.3	71.4	51.3	71.4

According to Weiligmann (1999), the network offers benefits to its members that are higher than the associated costs. Collective target systems are characterized by their objective as well as personal content. Collective goals are composed of a collection of targets of individual people. In other words, a network must guarantee a fair distribution of benefits in order to secure the active contribution of its members. The crucial issue for any individual is whether the network objective is sufficiently close to one's personal goal to make him/her choose to participate in the network rather than try to attain his/her goal by himself/herself. Results in Table 10 show that 90% of group members adopted messages concerning innovations because they have helped them to increase productivity and quality of their produce; 8.8% of group members adopted messages concerning innovations because they have helped them to increase productivity; and 1.3% of group members adopted messages concerning innovations because they have helped them to increase productivity, quality and marketing of their produce. Also 57.1% of MVIWATA promoters adopted messages concerning innovations because they have helped them to increase productivity; 28.6% of MVIWATA promoters adopted messages concerning innovations because they have helped them to increase productivity and quality of their produce; 14.3% of MVIWATA promoters adopted messages concerning innovations

because they have helped them to do commercial farming and increase profit of their produce.

Table 10: Distribution of respondents by reasons which made an individual to adopt messages concerning innovations

Reason	Group members (N=80)		MVIWATA Promoters (N=7)	
	Number	Percentage	Number	Percentage
Increase productivity	7	8.7	4	57.1
Increase productivity and quality of my produce	72	90.0	2	28.6
Increase productivity, quality and marketing of my produce	1	1.3	0	0.0
Enhance commercial farming and profit of my produce	0	0.0	1	14.3
Total	80	100.0	7	100.0

Individual targets are characterised by subjective and personal motives. Individuals are usually only willing to cooperate with others when they receive rewards for their collaboration. That means that they either receive higher benefits than costs from the collaboration or that the collaboration is more profitable for them than working alone (Weiligmann, 1999). According to the result presented in Table 11, 70% of group members managed to have food security out of benefits received from collaboration; 51.3% of group members managed to buy things for domestic use like cooking oil, sugar, salts, plates, cups; 40% of group members managed to buy school requirements for their children like school uniforms, exercise books, pencils, pens, text books; another 40% of group members managed to buy chemical fertilizer; 35% of group members managed to build new houses; 25% of group members managed to save money at SACCOS and 23.8% of group members managed to buy improved seeds. The possible reason could be that Mgeta network has helped group members to attain information that has made them to increase productivity as a result made them to acquire benefits of which they didn't

have when they were working alone.

Table 11: Distribution of respondents by benefit received from messages adopted within network

Parameter	Group members (N=80)	
	Number	Percentage
Build new house	28	35.0
Buy improved seeds	19	23.8
Buy school requirements for children	32	40.0
Buy chemical fertilizer	32	40.0
Buy things for domestic use	41	51.3
Deposit money at SACCOS	20	25.0
Food security	56	70.0

4.5 Farmers' perceptions on the role of networks in information dissemination

Farmers' perceptions on the role of networks in information dissemination were determined by examining opinion of group members on the role of farmers' network in information dissemination and individual group member opinions concerning existence of farmers' network.

Farmers network acts as a link in disseminating messages concerning innovations between individual farmers and groups that would not otherwise communicate with each other. The process of information sharing between individuals leads to mutual understanding, mutual agreement and collective actions (Nelson and Farrington, 1994). Results obtained from the study revealed that majority of group members (92.5%) affirmed that network meetings helped them to share agricultural experience with other farmers' within networks; 6.3% of group members affirmed that network meetings helped them to share agricultural experience with other farmers' together with road maintenance; 1.3% of group members affirmed that network meetings helped them to share agricultural experience with other farmers' together with sensitising people to join

SACCOS. Also 85.7% of MVIWATA promoters affirmed that network meetings helped them to share agricultural experience with other farmers' and 14.3% of MVIWATA promoters affirmed that network meetings helped them to share agricultural experience with other farmers' together with road maintenance (Table 12).

