DOCUMENTATION OF THE IMPLEMENTATION STRATEGY

A CASE STUDY FOR THE KIBWEZI COMMUNITY-BASED HEALTH MANAGEMENT INFORMATION SYSTEM PROJECT, KENYA

BY

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ABSTRACT

Purpose and Objectives: The purpose of this study was to document the comprehensive implementation strategy of the AMREF Kibwezi Community Based Health Management Information System project (CB-HMIS). The study also attempted to establish the challenges encountered during the implementation of the project. This was also an opportunity to test the appropriateness of the Bergen model of collaborating functioning in project evaluation.

The Bergen model of collaborative functioning has three main elements i.e. (a) Inputs (b) Throughputs or Processes (c) Outputs. The CB-HMIS project was implemented through the collaboration of several partners i.e. AMREF the lead implementing agency, the Kenya government as well as other stakeholders. The cooperation of the government played a significant role in the implementation. The study sought to ascertain how the various partners collaborated and how the inputs interacted with one another to produce the intended outputs.

Methods: A case study qualitative research design was adopted. Data collection methods involved-: (i) A review of the project documents (ii) In-depth interviews with the AMREF Kibwezi CB-HMIS project staff as well as selected stakeholders (iii) Focus group discussions with representatives of the initial village health committees and (iv) Review of the project's income generating projects.

Results: The findings revealed that the partners collaborated well culminating in the successful implementation of the pilot project. Subsequently the project is now being scaled-up in three other districts. The training of community representatives i.e. TOTs/CHWs who acted as change agents played a very important role in the process of the project implementation and maintenance. In an effort to ensure sustainability of the project, income generating projects were initiated and they played a significant role in improving the socio-economic welfare of the community. Some constraints were encountered during the implementation but they were resolved and the process went on as planned.

Conclusion: The study established that with effective leadership and good collaboration between different partners sustainable community development can be achieved. However there is one key prerequisite for this to materialize. The community has to be actively involved in the activities of the project especially in most of the decisions concerning the project. This helps in realizing ownership of the project by the community.

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ABBREVIATIONS

1. AMREF – African Medical and Research Foundation
2. CB-HMIS – Community Based Health Management Information System
3. CHWS – Community Health Workers
4. CORPS – Community Own Resource Persons
5. DHMT – District Health Management Team
6. HIV/AIDS – Human Immunodeficiency Virus/Acquired Immunodeficiency Disease Syndrome
7. IGAS – Income Generating Activities
8. MOU – Memorandum of Understanding
9. NGOS – Non Governmental Organizations
10. OCGS – Organized Community Groups
11. PDAS – Personal Data Assistants
12. TOTS – Training of Trainers
13. UNDP – United Nations Development Program
14. VHC – Village Health Committee
15. UN – United Nations
16. UNDP – United Nations Development Programme

1.0 INTRODUCTION

1.1 PURPOSE AND OBJECTIVES

The purpose of this study was to document the factors that contributed to the successful implementation of the AMREF Kibwezi Community Based Health Management Information System project (CB-HMIS). The study also intended to document the challenges faced during the implementation and how they were resolved. Specifically the study attempted-:

(i) To identify the factors that influenced the successful implementation of the strategy. In this regard, the Bergen Model of Collaborative Functioning was used. It served as a framework in guiding and analyzing the factors leading to successful implementation of the strategy in relation to-: (a) Inputs (b) Throughputs or Processes (c) Outputs including the interactions between themselves.

(ii) To ascertain the constraints encountered during the implementation of the strategy.

1.2 OVERVIEW OF THE PROBLEM AND SPECIFIC AIMS

1.3 PROBLEM STATEMENT

Many preventable and manageable diseases continue to be a serious menace to the Kenyan population despite the government's commitment to address them. Like many other countries in the South, over 70 percent of the Kenyan population live in rural areas. The majority of these community members are subsistence farmers who eke out a living from tilling their land as their main source of livelihood. Due to their meagre economic resources, coupled with lack of awareness and relatively low levels of formal education, their source(s) of health information is limited. Because information is power, the lack of it puts them in a serious socio-economic disadvantage.

There are many health facilities offering a wide range of services throughout the country. Communities at the grass-roots live in villages scattered all over the countryside some of which are very far from static health facilities [1]. It has been a challenge to reach out to these communities to inform them of the range of available health services. This has been due to poor and/or non-existent communication infrastructure such as roads, lack of serviceable vehicles, etc. This situation is aggravated by ineffective channels of information sharing and lack of appropriate forums between the population and the health workers.

Health promotion is defined as 'the process of enabling people to increase control over and to improve their own health'[2]. Participation in socio-economic activities is essential to sustain

health promotion action [3]. The strategy has to be unique and calls for a bottom-up approach by the health promoter coupled with the use of different skills in the quest of addressing community health problems [4]. The health promoter plays the role of a catalyst, ensures that things are working then walks away [5].

In an attempt to bridge this communication gap, the Community Based Health Management Information System (CB-HMIS) was started by AMREF in Kibwezi district in the Eastern province of Kenya in 2004. Its main objective was to create synergy between rural health facilities and community based health systems in planning, management and monitoring of health development initiatives. Its specific objectives were to-: (i) Strengthen Community Structures and Health Management Information Systems (ii) Establish a referral system and (iii) Develop a mechanism for targeting the poor. Using a CBHC approach, the project was supposed to create partnerships with other stakeholders, build capacities within the community and share and learn the implementation experiences with the other stakeholders. The targeted beneficiaries were as specified in the Kenya Essential Package for Health, specifically the community (level 1). These are communities served by senior, middle and lower health personnel, the District Health Management Teams (DHMTS), the Community Owned Resource Persons (CORPS) and the health workers themselves [6].

It had been realized that there was inadequate participation of grass-root organs in: (i) planning and monitoring of the health reform process (ii) a problem of poor disease surveillance (iii) inadequate generation and use of information at community and rural health facilities. An ineffective referral system was also significantly contributing to loss of life arising from obstetric emergencies as well as preventable childhood illnesses. The project has been attempting to address these challenges using information as its main strategy to create awareness with a TOT/CHW approach to increase the number of change agents [7].
The goal of the project was to improve the capacity of the community to prevent diseases and promote health. The purpose of this proposal was to establish a functional model which facilitated linkages of the operations at rural health facilities and communities. It had four key strategies i.e. community based health care approach (CBHC), partnership promotion, capacity building and learning and sharing [8]). It was as a result of this realization that AMREF in collaboration with the ministry of health decided to embark on piloting the community based-management information system project in Kibwezi district.

1.4 PURPOSE OF THE STUDY

The study documented the comprehensive implementation strategy of the Kibwezi CB-HMIS i.e.: (i) the implementation process (ii) how the bottom-up strategy worked (iv) establish factors that motivated the community adopt the strategy (v) establish why TOTs work on voluntary basis and achieve outcomes. With the comprehensive implementation strategy documented, attempts have been made to scale it up to other regions with similar health challenges.

1.5 RESEARCH OBJECTIVE

The research objective was to document the factors that influenced the successful implementation and scaling up of the Kibwezi Community Based Health Management Information System (CB-HMIS) strategy. The Bergen Model of Collaborative Functioning (BMCF) was used to guide and analyze the factors influencing implementation

1.6 STUDY QUESTIONS

1. What ways of working, systems and social processes promoted synergy?
2. What ways of working, systems and social processes inhibited synergy?
3. What ways of working, systems and social processes resulted in ant-agony?

1.7 Methods used for data collection

(a) Review of documents; notes were taken
(b) In-depth interviews; notes were taken as well as audio-taping
(c) Focus group discussions; notes were taken as well as audio-taping
(d) Observations; notes and/or photographs were taken where appropriate

1.8 Importance of the study: Its contribution to health promotion

The study was important since it provided information on the successful implementation strategy of the AMREF Kibwezi CB-HMIS. It is a bottom-up approach which creates demand for services at the grass-roots by an empowered community. The health promotion arena stands to benefit immensely. This is because with the comprehensive documentation of the implementation strategy having been done the same strategy can be used to improve the socio-economic and health status of communities with similar problems in other parts of the

world. In this regard it is worth noting that the Alma-Ata declaration, the Ottawa charter for health promotion and the millennium development goals all advocate for partnership in addressing the daunting problem of health for all.

The 7th declaration sub-section 4 of the Alma-Ata declaration states that to achieving health 'involves in addition to the health sector all related sectors and aspects of national and community development, in particular agriculture, animal husbandry, food, industry, education, housing, public works, communication, and other sectors; and demands the coordinated efforts of all these sectors'[9]. This clearly implies that partnership is a must if the health of all is to be achieved.

The Ottawa charter states that 'health promotion is not just the responsibility of the health sector, but goes beyond healthy life-styles to well-being. It lists nine prerequisites for health promotion i.e. peace, shelter, education, food, income, a stable eco-system, sustainable resources, social justice and equity' [3]. It is clearly stated here and implied that for health promotion to be functional, it has to involve the participation of other sectors.

The eighth goal states of the millennium development goals states; 'states should develop a global partnership for development'[10]. The report goes further on to state that 'leaders from 189 nations embraced a vision for the world in which developed and developing countries would work in partnership for all [11]. During the evaluation of the goals in 2009, the UN secretary-general remarked; 'we are the first generation to possess resources, knowledge and skills to eliminate poverty. Experience shows that where there is strong political resolve, we can see progress. And where there is partnership, there are gains' [11].

In all these protracted efforts to improve health for all, spanning decades of years, it is crystal clear that partnership is a very significant concept. Partnership is therefore the way forward in achieving health for all by the year 2015 and beyond.

2.0 BACKGROUND LITERATURE

It is amazing that despite its widespread utility in confronting societal problems since time immemorial, there is no universal definition of the term partnership ([12] [13, 14] [15] [16] [17]) The term as well as the practice has been in use in almost any human endeavour be it in business, law, health, education, international development etc. It is a paradox that despite the lack of consensus on its definition, there is a universal appreciation that in today's environment most objectives related to health and many other fields cannot be solved by any single person, organization or sector working alone [18]. One school of thought believes that the term partnership is synonymous with collaboration, coalition, and joint working while another believe that there are differences[19].

The [19] defines partnership as a collaborative relationship between two or more parties based on trust equality and mutual understanding for the achievement of a specified goal. Partnerships involve risks as well as benefits making shared accountability critical. According to [20] 'partnership involves a social system or entity based on agreement between participating organizations to collaborate on a common goal in which benefits and risks as well as resources and power are shared fairly.'

Partnership has also been defined 'as a means of balancing power and acknowledging absolute interdependence.' It has also been described 'as attractively simple at the policy level as well as economically sound where resources are pooled' [21]. At the local level, different skill mixes can be pooled while at individual level partnerships can deliver support to individuals, enhance self-esteem or change community norms. In the health promotion field the authors [21] argue that at the micro level, there are partnerships which do not appear to affect the underlying systems or the status quo, while at the macro level alliances and partnerships seek to affect the structural determinants of health [21]. In some cases successful partnerships are employed to deliver a complex range of services based on a community's needs [21]. However, according to the author [22], 'collaboration in a partnership is more than a mere exchange - it is the creation of something new, of value, together'.

In an endeavour to define partnership [12] surmises it as 'a dynamic relationship among diverse actors, based on mutually agreed objectives, pursued through a shared understanding of the most rational division of labour based on the respective comparative advantage of each partner. This relationship results in mutual influence, with a careful balance between synergy and respective autonomy, which incorporates mutual respect, equal participation in decision

making, mutual accountability and transparency.' In reference to this definition, it is evident that it is almost impossible to achieve these ideals in practice. What is possible is to have a relative operation-alization of these ideals.

According to [15], partnership in health encompasses all the types of collaborations (e.g. consortia, coalitions and alliances) that bring people together with the objective of improving health. The purpose of forming partnerships in health is for people and/or organizations to enhance their capacity to achieve better health as well as health system goals [15]. He uses the term partnership to refer to all types of relationships that bring people together for these purposes.

Collaboration has been defined as a representation of time-limited organization formed as a result of convergence of common interests [13]. A number of actors come together. They can be individuals or organizations to deliberate how best they can further their common interest(s). Collaboration according to [16] is the process of coalescing together for parties with the objective of seeking solutions to a common problem(s). She further describes those faced with a common problem and who realize that they cannot solve it individually as stakeholders. Stakeholders can be individuals, groups or organizations. The author [16] continues to state that collaborations create a richer, more comprehensive appreciation of the common problem as a consequence of the unique characteristics of the stakeholders.

The [23] defines partnership as a joint working relationship where the partners are-: (i) independent bodies (ii) agree to cooperate to achieve a common goal (iii) create a new organizational structure or process to achieve this goal (iv) plan and implement a joint program (v) share relevant information, risks and rewards. According to [17] collaborations is defined as-: (i) an organization of individuals representing diverse organizations, factions, or constituencies who agree to work together in order to achieve a common goal (ii) an organization of diverse interest groups that combine their human and material resources to effect a specific change the members are unable to bring about independently.

What stimulates people and/or organizations to partner? According to [16], partnership is an emerging phenomenon in almost every sector of society. It stretches from governments to communities and from local to international levels. A classic example of collaboration is the trade unionism where workers coalesce together to champion for their rights. The author further argues that collaboration offers an antidote to turbulent conditions. This is achieved through building collective capacity to reduce unfavourable consequences.

Collaborations face challenges and have their limitations. Some obstacles to collaborations are-: maintaining the collaboration and the resources that go into doing so, breaking-up even before they accomplish the goals for which they were created, masking of power relations, lengthy decision-making coupled with the time it takes to realize meaningful outcomes, surrender of autonomy to the coalition, lack of adequate assessment mechanisms, are supposed to last for relatively short periods of time, unbalanced member skills and training leading to effective communication and implementation of objectives, ([12] [18] [24] [15] [17]).

2.1 Classification of Partnerships

Recent literature shows an increasing number of partnerships being created for sustainable development. Due to the lack of a universally agreed upon definition of partnership and critical success factors for different partnerships, creating a comprehensive typology becomes daunting. This is due to the extreme variety of forms and shapes that partnerships take. Following is a list of the various types-: business partnerships, strategic alliances, public-private partnerships, tri-sector or cross-sector partnerships, multi-stakeholder partnerships, enacted partnerships, community partnerships, mandated partnerships, negotiated partnerships, local partnerships, locally-led partnerships, participatory internal partnerships, non-participatory partnerships, nascent partnerships, research and development partnerships, production partnerships, transactional partnerships, integrative partnerships [25].

In an effort to categorize the various types of partnerships [13], pose three questions-: (i) should partnerships have only one mission at a time or can they be multi-mission in focus (ii) should partnerships remain short-term and ad hoc in nature or should they adapt and strive for permanence? In short, should partnerships take on more of a structural order and a long-term focus? (iii) What should the group base of the partnership be? Should it be professionally-based, agency-based, community-based, or have a mixed base with some combination of all three?

Despite the lack of a universal definition of the term partnership, a critical observation reveals a strong correlation in the practical functioning of partnerships. Regardless of their wide variety of forms and shapes, they all appear to advocate for-: mutual accountability, absolute interdependence, fairness in power sharing and resources as well as losses, collective decision making and collaborative relationships. What is also not in doubt is the fact that there is extra benefit over and above what can be achieved by all the actors put together if they acted in

isolation. This power according to [18], to combine the perspectives, resources and skills of a group of people is identified as synergy. They describe synergy as 'the proximal outcome of partnership functioning that gives collaboration its unique advantage'. They further argue that synergy is not achieved through the mere exchange of resources but a manifestation of a comprehensive partnership action geared towards achieving a common goal.

2.2 Partnership Functioning

This is the interaction between the diverse partners in a partnership. There are factors that influence partnerships to maximise synergy. These factors are-: partner participation, partner relationships, staff support, sufficiency and flow of resources, leadership, management, communication, governance, partnership structure, and the external environment. Some of these factors are good leadership within partnerships. Special kinds of leadership styles promote good productive interactions thereby making good use of participants' resources such as financial and non-financial resources leading to partnership efficiency [18]. According to [26], we could be in a position to increase synergy in partnerships if we understood the complex interaction of elements that produce it citing the human factor in partnerships. It is evident from the foregoing that effective leadership in a partnership can play a significant role in maximising synergy.

Partnerships are able to achieve a level of efficiency which would not otherwise have been realized in their absence [12]. As a result of combining resources, networks and expertise, partnerships are able to achieve key technologies or other resources. Through the exploitation of comparative advantages of diverse actors partnerships can achieve higher levels of efficiency than all the individual partners aggregated together. Partnership structure should incorporate-: (i) informal structure and processes (ii) culture and governance mechanisms (iii) both moral and material incentives and (iv) transparency and accountability [12].

A tool by [15] has been developed to assess the degree to which partnership's collaborative process are successfully exploiting its participants' perspectives, knowledge and skills. The purpose of the tool is to assess whether partnerships are maximising on the benefits of collaborations at an early stage. They argue that this is absolutely important to make considering that it takes long periods of time to realise measurable outcomes in partnerships. They have named the tool partnership synergy. They measure partnership synergy against six dimensions of partnership functioning namely-: (i) leadership (ii) administration and

management (iii) partnership efficiency (iv)non-financial resources (v) partner involvement challenges (vi) community involvement challenges.

2.3 Leadership

Leadership strategies in running a coalition, has more impact than the composition of its membership [13]. Partnerships with a high level of synergy posses a special leadership which promotes productive interactions between its diverse participants. Sound leadership also enables proper use of their participant's resources such as in-kind, financial and time. Good administrative and management practices have been found to enhance high synergy [18].