Table 12: Distribution of respondents on opinion of group members on the role of farmers' network in information dissemination

Role	Group members (N=80)		MVIWATA Promoters (N=7)	
	Number	Percentage	Number	Percentage
Sharing agricultural experience	74	92.4	6	85.7
Sharing agricultural experience and road maintenance	5	6.3	1	14.3
Sharing agricultural experience and SACCOS sensitisation	1	1.3	0	0.0
Total	80	100.0	7	100.0

Group members seek advice and suggestions from the network meetings on possible solution to existing problems in certain groups, as was the case of Kikeo SACCOS to delay in giving credit to its members in time which made the later to fail to cultivate according to the seasonal calendar. The issue was presented in the network meeting and SACCOS officials agreed the accusation and said that it is because of limited capital which can't accommodate all requests from its members. The members who attended that meeting advised SACCOS to sensitise more people to join SACCOS and buy more shares so that they may increase capital which will make them to be in a position of providing loans to its members.

In that meeting (Kikeo ward network which was on 14/10/2006), it was revealed that village leaders especially village executive officer (VEO) and village chairman were asking to be bribed so that they may stamp loan forms for people who are asking loans

from SACCOS. Network secretariat had agreed to call those village leaders in a network meeting so that network members may tell them their problems.

According to the survey, most farmers' realized that the farmers' network was the quickest and most efficient way of sharing information and exchanging experiences concerning different activities performed by them. As presented in Table 13, 95% of group members said that information received from farmers network was helping them to increase skills on agricultural production; 3.8% of group members said that information received from farmers network was helping them to increase skills on agricultural production together with saving and credit; 1.3% of group members said that the information received from farmers network was helping them to increase skills on agricultural production and marketing.

Table 13: Distribution of respondents on farmer's opinion on farmers' network

Opinion	Group members (N=80)	
	Number	Percentage
Information received helps to increase skills on agricultural production	76	95.0
Information received helps to increase skills on agricultural production and marketing	1	1.3
Information received helps to increase skills on agricultural production together with saving and credit	3	3.7
Total	80	100.0

Generally, the broad categories of activities that would have been undertaken in networks included exchange activities, dissemination activities and management activities. Group members who attended network meetings (group representatives) played major role of presenting group reports in the network. In giving feedback, group representatives used verbal methods (word of mouth) to educate farmers especially in group meetings. Specifically, networks provide support and encouragement in risk taking;

experimentation and demonstration in order to develop farming practice that responds to local conditions; extension and communication not only between individuals but also between farming communities; empower farmers to advocate policy change, also claim improved access to public service for their members.

4.6 Effectiveness of networking in facilitating communication of information

As it has been stated by Nelson and Farrington (1994), one of the advantages of Information Exchange Networks is that they promote the exchange of ideas and information between individuals and groups who would not otherwise communicate with each other. Networking provides a stimulus to making useful unpublished information widely available and to ensuring that such information is written down in the first place. This provides workers with increased access to the experiences of others and to alternative perspectives on problems similar to their own, opening up their awareness of other experiences and the range of choices available to them. According to the survey, 98.8% of group members strongly agreed with the statements “through network I’m able to receive information on production and marketing of my produce; network does facilitate the flow of information on production and other related activities among members; network is an instrument in improving skills on production in order to get high output; through network I’m able to frequently meet and share experiences with other members who are doing similar activities with me”. On the other side, 100% of MVIWATA promoters also strongly agreed with the above mentioned statements.

As the facilitator of exchange of field experiences between members, networks increased efficiency by allowing ideas that have succeeded in one location to be applied elsewhere and by discouraging the replication of those that have failed (Nelson and Farrington,

1994). As indicated in Table 14, 81.3% of group members affirmed that they receive most of the information they asked for within network; 11.3% affirmed that they receive some of the information they asked for within the network; and 7.5% of group members affirmed that they receive all the information they asked for within the network. Also 85.7% of MVIWATA promoters affirmed that they receive most of the information they asked for within the network; and 14.3% of MVIWATA promoters affirmed that they receive all the information they asked for within the network. According to survey made in Mgeta division, it has been found out that both group members and MVIWATA promoters received part of the information and field experiences from farmers who were not members of network as the later also possess some knowledge on some innovations.