Competent leadership has no substitute for an effective partnership i.e. it promotes confidence, ensures partners are focused on tasks at hand, it cultivates a climate of openness, trust, autonomy and patience, it resolves conflicts, develops pragmatism [27].

Able leadership is one of the ingredients for the implementation and maintenance of an effective partnership. Other qualities for good leadership in partnerships are-: self-efficacy, proven administrative skills, a high degree of political knowledge, good level of education, commitment and competence [17].

2.4 Structures, rules and roles

Ideally partnerships should be formed to solve a certain problem(s) and then disbanded once they resolve them [13]. The authors further argue that the more structural the partnership becomes it develops some form of permanence leading to unwillingness to respond to other issues/problems that may affect its constituent members. Partnerships perform their roles when they focus on single issues. Mixed-based partnerships he further argues are more difficult to manage and more likely to lead to factionalism. [17] argue that effective and efficient partnerships need-: (i) formalization of rules roles and procedures (ii) members should get benefits for their efforts (iii) should have diverse members/characteristics (iv) an organizational climate (v) to accomplish 'quick wins' or short-term gains which create motivation for its members (vi) open communication between members (vii) does not only require motivated and involved members but also skills and capacity (viii) positive relationship among its members (ix) members with a strong commitment. According to [16], partnerships have five key features-: (i) stakeholders are inter-dependent (ii) solutions emerge by dealing constructively with differences (iii) joint ownership of decisions is involved (iv)

stakeholders assume collective responsibility for future direction of the common issue/problem (v) it is an emergent process.

2.5 Communication

Communication within a partnership is of vital importance and goes a long way in enhancing partnership synergy. Lack of effective and regular communication can contribute to mistrust. It is also important since partners are updated about the activities of the partnership [15]. Communication is emphasized as a very important principle in partnership since it enables partners to share information on many issues affecting it both internally and externally [28]. According to [24], communication in partnerships should be purposeful, frequent and recognizable to facilitate information exchanges. They advocate the face to face method of communication which they argue is more conducive to the production of synergy. Communication quality and participation was cited as some of the primary characteristics of partnership success [29]. High quality communication was identified as an extremely important avenue in providing ideas and advice as well as reporting progress amongst partners [30].

2.6 Partnership synergy

Synergy translates into the aggregated individual efforts being greater than the individual parts. This means that there is extra effort over and above the aggregate. Synergy is the production of outcomes which could not have otherwise been produced by the partners in isolation. Mathematically, it is represented as 2+2=5 [27].

Partnership synergy has been described as a measure of the degree to which a partnership's collaborative process successfully combines its participants' perspectives, knowledge and skills. This combination is what goes into producing outcomes that surpasses the aggregate outcome of the individual participants acting in isolation [15].

Synergy has been described as 'the unique advantage of collaboration'. The authors go further to describe synergy as 'something new and valued together- a whole that is greater than the sum of its individual parts. This capacity which is reflected in partnership goals and plans derives from the strengths that emerge when many "heads" or "voices" are brought together particularly when people contribute different kinds of knowledge and perspectives' [18].

2.7 Partnership ant-agony

Partnership ant-agony translates into negative outcomes or wastage despite the pooling of partners resources. In mathematical translation it is 2+2=3 meaning that the partners would have been better off without the partnership. In some cases it may translate to 2+2=0 meaning that the partnership broke-down before realizing its goals [27].

2.8 The environment

The environment within which a partnership functions is absolutely important. I envisage two types of environments i.e. the internal environment within which the partners function and the external environment which affects the partnership in its entirety. The internal environment is can be influenced by the power relations between the partners. Power relations in a partnership according to [12] are usually masked. In some cases, partners may not be in a position to change the external environment which may influence their operation if they are national politics. They may however be able to influence local political situations. Some partners may be in a position to have comparative advantages over others e.g. resources or a strong organization identity [12]. One of the key foundations of Health Promotion as enshrined in the Ottawa Charter, states that one of the strategies to strengthen communities is to develop supportive environments. Environments can thus be in a variety of forms e.g. economic, social, physical, ecologic, education, peace, etc. The recognition and comprehensive understanding of all forms operational environments is therefore absolutely important for a conducive functioning of partnerships[31].

2.9 Models of Partnerships

Besides the Bergen model of collaborative functioning, there are many other partnership functioning models within the health arena. Examples are-: (i) the inter-professional partnership model for chronic illnesses; it is a very comprehensive model used in measuring the effectiveness in the treatment/management of chronic illnesses and partnership effectiveness [32] (ii) the community health information model; it is a partnership for management information system development; its goal was to assess the feasibility of an information system in a community set-up. It can answer questions on business functions, performance, service planning and service quality of community health [33] (iii) model exploring the relationship between partnership synergy and partnership functioning; it

measures certain dimensions of partnership functioning e.g. leadership, effectiveness, and partnership efficiency [15].

2.10 The Bergen Model of collaborative functioning

The Bergen model was constructed with raw materials from a case study undertaken on the Global Programme for Health Promotion Effectives (GPHPE). It is a systems model with three main components i.e. inputs, throughputs (process) and outputs. The inputs are the resources that the partners bring, while the throughputs are the process through which these resources go through to produce outputs. Three different outputs are realized in the functioning partnership-: (i) additive outputs (ii) synergy (iii) ant-agony

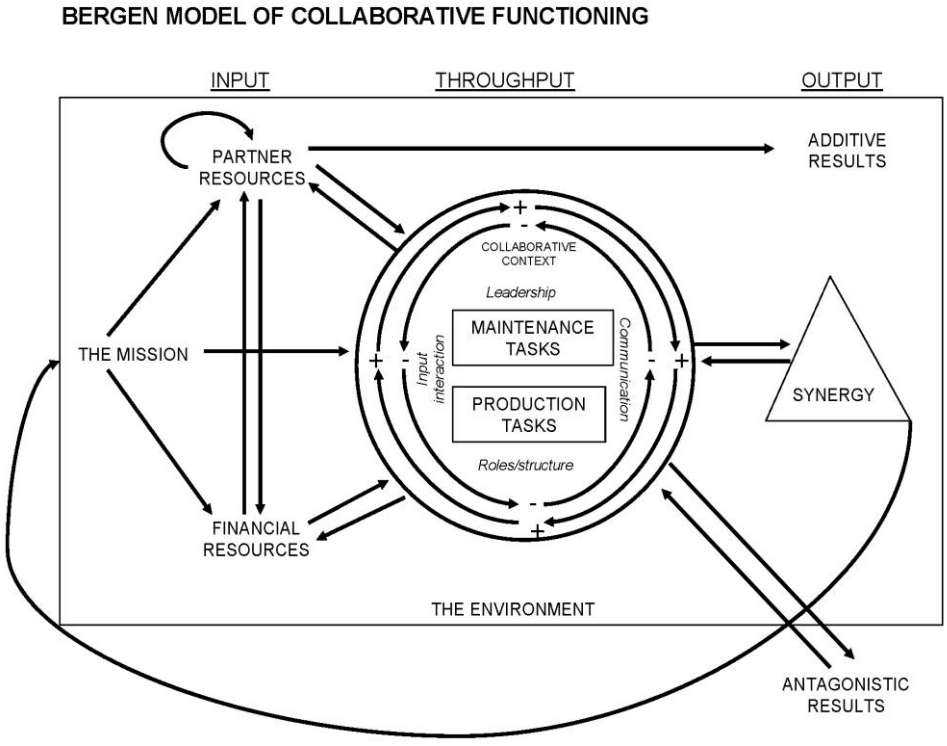


Figure 1

2.11 Positive and negative cycles of interaction

In a case where foster parents were considering adoption, positive cycles of interaction were achieved when both the needs of the adopting parents and the children were met. This resulted in successful adoption. The converse was experienced when both children and the adopting parents were rigid. There were cases where children were unwilling to acknowledge and work

with important people in their past or the foster parents were desperate for a child resulting unrealistic expectations of foster care and adoption. In other cases, the children were aggressive. This scenario where either of the parties was inflexible resulted in negative cycles of interaction leading to unsuccessful adoption [34].

In a program to promote academic success and prevent disruptive behavior, disorders in pre-school children through partnering with communities, both positive and negative cycles were encountered. The program targeted children the age of four years and introduced pre-literacy interventions. There evidence that at this age, the children's positive attitudes towards school and self-confidence were still in place. Through the inclusion of a good behavior, program to run concurrently with the pre-literacy intervention the program was able to achieve positive interaction and maintain it since the children developed interest in academic work. It is predicted that academic difficulties contribute to disengagement, increased frustration, lowering self-esteem and leading to drop-out from school. This is a case of negative cycle of interaction [35].