Table 14: Distribution of respondents on assessment of flow of information within the network

Opinion on flow of information	Group members (N=80)		MVIWATA Promoters (N=7)	
	Number	Percentage	Number	Percentage
I get all the information I ask for	6	7.5	1	14.3
I get most of the information I ask for	65	81.2	6	85.7
I get some of the information I ask for	9	11.3	0	0.0
Total	80	100.0	7	100.0

During assessment of type of contribution which was important to maintain an information exchange network, it was found that 88.8% of group members agreed that financial contribution is very important to maintain information exchange network; 10% of group members said that it is not very important; 1.3% of group members said that it is fairly important. As indicated on Table 15, 100% of MVIWATA promoters agreed that financial contribution is very important to maintain information exchange network. Financial contribution is normally used to buy or prepare food during network meetings as members do come from different places which are far from their home places so it

becomes difficult for them to go back for lunch.

Of group members, 98.8% said that contribution of information is very important in maintaining an information exchange network while 1.3% of group members said that contribution of information is fairly important in maintain an information exchange network. 100% of MVIWATA promoters have affirmed that contribution of information is very important in maintaining an information exchange network.

With regard to contribution of time for meeting, 97.5% of group members affirmed that it (contribution of time for meeting) is very important in maintaining an information exchange network, 1.3% of group members said that contribution of time for meeting is fairly important and same percent said that contribution of time for meeting is not very important in maintaining an information exchange network. On the other hand, 100% of MVIWATA promoters have affirmed that contribution of time for meeting is very important in maintaining an information exchange network.

To summarise results presented by this study concerning type of contributions which are very important to maintain an information exchange network, include financial contribution, contribution of information and contribution of time for meetings.

Table 15: Distribution of respondents on type of contributions which are important to maintain an information exchange network

Parameter	Group members (N=80)		MVIWATA Promoters (N=7)	
	Number	Percentage	Number	Percentage
Financial contribution				
Not very important	8	10.0	0	0.0
Fairly important	1	1.3	0	0.0
Very important	71	88.7	7	100.0
Total	80	100.0	7	100.0
Contribution of information				
Fairly important	1	1.3	0	0.0
Very important	79	98.7	7	100.0
Total	80	100.0	7	100.0
Contribution of time for meeting				
Not very important	1	1.3	0	0.0
Fairly important	1	1.3	0	0.0
Very important	78	97.4	7	100.0
Total	80	100.0	7	100.0

4.7 Factors affecting information dissemination in networking

According to the study, 98.8% of group members and 85.7% of MVIWATA promoters affirmed that limited educational level of farmers was one among very important factors that affect information dissemination in networking. They said that limited educational level of farmers contributed much in distorting information concerning innovation as it passes from one farmer to another because most farmers are lacking skills of transmitting what they have heard to another person without distorting its meaning. In this case, both contact farmers and MVIWATA promoters suggested that more training should be given to them on how to effectively disseminate information concerning innovation from one farmer to another because networking for small scale farmers is most appropriate for self development in rural environment. Before introduction of farmers networks, conventional approach of extension communication between extension workers and farmers was commonly used but it was blamed to be a cause of low adoption and diffusion of extension message, in that case, farmers' networking has been taken as the

best alternative tool for communication; 1.3% of group members and 14.3% of MVIWATA promoters said that limited educational level of farmers was not important factor that affects information dissemination in networking (Table 16).

Also 70% of group members felt that women not being engaged in decision making were not an important factor. They said that women were more motivated in network activities together with decision making and there were more women leaders than men; 28.8% of group members perceived that women not being engaged in decision making as a very important factor that affect information dissemination. To them, women were not capable of bringing up productive ideas and recommendations regarding network activities, in that case, the meaning of network which is collaborative process of information exchange around a central theme carried out by actively interested parties cannot materialize because other network members (women) were not participating fully in network activities; 1.3% of group members perceived that women not being engaged in decision making as important factor that affect information dissemination.

On the other side, 42.9% MVIWATA promoters perceived that women not being engaged in decision making as very important factor that affects information dissemination within network. The MVIWATA promoter from Bunduki village said that women were not active in network activities and even those who were network members were participating in network activities as spectators and they believed that men were capable of being leaders and also can bring up constructive ideas and recommendations concerning network activities, in this case, information exchange concerning innovation which is the root of farmers network, cannot materialize if women cannot participate fully in network activities; 42.9% of MVIWATA promoters perceived that women not being engaged in decision making as not important factor affecting information

dissemination within the network; 14.3% of MVIWATA promoters perceived that women not being engaged in decision making as important factor that affect information dissemination within the network.