In the Bergen model, both positive and negative cycles fall in the throughput section. The authors argue that the throughput or process can be enhanced and reinforced by the positive cycles of interaction. On the contrary, the throughput can also be impeded and subsequently diminished by the negative cycles of interaction. Skilled leadership and communication amongst partners is credited with positive cycles. On the contrary poor leadership and/or lack of communication amongst partners, contributes to negative cycles of interaction.

In reference to data tested on the Bergen model, skilled leadership coupled with effective and regular communication natured-: positive interaction, inspired confidence, ensured partners were focused on future tasks, promoted a climate of openness, autonomy and patience, resolved conflicts and fashioned pragmatism. Conventional logic dictates that poor leadership and communication will contribute to the negative aspects of the afore-stated attributes. This would result in impeding the partnership culminating in negative cycles of interaction [24].

2.12 Outputs

Three types of outputs are produced i.e. the additive, the synergistic and the antagonistic outcomes. The additive outcomes are those that are not affected by the effect of the partnership whatsoever. In short with or without the partnership, the outcomes would have remained the same. The mathematical parallel is 2+2 = 4. Synergistic outcomes are those that

are produced as result of skilled leadership and/or effective communication resulting in positive interaction. This is an enhanced outcome with a mathematical parallel of 2+2 = 5. Antagonistic outcomes are those that result in loss or wastage of partnership resources. There is negative interaction and poor or no communication resulting in a mathematical parallel of 2+2 = 3 or in the worst case scenario 2+2 = 0,[24].

2.13 SCALING-UP

In general terms scaling up can be defined as broadening the use and impact of existing or new practices. It can also be defined as an effort(s) to increase the impact of an innovation(s) successfully tested in a pilot or experimental project(s). The ultimate objective of scaling up is to benefit more people and to foster policy and program development on a lasting basis Scaling up of health service innovations functions best within a framework of four key elements i.e. the team that has been involved in the development of the health innovation, the adopting organization, the scaling up strategy and the environment[36]. There are two main types of scaling-up. These are-: (a) spontaneous diffusions which spread like an infectious disease (b) guided scaling-up which takes three paths-: (i) replication or expansion and also referred to as horizontal scaling-up (ii) diversification also referred to as functional scaling-up or grafting which consists of testing and adding new interventions to the existing innovation (iii) vertical or political scaling-up are institutionalized through policy or legal action. In this case resources are distributed to ensure sustainability. The different types of types of scaling-up can occur simultaneously e.g. spontaneous and guided while expansion or replication is most effective when supported by political and institutional scaling-up[36].

When introducing a pilot project it is important to factor in scaling-up if there are intentions of expanding the intervention. Scaling-up strategists should undertake exploratory studies prior to scaling-up to identify factors that might affect scaling-up. This would increase the probability of achieving intended outcomes. In a project involving contraceptive scaling-up in Vietnam, three variables were found to affect the outcomes i.e. the degree of change required in the service delivery system, the pace of expansion and the available resources to support expansion[37].

Experience has shown that while selecting areas to scale-up pilot projects, good personal relationships between the project implementers and politicians enhances success as well as local ownership. Implementation strategies that succeeded during the pilot proved to be very useful during scaling-up. However, international concepts should be locally adapted to make

them locally meaningful[38]. The authors [39] realized that consulting widely with the local beneficiaries of any project goes a long way in ensuring scaling-up success.

In some cases, it may be worthwhile to pilot an initiative and subsequently validate it in environments similar to where it is intended to be scaled-up to. One fundamental lesson learnt is that the founding pilot project should be greatly valued and maintained as a learning and advocacy centre for the implementing districts[40].

The integration of research into the process of scaling-up is of fundamental importance since it assists the scaling-up teams to weather different challenges which they encounter during the process. Internationalizing program strategies without giving consideration to local and social-cultural aspects can lead to disastrous results. Another lesson learnt is that the bottom-up approach is more practical and yields better results compared to the top-down approach [41].

The author [42] found that a thorough understanding of the environments/contexts within which projects are to scaled-up is of paramount importance. Contexts can be political, administrative as well as other sector settings. Contexts are dynamic, thus learning about them should be continuous. The combination of policy support at the national level coupled with decentralized decision making can facilitate scaling up but can also impede it. Interventions should be responsive to the local institutional and socio-cultural contexts. Success in scaling up is not only influenced by the intrinsic demand of the service(s) being scaled-up but also how it fits within the national and local priorities.

For proper sustainability of community projects, building a community participatory training component as a central element of scaling up is of vital importance. Communities learn better from trained trainers who in most cases live amongst them and belong to the same community. Another important lesson was that change and scaling up is possible but require long-term sustained endeavors and patience [43].

The promotion of local capacities and community ownership of projects is very essential during scaling-up for the sustainability of community projects [44]. Other factors that can facilitate scaling-up are-: (i) an enabling environment through the decentralization and concurrent devolution of finances, effective leadership (ii) innovativeness and motivation of scaling-up officials (iii) creation of partnerships with the central government plus other stakeholders at the grass-roots and higher levels (iv) investing in training and building the

capacities of personnel involved implementation of the project. Scaling-up can also be constrained by-: (i) inadequate training of project personnel at the grassroots and intermediate levels (ii) hurried and mandated scaling-up (iii) political interference coupled with bureaucracy of the grassroots structures[45].

3.0 THE CASE

3.1 Brief background of the project

The AMREF Kibwezi CB-HMIS is a pilot project implemented by the African Medical and Research Foundation (AMREF) in Kibwezi district. The project was started in 2004 in Eastern province of Kenya. This was in response to the community's inadequate access to locally available health services due to various reasons. There are more than fifty community health projects which are implemented by AMREF Kenya country program all over Kenya and the CB-HMIS is one of them.

Mission Statement for the project: To empower the community to actively participate in improving its own health. It aims to achieve this mission through the creation of a vibrant network of stakeholders, partnering with the community and empowering health care providers. The project uses information and health education as its key intervention strategies. Trained Trainers and Community Health (TOTS/CHWS) are its change agents [46].

Why did I choose this case? This project made a unique and interesting case. I therefore intended to examine the empirical evidence applied in its implementation strategy with a view to using the experience in other settings. Other reasons for its selection were-: (i) It was one the best performing projects despite the relatively low inputs such as finances, number of staff, equipment and vehicles, etc, injected into its implementation (ii) It involved the local community as well other stakeholders to a great extent in its implementation strategy.

The project uses information and health education as its main strategy to create awareness using Trained Trainers (TOTS) as its change agents. Since its inception, the project has managed to create a demand-driven bottom-up approach for health services by the community. This arrangement fits quite well with one of the core principles of health promotion of achieving effective participation by communities. One of its main objectives is to scale-up to other parts of the country upon successful implementation in its pilot phase. Figure 1 shows the district where the project is located.

3.2 Brief background of the country: Kenya

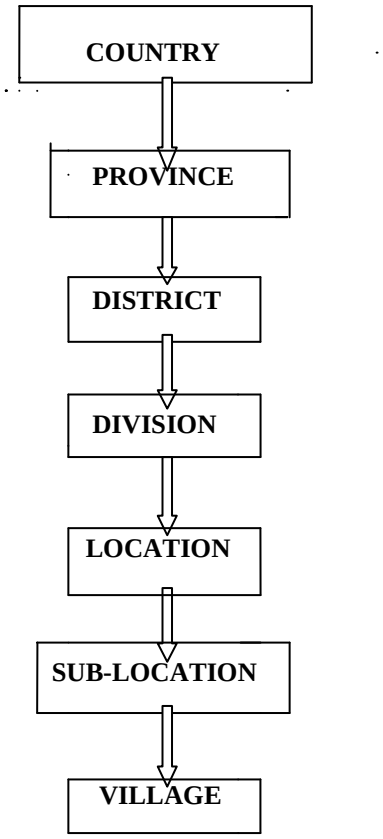
Kenya is located on the East Coast of Africa. It borders Ethiopia to the North, Somalia to the North East, Sudan to the North West, Uganda to the West and Tanzania to the South. It is a tropical country which is hot and humid. About three quarters of the land are plains with only about a fifth of the land suitable for agriculture under current technology. Its economy is

dependent upon agriculture and tourism coupled with a few agriculture-based industries. Kenyans currently have a life expectancy of 53 years which has been declining from 62 years in the 1990's. The literacy rate is 85 percent for males and 75 percent for females. According to the United Nations Development Program (UNDP), it is ranked 148th out of 177 countries in the Human Development Index. [47]

3.3 Kenya's Political and Administration structures

Politically, Kenya is governed by an elected president who shares executive power with the prime minister. The prime minister is also head of government. It has a unicameral national assembly where members of parliament are elected for a five year term from single member constituencies. It has a unicameral National Assembly consisting of 210 members elected to a term of five years from single member constituencies. It also has an additional 12 members of parliament nominated by political parties on a proportional representation basis. Kenya has a seven tier administrative structure. Figure 2 shows the structure.