MVIWATA promoter is considered as an example for other peasant farmers and should be visible in this capacity as a role model. FAO (1994), identified different roles to be performed by the group promoter as a key agent in rural development and the development of his/her country. His/ her task is to help the rural poor to build farmers capacity to organise and manage their own activities. Essentially, a group promoter has to serve as a facilitator with three basic roles; first as a group advisor, secondly as a participatory trainer, and thirdly as a link person between groups and government and non-government organisation services. According to the study, 83.8% of group members perceived promoters not being capable of transmitting information concerning innovation as very important factor that affect information dissemination within the network. To them, promoters lacked skills and motivation to perform their tasks which are to teach group members basic technical skills like group formation, group management, projects formulations and management and to facilitate effective communication between the groups, government and other organisation such as SACCOS, the extension services and input supply agencies. This is due to the fact that promoters are given less time for training (mostly one month or less) and there is no follow-up training of promoters to evaluate their performance and also identify and solve problems in their work areas.

On the other side, 13.8% of group members perceived that promoters not being capable of transmitting information concerning innovation as not important factor that affects information dissemination within the network; and 2.5% of group members perceived that promoters not being capable of transmitting information concerning innovation as

important factor that affect information dissemination within the network. According to the survey, group members (83.8%) said that most farmers who were taken to be trained as promoters were not the right farmers because they were not visible in the community as role models. On the other hand, 85.7% of MVIWATA promoters perceived that promoters not being capable of transmitting information concerning innovation as not important factor that affects information dissemination within the network and they believe that they possess qualities of MVIWATA promoters; 14.3% of MVIWATA promoters perceived that promoters not being capable of transmitting information concerning innovation as very important factor that affects information dissemination within the network. To them, some promoters were not possessing qualities of promoters.

With regard to the lack of transparency of group activities, 50% of group members together with 57.1% of MVIWATA promoters perceived it as not important factor that affects information dissemination within the network. To them, network activities were conducted in an atmosphere of openness. At the same time, 27.5% of group members together with 14.3% of MVIWATA promoters perceived the lack of transparency of group activities as important factor that affects information dissemination within the network. According to them, some information concerning network activities like selecting farmers to be trained as promoters and selecting farmers who should go for exchange visit was considered confidential to some people, while 22.5% of group members together with 28.6% of MVIWATA promoters perceived the lack of transparency of group activities as very important factor affecting information dissemination within network (Table 16).

Information exchange networking is defined here as a collaborative process of information exchange around a central theme carried out by actively interested parties

(Nelson and Farrington, 1994). According to the result presented in Table 16, 96.3% of group members together with 85.7% of MVIWATA promoters perceive the inadequate information from MVIWATA and promoters as a very important factor affecting information dissemination within network. Some of group members who were interviewed confessed that they were hearing MVIWATA for the first time and others were confusing MVIWATA with UMADEP as the later is widely known throughout Mgeta division. This shows that MVIWATA leaders do not frequently visit group members within Mgeta network. Also due to limited number of MVIWATA promoters in Mgeta division in relation to network members, most group members who were interviewed said that they have neither met them nor received any information concerning innovation from them (MVIWATA promoters). Some MVIWATA promoters who were interviewed in this study affirmed that since they received training as promoters, they haven't received any new information concerning innovation from MVIWATA offices apart from new information and frequent visits from UMADEP staff from Nyandira office and some from Morogoro office.

Table 16: Distribution of respondents on factors affecting information dissemination within network

Parameter	Group members (N=80)		MVIWATA Promoters (N=7)	
	Number	Percentage	Number	Percentage
Limited educational level of farmers				
Very important	79	98.7	6	85.7
Not important	1	1.3	1	14.3
Total	80	100.0	7	100.0
Women are not engaged in decision making				
Very important	23	28.7	3	42.9
Important	1	1.3	1	14.2
Not important	56	70.0	3	42.9
Total	80	100.0	7	100.0
Promoters are not capable of transmitting information concerning innovation				
Very important	67	83.7	1	14.3
Important	2	2.5	0	0.0
Not important	11	13.8	6	85.7
Total	80	100.0	7	100.0
Lack of transparency of group activities				
Very important	18	22.5	2	28.6
Important	22	27.5	1	14.3
Not important	40	50.0	4	57.1
Total	80	100.0	7	100.0
Inadequate information from MVIWATA and promoters				
Very important	77	96.1	6	85.7
Important	1	1.3	1	14.3
Not important	2	2.6	0	0.0
Total	80	100.0	7	100.0