Figure 2: Kenya's Administrative structure



The country is sub-divided into eight administrative units headed by a government appointed representative known as a provincial commissioner. Each of the administrative units is administered by a government appointed representative. The provinces are further sub-divided

into districts. Currently, there are 148 districts although this number is likely to increase. Creation of districts is dependent upon the size of a population in a certain area. Each district is headed by an administrator known as a district commissioner. The government has been increasing the number of districts with a view to bringing administrative services closer to the people. The hierarchy of administrative units after the district is division, location, sub-location and village in each district. The respective administrators for each of the administrative units are -: district officer in-charge of a division, chief in-charge of a location, and an assistant chief in a sub-location. There are several villages within a sub-location. The number of each administrative unit is dependent upon the size of the population and thus not standard in each province/district. [48]

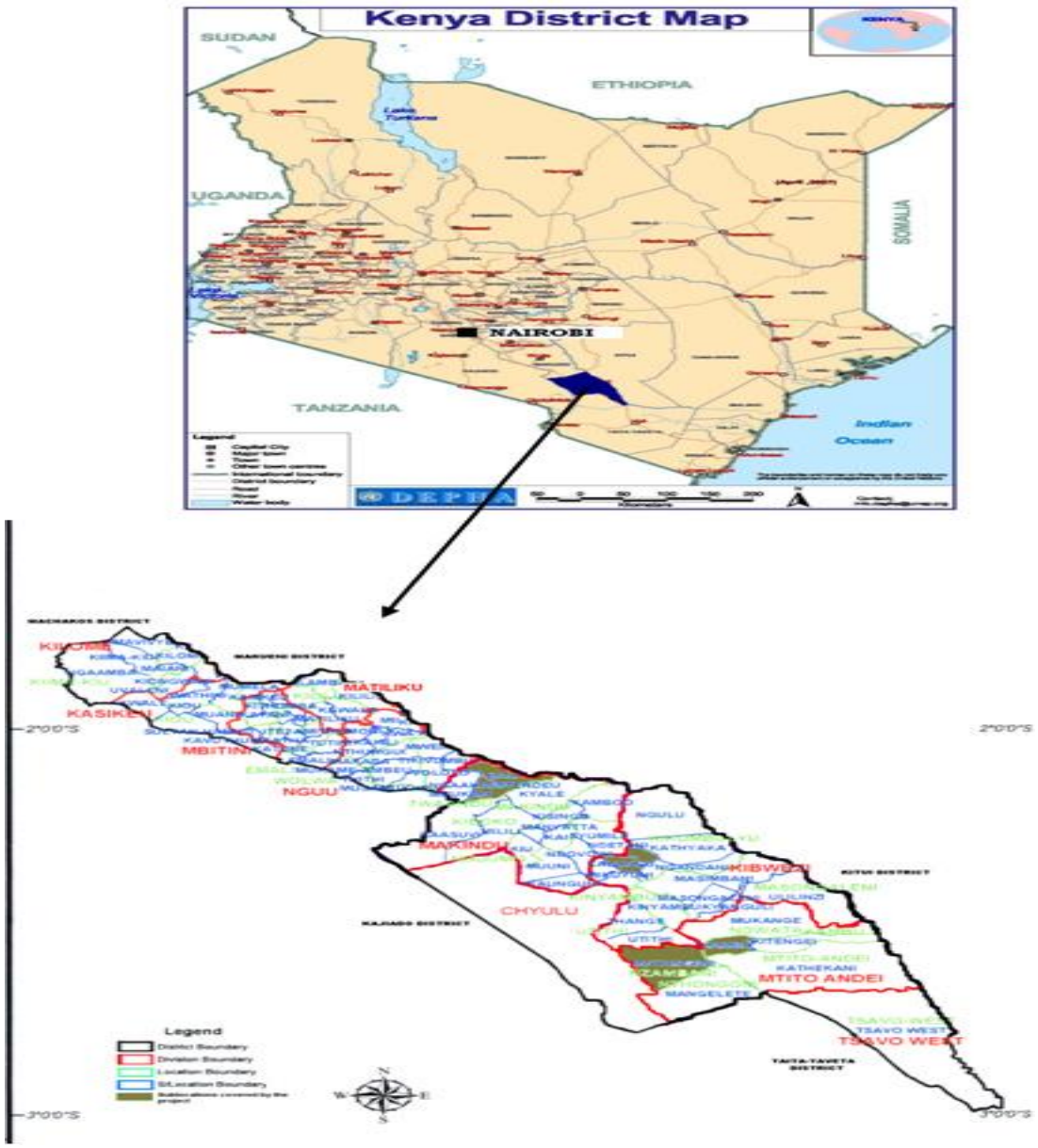


Figure 2

3.4 Kenya's Health Care structure

The government of Kenya through the Ministry of Health is charged with the responsibility to provide quality health care for its nearly 40 million citizens. More than half of these people live in the rural areas. The objective for the provision of this vital service is to ensure that they lead economically and socially productive lives. The provision of health services in Kenya is liberalized. There are public/government and private health facilities. In government health facilities health care is either free or subsidized on cost-sharing basis. The structure of the health care system is pyramidal with two government referral hospitals at the apex. Figure 3 shows the health care structure for Kenya.

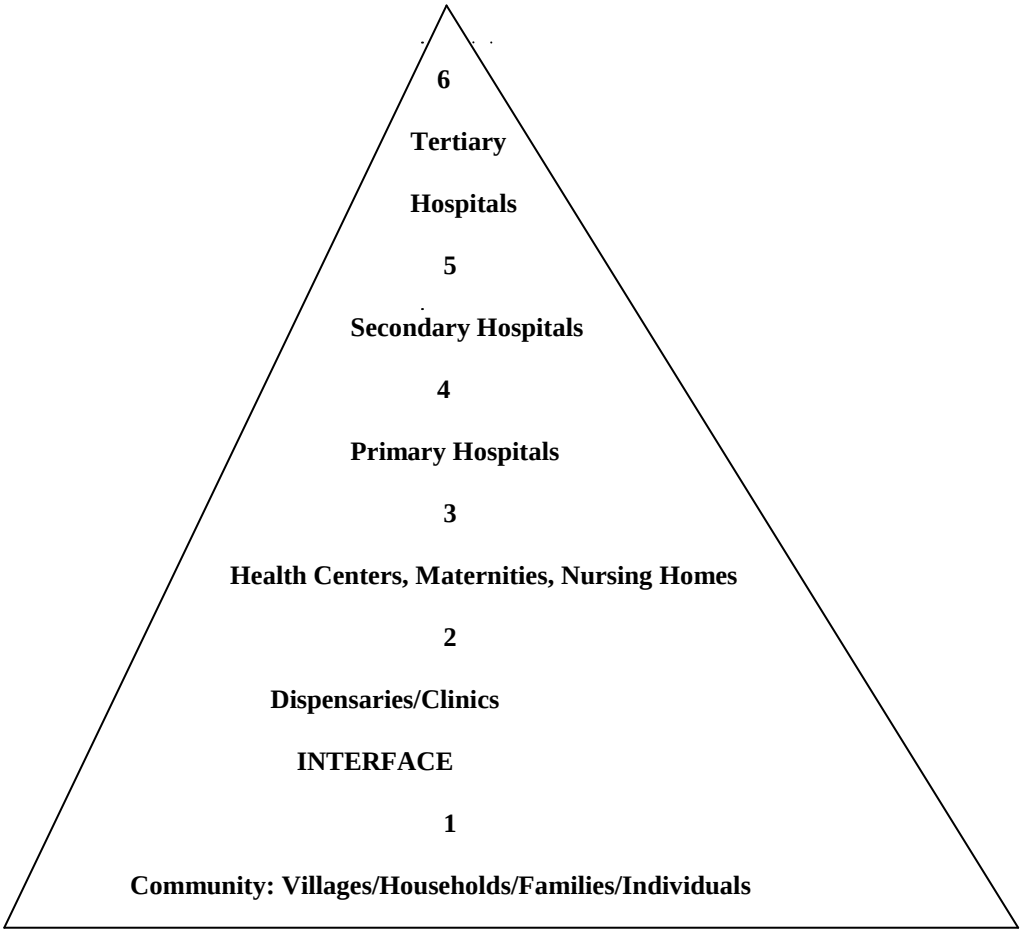


Figure 3: Source: [49]

There are two equivalent private health referral hospitals in the Capital city Nairobi. In each of Kenya's eight provinces, there is a provincial hospital which acts as a referral hospital for all the district hospitals within the province. The provincial hospitals also provide specialized medical care and serve as an intermediary between the national central level and the district hospitals. There is a district hospital in each district. Below the district hospital, there are health centres and below them there are dispensaries. Health centers offer preventive and

curative services mostly adapted to local needs. Dispensaries are supposed to be the system's first line of contact with the patients though in some cases, hospitals and/or health centres play this role. Dispensaries provide a wider coverage of preventive health measures than health centres which is a primary measure of the health policy. A dispensary is supposed to serve several villages but the number is not standard. The Ministry of health sets policies, develops standards, and allocates resources for health care services. However in accordance with the government's decentralization strategy, the district is the level where most management takes place. Currently there are more than 5,000 health facilities spread all over the country. The government provides 51% of health services, while faith based organizations and the private sector provide the remaining 49%. [47]