According to FAO (1994), farmer promoter training aims at introducing participatory approaches and procedures and fostering motivation and team spirit. The promoter will need in particular, management training, transfer of appropriate technology, marketing, communication techniques, leadership, team building, record keeping and writing of reports. Follow-up training of farmer promoters should be carried out at monthly

meetings to evaluate team performance, to identify and solve problems in work areas and to prepare field workshops and refresher courses. According to the data presented in Table 17, 97.5% of group members and 85.7% of MVIWATA promoters perceive the inadequate time in training for adoption of new innovation in case of promoters as very important factor affecting information dissemination within the network. According to the survey which was made in Mgeta Division, amount of time used to train promoters (six weeks) is not commensurate with their understanding capability to make them acquire the material intended and to make them fully perform their duties which are lobbying and advocacy, entrepreneurship skills, management and leadership skills. Most promoters who were interviewed in this study affirmed that they have never had a follow-up training in order to evaluate their work performance. This makes it difficult for them (promoters) to know if they were performing well their duties as promoters. Group members who were interviewed suggested that there was a need for MVIWATA to increase time for training promoters so as to impart them with more knowledge on how to fulfil their duties as promoters and also cultivate the habit of conducting evaluation in order to know whether promoters were fulfilling their activities as they were supposed to. On the other side, 87.5% of group members together with 85.7% of MVIWATA promoters perceive the individuals were not interacting with each other more frequently because of spatial distance as very important factor affects information dissemination within the network. To them, spatial distance between villages and wards in Mgeta division together with geographical terrain (mountainous places) makes it difficult for a person who lives in Bunduki village (as an example) to frequently interact with a person at Kikeo village as it was taking almost the whole day for a person to travel between those two villages because of lack of means of transport.

As presented in Table 17, 87.5% of group members and 57.1% of MVIWATA promoters

perceive the lack of mechanism for testing and adopting technology on farmers' field as a very important factor affecting information dissemination within the network. In this case, it becomes difficult for individual members or even MVIWATA promoters to evaluate if they have correctly adopted the innovation or not.

Table 17: Distribution of respondents on factors that influence information dissemination within network

Parameter	Group members (N=80)		MVIWATA Promoters (N=7)	
	Number	Percentage	Number	Percentage
Inadequate time in training for adoption of new innovation in case of promoters				
Very important	78	97.4	6	85.7
Important	1	1.3	0	0.0
Not important	1	1.3	1	14.3
Total	80	100.0	7	100.0
Individuals are not interacting with each other more frequently because spatial distance				
Very important	70	87.5	6	85.7
Not important	10	12.5	1	14.3
Total	80	100.0	7	100.0
Lack of mechanism for testing and adopting technology on farmers field				
Very important	70	87.5	4	57.1
Important	2	2.5	0	0.0
Not important	8	10.0	3	42.9
Total	80	100.0	7	100.0

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The general objective of this study was to assess the role of networks in information dissemination in Tanzania, a case of selected communities in Morogoro Region. This chapter gives a summary of the study and makes recommendations for further consideration arising out of the research findings.

5.2 Conclusions

Analysis of the source of information reveals that contact farmers were frequently visiting each other in an average of 3 days in a week in order to exchange information and share experiences concerning agricultural knowledge on crops they are cultivating. These interactions were done within individual level, group and network meetings. According to the findings, by being in group/network, contact farmers have managed to combine and make best use of their resources and as a result achieved their goals better or at a lower cost. In this case, there is a need to raise skills of both farmers and promoters on how each one could effectively fulfil his/her duty within the network.

Network guarantees a fair distribution of benefits to its members. Improved communication has helped group members to increase productivity which made them to acquire benefits of which they hadn't when they worked alone. In this case, network objective has to be closer to individual member objective so as to make him/her choose to participate in network rather than try to attain his/her goal alone. The same situation

was observed in Mgeta network whereby 90% of respondents adopted extension messages received as the later helped them to increase productivity and quality of their produce.

Information exchange networking deals with exchange of information and experiences and word of mouth being used as common tool of information exchange. According to the survey made in Mgeta network, group members were seeking advice and suggestion from network meetings on possible solutions to existing problems in certain groups or individuals.