In its renewed effort to improve service delivery, the government through the Ministry Health in collaboration with stakeholders adopted a new strategy for making health more effective and accessible to as many people as possible. It created 6 levels i.e. level 1 is the community. The community is set as the foundation of service delivery where it is allowed to define its own priorities. Upon provision of service delivery consistent with the community's priorities, the strategy envisions real ownership and commitment. Village Health Committees (VHCS) will be organized in each community whereby households and individuals can contribute and participate in their own health and that of the entire village. Under levels 2 and 3, there are the dispensaries, health centers, maternity and nursing homes where predominantly promotive, preventive and some curative care is provided. Levels 4-6 are the primary, secondary and tertiary hospitals (district, provincial and referral hospitals) and are supposed to mainly handle curative and rehabilitative as well some aspects of promotive and preventive health care delivery. The plan adopts a broader approach where there is a shift from the disease burden. It emphasizes the promotion of individual health based on the various stages of the human cycle i.e. (i) pregnancy and the newborn (ii) early childhood, late childhood (iii) youth and adolescence (iv) adulthood and (v) the elderly.[49]

By the late 1980's, Kenya had improved the life expectancy from 40 years to 62 years. However an economic downturn in the 1990's reversed this achievements resulting in life expectancy declining to 53 years. The country continues to grapple with a persistent high burden of infectious diseases including Malaria, HIV/AIDS and Tuberculosis. It is also faces an emerging range of chronic diseases such as cancers, cardiovascular diseases and diabetes. The country like many others in Sub-Saharan Africa is not presently on track to meet the health related Millennium Development Goals by the 2015 target. [50]

4.0 DATA AND METHODS

4.1 Strategy of the study

Qualitative research approaches seek illumination, understanding, and are explorative in nature. They seek information using a naturalistic approach to understand phenomena in context specific settings ([51, 52]). This study sought to examine how the AMREF Kibwezi CBHMIS was implemented. It also sought to investigate why the implementation strategy was successful. The study adopted a case study research design. It sought to describe the implementation strategy, why the community had embraced the project and how it worked [53]. In case studies the researcher explores in depth, a program, an event, an activity, a process, or one or more individuals. Cases are bound by time and activity and researchers use a variety of methods to collect the data [54].

4.2 The role of the researcher in the study

In research there is no substitute for an effective and good research tool/instrument. In qualitative research, the researcher must develop the level of skill appropriate for a human instrument or a vehicle through which data will be collected, analysed and interpreted [52]. The researcher must also adopt characteristics of the naturalist paradigm [55]. For this study, the researcher is an employee of the organisation implementing the project and the logistics for data collection were done by the project staff in consultation with the researcher. As a result of these factors the researcher received very good cooperation from the community. Being conversant with the culture and geography of the project area gave the researcher an added advantage. The researcher at all times verified meanings with the participants in an effort to ensure that questions/issues were properly understood [54]. To the best of his ability the researcher guarded against personal prejudices and pre-conceptions in data gathering and interpretations. He made keen observations, listened patiently and probed all the leads until all phenomena to be investigated were thoroughly understood. He attempted to be as objective and honest as far as was humanly possible.

4.3 Sampling strategy

Unlike quantitative studies, qualitative studies employ purposive sampling techniques since it is the most logical approach [54]. This method allows the researcher the freedom to select sites, persons and documents that help them answer the research question(s) comprehensively. Participants are selected for a specific reason e.g. age, culture, experience, etc [56, 57]. A purposive sampling strategy was employed to identify all those persons involved in the

implementation strategy. Beneficiaries of the project were sampled to provide a balanced opinion about the project. A few socio-economic projects initiated by the project were sampled. Their contributions towards the welfare of the communities were adduced. Stakeholders within the project area were sampled as well and information concerning implementation of the project sought. Documents containing data on TOT activities were selected and relevant data regarding how they have been communicating information to the community about the project extracted.

4.4 Methods of data collection

After the general characteristics about a study the other stage of a research inquiry is more specific [54]. The study employed a variety of qualitative data collection strategies, processing, analysis and interpretation. (a) Review of project documents both at the national and project office (b) In-depth interviews with head of programmes at the national office, project staff, TOT representatives, members of the provincial administration such as chiefs and their assistants and other stakeholders within the project area (c) Focus group discussions with TOTs and target communities (d) Observation and documentation of the Community Based Health Management Information System and how it functions, Community Income Generating Projects (IGAs), household sanitation projects/activities such as toilets, water projects, food storage facilities, etc. During focus group discussions, the pair-wise method of ranking was used to provide weighting to the various factors that contributed to adoption of strategy [58].

4.5 Data management plan

Coding was done based on thematic areas where appropriate. As for the audio-taped information, transcription was done after every taping activity. To ensure that data/information was properly organized and that there are no over-laps, summaries for in-depth interviews and focus group discussions were done on a daily basis [59].

4.6 Data analysis

In quantitative studies, data is analysed at the end of the study. However in qualitative studies, data analysis is a continuous process i.e. from day one, throughout the life of the study [60]. Quantitative studies use deductive reasoning for data analysis based on the research objectives while qualitative studies use inductive analysis i.e. interpretations from raw data. Deductive reasoning starts with a general rule, a premise known to be true under the circumstance while inductive reasoning is based upon a set of empirical data [61]. However, the final analysis

involved content analysis of the formulated themes. The approach entails-: going through the raw data, organizing it and preparing it for analysis, reading through, coding, formulating themes, interrelating themes and descriptions and finally interpreting the themes and descriptions. However, this process is not linear and at times it involves going back and forth [54].

4.7 Validity and Reliability Issues

Validity is defined as truth and/or trustworthiness [59]. Achieving a high level of validity, calls for quality craftsmanship. It also refers to the correctness of a statement or whether the method used measures what it purports to measure [59]. The researcher undertook thorough examination and verification of data sources. Triangulation which is using different methods to collect data and checking for convergence of the findings was done to enhance validity. Upon completion of the data collection exercise, a de-briefing meeting drawing representation from a cross-section of all the respondents was undertaken. During this meeting, highlights of the key findings were discussed to verify the validity of the data. This was done to increase internal validity of the data [54]. To ensure a balanced representation of facts, deviant cases were also included in the thesis report [60].

Reliability refers to consistency of the research findings i.e. if an independent researcher conducted a similar study using the same methodology, would s/he come up with similar findings [59]. I documented all the procedures and steps in an effort to maintain evidence of the study. During the in-depth interviews as well as the focus groups, the researcher sought clarifications from the informants. This involved having short breaks during the data collection where the researcher read back the information that had been collected from the informants and verification was done [62].

Generalization in quantitative studies is widely used where a sample is randomly selected to represent a parent population and valid inferences made [60]. Generalization refers to external validity i.e. can the results of the study be transferred to new settings, people or samples [54]. In analytical generalization the researcher strives to generalize a particular set of results to some broader theory[62]. It should be noted that the generalization is not automatic but is based on theory and can only be replicated in similar contexts[62]. It is normally based on the differences and similarities of two or more places. Generalization in qualitative studies is widely practiced in law and clinical medicine but the contexts have to be similar or comparable [59]. One of the goals of this study was to up-scale the pilot project to other

regions of the country. It is hoped that the project will adapt to the new districts/regions within the country despite their different contexts.

4.8 Quality assurance methods

Before data collection begins a pre-test of the questions was undertaken to ensure that the questions were free from any ambiguities. Clarifications were sought from the project staff on issues that were ambiguous. The researcher employed a research assistant who was present throughout the data collection. The research assistant was trained on the data collection methodology. He played the role of an 'independent' interviewer/interpreter. The researcher was in control of the study but thought it was worthwhile to have a second opinion. The researcher conducted the interviews but sought to find out from the viewpoint of the trained research assistant whether they were appropriately asked. He also observed the reactions of the participants during the data collection. After every data collection activity we compared and contrasted with the research assistant based on our observations what may not have been objective in relation to the way the data was collected. We made appropriate adjustments where necessary. After all the data had been collected, the researcher got an independent person to conduct a parallel transcription of the data and made comparisons with the researcher's transcriptions [59].

4.9 Limitations of the study

Language may be a limitation in some cases where respondents may not understand English/Kiswahili. The research assistant undertook the translations of the proceedings especially during the in-depth interviews as well as focus group discussions. As a result of this limitation, some information may have been lost and/or the communication between the participants and the researcher cannot be said to have been completely fulfilling. Some research participants have the misguided notion that the researcher by virtue of his/her social class may be an expert on the issues under discussion. This can contribute to withholding of vital information to the researcher [59]. This shortcoming could not be ruled out in this study.