In this study, it was observed that networking promotes the exchange of information and experiences among individuals and groups who would not otherwise communicate with each other. Also, a network allows ideas that have succeeded in one location to be tried elsewhere and by discouraging the repetition of those that have failed. Observation from the findings shows that, 81.3% of group members and 85.7% of MVIWATA promoters were receiving most of the information they asked within the network. It was also found that both group members and MVIWATA promoters were receiving part of the information and field experiences from farmers who were not members of Mgeta network as the later also possess some knowledge concerning innovations.

In addition to what has been discussed, the findings reveals that most important factors that affects information dissemination in networking were limited educational level of farmers; an perception that promoters are not capable of transmitting information concerning innovation; individual are not interacting with each other more frequently because of spatial distance; inadequate information from MVIWATA and promoters; lack of mechanism for testing and adopting technology on farmers field and inadequate time

in training for adoption of new innovation in case of promoters.

5.3 Recommendations

In order to increase effectiveness in disseminating information concerning innovations as they are passed from one farmer to another through local network, it is recommended that:

- Number of MVIWATA promoters should be increased by training more promoters so as to meet the needs of the community. In order to be effective and efficient during the process of selecting promoters, there is a need to use pre-established selection criteria so as to avoid conflicting interest from community as it will lead to obtain committed promoters to serve other group members willingly.
- MVIWATA should also incorporate in its programme the system of making follow ups (evaluation) in order to make sure promoters are performing their duties as they are supposed to. Also, there is a need for MVIWATA to conduct refreshers courses in order to let promoters address their technical deficiencies and make them gain what they lacked in their initial trainings.
- MVIWATA in collaboration with UMADEP and other stakeholders like Mvomero District Council should make efforts in training group members and other farmers on how to effectively pass information concerning innovations from one farmer to another.
- Further research should be conducted to assess the role of networks in information dissemination in other part of Tanzania where MVIWATA works so as to determine the extent of effectiveness in disseminating information from one farmer to another.

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APPENDICES

Appendix 1: Questionnaire for Group Members

AN ASSESSMENT OF THE ROLE OF NETWORKS IN INFORMATION DISSEMINATION
IN TANZANIA: A CASE OF SELECTED COMMUNITIES IN MOROGORO REGION

INTRODUCTION

Dear farmer, I am MUNANKA PETER M. from Sokoine University of Agriculture pursuing Masters of Arts Degree in Rural Development. I am conducting this study to gather your opinions on the role of networks in information dissemination in Mgeta Division. It is an important study because it can contribute to the improvement of information dissemination in your network. Therefore, I am requesting your support and cooperation in this task by responding to the following questions. Any answer or replies made will be kept confidential.

DIVISION..... VILLAGE.....
RESPONDENT NAME..... DATE OF INTERVIEW.....
NAME OF INTERVIEWER..... DATE OF INTERVIEW.....

A. SOCIO-ECONOMIC CHARACTERISTICS

1. Age.....
2. Sex
 - i. Male.....
 - ii. Female.....
3. Marital status
 - i. Single.....
 - ii. Married.....
 - iii. Divorce.....
 - iv. Widowed.....
4. Level of education by year of attendance
 - i. None.....
 - ii. Adult literacy.....
 - iii. Primary education.....

- iv. Secondary education.....
 - v. Post secondary education.....
 - vi. Others (specify).....
5. Which food crops do you grow in your farm?
- i.
 - ii.
 - iii.
 - iv.
6. What is the source of labour?
- i. Family labour
 - ii. Hired labour
7. Do you have any other source of income out of farming activity?
- i. Yes
 - ii. No
8. If yes, which one? (specify)

B. SOURCES OF INFORMATION

9. On average, how many times in a week do you contact other farmers?
10. On average, how many times in a week do you contact group representative in the local network?
11. Who initiates those contacts?
- i. Self initiated.....
 - ii. Other farmers.....
 - iii. Group representative.....
12. What benefits do you get from belonging to local network?
- i.
 - ii.
 - iii.
13. What kind of information do you expect from local network?
14. Do you receive the information?
- i. Yes.....
 - ii. No.....
15. How do you get to know about the important decision concerning the network?
.....