4.10 Ethical Considerations

Ethics refer to the moral implications that are likely to be encountered in the course of a study and how they are handled [59]. The researcher ensured that all meetings and focus group discussions were held in venues, dates and times convenient with the participants. The implications here were that the research participants were not subjected to any physical or social harm. I guarded against divulging any information collected/observations made during

the research to any unauthorised persons. By taking this precaution, the researcher ensured that the research participant's identities were not exposed to any social or psychological harm. Concerning official clearance to undertake the study AMREF under which the project falls, has a long standing memorandum of understanding (MOU) with the ministry of health, Kenya, concerning clearance on research. Informed consent was however sought at all times before any data collection was collected from the participants. A de-briefing meeting was held with the participants after the conclusion of the data/information collection. This meeting served two issues, ethical as well as validation of the findings. Only vital data about the research was collected to avoid wasting participant's time. The researcher stored the data in a secure place at all times. The potential benefits of the study to the community are numerous. When people are healthy, the nation saves resources which would otherwise have been utilised for treatment of diseases. Other potential benefits include not contracting communicable such as cholera or swine flu from other communities since everybody is healthy. The saved resources can be utilized for other services such as the improvement of infrastructure. Finally, the researcher as far as was practically possible attempted to abide by the research publication ethics/laws for both countries i.e. Norway and Kenya as was stipulated.

5.0 RESULTS

As stated in chapter 1, the purpose of this study was to comprehensively document the implementation strategy of the AMREF Kibwezi Community Based Health management Information system (CB-HMIS). Upon successful implementation of the pilot phase the goal of the project was to scale up the strategy to other parts of the country with similar health challenges. That process is currently on course in three other districts and they are utilizing the experiences of the pilot implementation in their endeavour to scale-up. The scale-up team comprises of some key members who were involved in the implementation of the pilot phase. The pilot phase was a success story but as to whether the same will happen in the three other districts is yet to be seen. However the scale-up team is very enthusiastic.

The 'Bergen model of collaborative functioning (BMCF)' was used as a framework for analyzing the data. The model has three main elements i.e. inputs, processes and outputs, and these were used to structure the analysis in this chapter.

5.1 INPUTS

The inputs were divided into three distinct categories i.e. the community problem which brought the partners together, the non-financial partner resources and the financial resources. In all cases the resources can also be categorized as, financial as well as non-financial resources. Perhaps the community problem could be credited as having played the biggest role in bringing the partners together. This in my view could have been the rallying force for the mobilization of all the other resources. Interactions of these resources during the process of implementation and their contributions towards the production and maintenance of the outputs have been discussed in detail in later chapters.

5.1.2 The Partnership Problem

The mission of the Kibwezi Community Based Health Information System (CB-HMIS) project has been stated in chapter 1, under the sub-title 'the CASE'. It clearly delineates the intentions of the project. The project aimed to address the myriad socio-economic problems facing the Kibwezi community particularly those inclined to health. There are some community members who continue to suffer in the same area from their socioeconomic problems, particularly those who have not yet embraced the project initiatives or sought alternative solutions. This is not to say that all those who have embraced the project initiatives have had all their socioeconomic problems addressed. What is not in doubt is that those who

have embraced the project initiatives have been socially networked and most of their 'individual' problems have been transformed into 'community' problems. The main question that we ask here is, what factor(s) contributed to the successful implementation of the project?

The government procedure is that before any new project is introduced in any district in Kenya, every District Development Committee (DDC) has to be informed beforehand. The DDC meeting is normally a periodic meeting which is convened and chaired by the head of government administration in each district known as a District Commissioner. He is the most senior government administrator who coordinates all development and administrative matters for each district. In this periodic meeting all government ministries as well as all non-governmental organizations involved in development within the district are represented.

> *We represented AMREF at the Kibwezi DDC meeting and explained our intentions of implementing the Kibwezi Community Based Health Management Information System project (CB-HMIS). The objectives of the project were clearly spelt out to all government departmental heads during this meeting. Before we started implementing the project we involved all the local administrative structures in community mobilization meetings. During these meetings, we explained to them that we intended to implement a new project and that we expected their active participation. We also built the capacities of the local administrators at the grassroots by offering them training related to the project objectives. This facilitated their accommodation of the project activities during the implementation of the project. Their involvement was very crucial. (I-1)*

The purpose of these meetings is to ensure that all stakeholders within the district are updated about any new development projects. It also helps in avoiding duplication of efforts by stakeholders within the same area but seeks to solicit support from other stakeholders during the implementation process. Apart from the listed functions the meeting also reviews the progress of existing projects and their impact on the community. The DDC meetings are therefore very important since stakeholders are updated about the problems facing the district.

In life there many circumstances which can bring members of a community together. Perhaps common problems affecting a community could be one of strongest uniting forces. My hypothesis is that upon realizing that the problem(s) a community face cannot be solved at household or individual level they seek to unite in an effort to address it/them. However in some cases, individuals may not know how best to join forces to confront a common problem.

It is this gap which AMREF sought to fill in its attempt to alleviate the socioeconomic problems affecting this community. Perhaps the partnership arrangement leading to the successful implementation could not have been better demonstrated by participant I-14.

> *One of the main factors for the success of the project was partnership of the lead agency (AMREF) with other key actors within Kibwezi particularly with the Ministry of Health. AMREF which originated with the idea of partnership sold it to other stakeholders and they bought it. The Kibwezi community is quite vulnerable and is 'thirsty' (if I may use that word) for health services, and other socioeconomic interventions. In some cases people have to travel for very long distances to access health services. (I–14)*

> *The community has many socio-economic problems. Anybody coming with suggestions which in the perception of the community can resolve these problems is normally welcomed with both hands. However many organizations have attempted to sort them out without much success (I-3).*

Creating good relationships and trust by project implementers with the community takes time but is inevitable for the implementation of any community project. This could not be better evidenced by participant's I-6 and I-9.

> *Togetherness and unity has contributed to the success of the project. (I-6)*

> *Our collaboration (community) with AMREF is one of the factors that have contributed to the success of the project. As a result of uniting for the sake of the project implementation, we now know one another better. We are free with one another than we were before and the animosity between us has been drastically reduced (I-6).*

> *AMREF, the lead implementing agency has built a good relationship and trust with the community over time (I-9).*

It was envisaged that upon successful implementation of the project the health of the community would be improved, development fostered and consequently the quality of lives of the community be improved.

5.1.3 Partner resources

Partners time, commitment, skills and work

The design of the Kibwezi CB-HMIS project was to actively involve the community in almost all the stages of the implementation of the project. By so doing, it was envisaged that since the implementation was donor funded and time-bound, sustainability would be assured if the community owned the project. Informant I-9 felt that for the community to own the project they should be involved from the very beginning of the project.

> *The community has to be involved right from the inception of the project. They must be involved in all the project processes including decision making on important aspects of the project. The objectives of the project should be clearly spelt out to them so that they are crystal clear to them. When this done, the community will feel appreciated, own the project and actively participate in the activities of the project (I-9).*

The TOTS/CHWS after they were democratically elected by their respective villages were provided with training and awareness creation.

> *The Trained trainers/Community Health Workers (TOTS/CHWS) were democratically elected by the community. The provincial administration i.e. the chiefs and their assistants were involved. Each participating village elected eight community members. To enhance ownership of the project, the data collection, processing, analysis, interpretation and use of the information for immediate decision making is done by the community members themselves (I-1).*

> *The fact that the VHC were democratically elected and well known to the community was a very important aspect of the project implementation. The community has confidence in people they know, are familiar with and who live amongst them. Their volunteerism is also an important aspect (I-7).*

This was to equip them with the necessary skills to be able to implement the project in their respective villages. After they identified and prioritized the socio-economic problems facing them, they then embarked in the process of implementation. Those selected accepted to offer their time, utilize their newly acquired skills and work for the benefit of the community. The TOTS/CHWS were to act as agents of change and a link between the community and any other external organization. Being members of the same community's that they were to serve

made it easier for them understand the problems affecting their fellow community members. They were also more readily accessible by other members of the community as opposed to 'outsiders' such as health workers who are employees of the government or other non-governmental organizations.

> *The community representatives plus their local leaders, i.e. the local administration such as chiefs, assistant chiefs, church leaders, village elders and other opinion leaders were invited for one week to a common venue. Information pertaining to the implementation of the project was disseminated to them by AMREF. After being satisfied that the community understood the objectives of the project, AMREF sought for their cooperation in implementing the project. They were asked to enumerate the socio-economic problems affecting their communities and prioritize them. They were also requested to make suggestions as to how the listed problems would be resolve (I-2).*

Perhaps one of the most important inputs towards the functioning of the partnership is the willingness of the TOTs/CHWs to volunteer their services to the community. Without the volunteerism the resources to pay for such services would have been colossal. Evidence of their volunteerism is demonstrated by the following.