C. THE FARMERS AWARENESS OF MESSAGE RECEIVED

- 16. When did you start receiving the extension message about the crop you are cultivating?
.....
- 17. What are the reasons which made you to adopt those messages?
- 18. What benefits have you got so far from those messages?
- 19. Are you satisfied with the messages you have received
 - i. Yes.....
 - ii. No.....
- 20. If no, why not?
- 21. Please mention the extension messages received about the crop you are cultivating.....

D. FARMERS PERCEPTION ABOUT THE IMPORTANCE OF NETWORKING

- 22. How many times have you interacted with other group members in the division (every month)?
- 23. What is your opinion on the role of farmers network in information dissemination?
.....
- 24. How many network meetings did you attend last year?
.....
- 25. Give your opinion concerning the existence of farmers' network in your division
.....

E. EFFECTIVENESS OF NETWORKS IN FACILITATING COMMUNICATION OF INFORMATION

26. What relevance has the following facts in your activities?

Fact	Very important	Important	Not important
1. Through network, I'm able to receive information on production and market for my produce.			
2. Network does facilitate the flow of information on production and other related activities among members.			
3. Network is an instrument in improving skills on production in order to get high output.			

27. What kind of contributions according to your opinion is important to maintain an information exchange network?

Type of contribution	Not important	Very important	Quite important	Very important
Financial contribution				
Contribution of information				
Contribution of time for meeting				

28. How often do you meet network members from other groups?

- i. Once a year
- ii. 2-3 times a year
- iii. Monthly
- iv. Weekly or more often
- v. No communication contact.

29. If there is no communication contact, what is the reason behind that?

30. How will you assess information flow within the network?

I get all the information asked for	II get most of the information asked for	III get some of the information I asked for

E. FACTORS AFFECTING INFORMATION DISSEMINATION IN NETWORKING

31. Ranking according to importance of factors affecting information dissemination in networking.

FARMERS FACTOR	Very important	Important	Not Important
1. Limited education level of farmers			
2. Women are not involved in decision making			
3. Promoters are not capable of transmitting information concerning innovation			

Institutional factors

1. Inadequate information from MVIWATA and promoters			
2. Lack of mechanism of testing and adopting technology on Farmer's field			
3. Inadequate time in training for adoption of new innovation in case of promoters			

Appendix 2: Questionnaire for MVIWATA Promoters

AN ASSESSMENT OF THE ROLE OF NETWORKS IN INFORMATION DISSEMINATION IN TANZANIA: A CASE OF SELECTED COMMUNITIES IN MOROGORO REGION

INTRODUCTION

Dear farmer, I am MUNANKA PETER M. from Sokoine University of Agriculture pursuing Masters of Arts Degree in Rural Development. I am conducting this study to gather your opinions on the role of networks in information dissemination in Mgeta Division. It is an important study because it can contribute to the improvement of information dissemination in your network. Therefore, I am requesting your support and cooperation in this task by responding to the following questions. Any answer or replies made will be kept confidential.

DIVISION..... VILLAGE.....
RESPONDENT NAME..... DATE OF INTERVIEW.....
NAME OF INTERVIEWER..... DATE OF INTERVIEW.....

A. SOCIO-ECONOMIC CHARACTERISTICS

1. Age.....
2. Sex
 - i. Male.....
 - ii. Female.....
3. Marital status
 - i. Single.....
 - ii. Married.....
 - iii. Divorce.....
 - iv. Widowed.....
4. Level of education by year of attendance
 - i. None.....
 - ii. Adult literacy.....
 - iii. Primary education.....
 - iv. Secondary education.....
 - v. Post secondary education.....
 - vi. Others (specify).....
5. Which food crops do you grow in your farm?
 - i.
 - ii.

- iii.
- iv.
- 6. What is the source of labour?
 - i. Family labour
 - ii. Hired labour
- 7. Do you have any other source of income out of farming activity?
 - i. Yes
 - ii. No
- 8. If yes, which one? (Specify)

B SOURCES OF INFORMATION

- 9. What are your functions in the day to day operations of your group?
.....
- 10. Would you please indicate below how you came to represent your group in the local network?
.....
- 11. For how long have you been a group representative?
.....
- 12. Have you attended any network meeting?
 - i. Yes.....
 - ii. No.....
- 13. If no, why not?
- 14. Have you attended any seminar/workshop?
 - i. Yes.....
 - ii. No.....
- 15. If yes where? For how long?
- 16. On average, how many times a week does you spend advising other farmers group members in the use of different innovations?
- 17. Who initiates those contacts?
 - i. Group members.....
 - ii. Extension officers.....
 - iii. Self initiated.....
 - IV .Other farmers.....
- 18. What methods do you use to pass information to farmers on the use of innovation?
 - i. Verbal.....
 - ii. Leaflets.....
 - iii. Handouts.....

iv. Books.....

v. Local networks newsletter.....

19. What benefits do you get being a member in a local network?

i.

ii.

iii.

20. What kind of information do members expect from the local network?

.....

21. How do members get to know about important decisions concerning the network?

.....

C. FARMERS AWARENESS OF MESSAGES RECEIVED

22. In which ways do you get information (in order of importance) concerning the innovation(s) you are using?

i.

ii.

iii.

iv.

23. When did you start receiving the extension messages about the crop you are cultivating?

.....

25. What were the reasons which made you to accept those messages?

.....

24. Are you satisfied with the messages you have received?

i. Yes.....

ii. No.....

25. If no why not?

D. FARMERS PERCEPTION ABOUT THE IMPORTANCE OF NETWORKING

26. Constitutionally how many meetings are supposed to be held in a month/year?

.....

27. How many meetings did you attend last year?

28. If none, why?

29. How many times (for last season) have you interacted with other groups in the division?

.....

30. What is your opinion on the role of farmers network in information dissemination?

.....

31. Have you ever participated in any farmers exchange programme?

i. Yes.....

ii. No.....

32. If yes which other farmers did you visit or visited you?

.....

33. If no, why not?

34. Can you rank the activities you have participated in the network in order of perceived importance?

.....

35. What are your duties as a group representative in the local network?

.....

36. Are there extension worker(s) in your division?

i. Yes.....

ii. No.....

iii. Don't know.....

37. State the numbers of times you have interacted with the extension agent during the last six months

a. Home visit

i. Once.....

ii. Twice.....

iii. Three times.....

iv. Four times and above.....

b. Meetings

i. Once.....

ii. Twice.....

iii. Three times.....

iv. Four times and above.....

c. Demonstration

i. Once.....

- ii. Twice.....
- iii. Three times.....
- iv. Four times and above.....
- d. Others (specify)

E. EFFECTIVENESS OF NETWORKS IN FACILITATING COMMUNICATION OF INFORMATION

38. What relevance has the following facts in your activities?

Factor	Very important	Important	Not important
1. Through network, I'm able to receive information on production and market for my produce.			
2. Network does facilitate the flow of information on production and other related activities among members.			
3. Network is an instrument in improving skills on production in order to get high output.			
4. Through network, I'm able to frequently meet and share experiences with other members who are doing similar activities with me.			

39. What kind of contributions according to your opinion is important to maintain an information exchange network?

Type of contribution	Not very important	Quite important	Very important
Financial contribution			
Contribution of information			
Contribution of time for meeting			

40. How often do you meet network members from other groups?

- i. Once a year
- ii. 2-3 times a year
- iii. Monthly
- iv. Weekly or more often
- v. No communication contact.

41. If there is no communication contact, what is the reason behind that?

42. How will you assess information flow within the network?

I get all the information I asked for	I get most of the information asked for	I get some of the information I asked for

E. FACTORS AFFECTING INFORMATION DISSEMINATION IN NETWORKING

43. Ranking according to importance of factors affecting information dissemination in networking.

FARMERS FACTOR	Very important	Important	Not important
1. Limited education level of farmers			
2. Women are not involved in decision making			
3. Promoters are not capable of transmitting information concerning innovation			

Institutional factors

1. Inadequate information from MVIWATA			
2. Lack of mechanism of testing and adopting technology on farmer's field			
3. Inadequate time in training for adoption of new innovation			

Appendix 3: A check-list for assessing role of networking in information dissemination in Mgeta division.

Question	Answer
1. What activities are undertaken by MVIWATA in your village/Mgeta division?	
2. How is farmers networking Operationalized and implemented?	
3. How successful has MVIWATA been in promoting farmers network?	
4. How has farmers networking been assessed/ measured?	
5. What challenges has MVIWATA faced in carrying out farmers networking activities?	
6. How have you dealt with each of these challenges?	