> *Volunteerism has its positive and negative effects. The opportunity costs can sometimes be very high. It contributes to conflicts within households especially between couples. Some partners do not understand that we volunteer our services and expect that whenever we go out to provide community services, we should come back with something (I-2).*

> *The VHCs should be dedicated to the community. They should work in harmony for the good of the project (I-3).*

> *The dedication of the VHC plus that of the AMREF staff towards the project implementation has played a big role in the success. The VHC has been accepted by the community and have cultivated a good relationship together (I-6).*

> *The availability of the VHCs and their willingness to participate in the activities of the project played a big role in the success of the project implementation. The TOTs/CHWs created awareness in the community on family planning and, birth-*

spacing. The youth were counseled on reproductive health, HIV/AIDs and drug use (I-8).

The community was informed from the onset that they were going to volunteer their services towards the implementation of the project. It was in that spirit that the elections for the community representatives i.e. TOTS/CHWS were conducted.

The project empowered the TOTS/CHWS through training and awareness creation. Each village was empowered to begin a village database. They were each given a village health register and the trained TOTS/CHWS collected baseline data from all the households in their villages. The data that they collected covered all the demographic details as well as the socio economic status of each household e.g. household sanitation, food security, disease prevention, household members with disabilities, teenage pregnancies, etc. This data is periodically updated by the TOTS/CHWS. The information that is collected from the villages plus the updates is also maintained by the project within its database at the project offices (I-1).

Building of the capacities of the TOTs/CHWs to be able to provide services to members of their community was an aspect of the implementation.

The training that was provided to the TOTs/CHWs was in important ingredient for the success of the project implementation (I-7).

The investment of building the knowledge and skills of the TOTs/CHWs paid off since they collected useful information. This information was utilized by the project as well as other secondary users such as chiefs and their assistants for administrative, security and/or development purposes.

The information that is collected by the VHCs is not only useful to the project but to others. It can be used for by administrators to identify development issues such as education levels and gaps, security issues, food security, disease prevalence, persons with disability by household, etc. (I-3).

The village was divided into eight parts. Each of the eight TOTS/CHWS was assigned the households nearest to them.

In an effort to ensure that the TOTS/CHWS cover a small and realistic area given that they are volunteers each TOT/CHW was assigned an eighth of each village. By doing

so, the project hoped that the project activities were not going to adversely interfere with the TOTS/CHWS day to day personal socioeconomic activities. They owe their allegiance to a few households and in most cases these households include their relatives and immediate neighbors making it easier for them to take note of any activities that take place and update data for their assigned households (I-1).

The lead implementing agency (AMREF) partnered with as many stakeholders as possible as long they had a role to play in the implementation process of the project. The key partners were the community and government. The following excerpt demonstrates the level of partnership that existed between AMREF and the ministry of health.

AMREF does not have the technical support of its own. The ministry of health has the technical personnel, the drugs and the health facilities. When updated about any problems related to the provision of health services to the community, the ministry of health takes action accordingly. There exist goodwill from the ministry of health and the partnership is very strong. Ministry of health staff are the key actors (I-14).

The community sought financial resources from different sources through writing of simple project proposals in an effort to begin Income Generating activities (IGAS). All the pilot areas where the project was implemented have different types of IGAS some of which are doing quite well. Upon receiving training on how to write simple project proposals the community through the VHCs, have been soliciting for funds from various donors including the government. The government has played a leading role to this end through what is known as the constituency development funds. These are funds set aside by the central government and devolved to the constituencies for the purpose of rural development. Every constituency in the country is allocated a certain amount of money pegged on the poverty levels of each district.

The project has trained TOTs/CHWs how to write simple project proposals. These proposals facilitate them to access finances to start income generating activities in their villages. Some of them are doing quite well and are generating finances to the community (I-1).

Any organized community group (OCG) can access these funds as long as it applies for them through a well written and convincing project proposal. The OCGs can also solicit for funds from other potential donors. In this regard, the OCGs seek assistance from the ministry of Finance which has branches in every district. The ministry of finance advises the community

OCGs where they can send their development project proposals for financial funding. These community development projects have gone a long way in improving the livelihoods of many communities. It is a fairly recent idea arrived after the realization that the central government was not properly addressing the micro-development needs of its people. Those who accessed the funds generated wealth and consequently improved the socioeconomic status of their members. The IGAs varied in size and type depending on the interests and skills of the different OCGs. They have contributed immensely in supplementing the implementation of the CB-HMIS project. The following excerpts are a living testimony to the operations of the IGAs.

> *The IGAs strengthen cohesion of the VHC members and the community and enhances the sustainability of the project/partnership between AMREF and the community. (I-2)*
>
> *Kikwasuni village started a goat rearing project, a brick making project, a fruit and vegetable growing project through irrigation (I-4).*
>
> *Changamwe village in Mtito Andei village started a village bakery and growing of vegetables through irrigation (I-5).*
>
> *The community members organized themselves into groups, raised some cash and bought mosquito nets and construct latrines for households that did not have (I-8).*
>
> *Mbetwani village started a tree nursery and operates a merry-go-round (involves members contributing money, pooling together and giving to one of its members for a project) (I-9).*
>
> *Kalii village started a computer bureau at Kalii dispensary. The community members are trained computer literacy and they pay for the training which generates revenue for the project (I-12).*
>
> *It is frustrating for the OCGS when they fail to secure finances to start IGAs (I-7).*

These IGAs generate new wealth and have now become part and parcel of the project activities. Resources are/were utilized for various socioeconomic needs including health.

5.1.4 Financial resources

AMREF contributed the bulk of the financial resources that were needed for the implementation of the project. These financial resources were provided by external donors.

Other stakeholders did not contribute financial resources directly towards the day to day implementation of the project. However some stakeholders such as the government contributed towards the setting-up of Income Generating Activities within the community. It would have been almost impossible to successfully implement the project without funds as evidenced by study participant's I-5 and I-6.

> *AMREF provided the necessary stationery and allowances during training (I-5).*
>
> *Financial resources should be made available since the project cannot run without them (I-6).*

When asked what they thought were some of the key problems facing the implementation of the project, some study participants had this to say;

> *Another hindrance towards implementation of the project is the lack of adequate financial resources. This limitation is the one of the main factors hindering its scaling-up to other areas (I-14).*
>
> *Sometimes there was no logistical support such as transport or allowances from AMREF to undertake project activities (I-8).*

Apart from the financial resources, there were the non-financial resources. These included the human resources, equipment such as computers, phones, printers, photocopying equipment, office space and knowledge and skills of the human resources. These resources were utilized in various ways depending on their appropriateness. AMREF provided the key personnel who spearheaded the implementation. It is worth noting that the project staff was fairly small and comprised the project manager, an information technology officer, an administrative officer and a driver. However they got any additional logistical support from the AMREF office in Nairobi when the situation demanded.

5.2 THROUGHPUTS

This is the stage where the resources from all the partners interact with one another to produce outputs. However many factors come into play before any outputs can be realized. Having material resources alone is not enough. When human and material resources and the circumstances for production and maintenance are conducive then the system is said to be working. This involves a basket of inputs, leadership, roles and structures, communication, the environment etc. The outputs can either be positive or negative. The direction is

determined by one or several factors listed here. Both negative and positive outputs are useful in that while the positive outputs provide testimony that indeed the inputs are interacting positively, the negative outputs can be used to improve future outputs.

5.2.1 Communication

Effective and regular communication is one of the key pillars that hold a partnership together. Without it, it is almost impossible to maintain effective functioning in a partnership. Communication within the current context was of various types. There was communication between the implementing agency, AMREF and key partners such as-: government departments at the district level and other stakeholders, national office AMREF in Nairobi, the TOTS/CHWS and the community, TOTS/CHWS and the implementing agency, TOTS/CHWS and government departments at the district as well as other stakeholders, AMREF project and the entire community, the donor community, etc. This communication was in the form of telephone conversations, emails, letters, formal and informal discussions, face to-face discussions during meetings, workshops, seminars, public administrative meetings organized by the government, etc.

> *The assistant chief was contacted by the AMREF project and informed about the impending project. Later the assistant chief called a meeting where the whole village was informed about the project and its objectives (I-2).*

Important as it was to communicate, there were some problems.

> *At times there was no communication from AMREF to the VHC. (I-8)*

> *Sometimes we cover long distances especially where some households are sparsely distributed. It would be a good idea if we were provided with bicycles. This would facilitate communication (I-13).*

However, in the current context, the most extensive mode of communication took place between the TOTS/CHWS and the community. It was/is the backbone of the project. As stated earlier in this report the main ingredient that went into the implementation of this project was information and awareness creation of the grassroots community. The process of communication started with the TOTS receiving training from the AMREF project in partnership with other stakeholders such the ministry of Health and other government

departments. After the initial TOTS were trained by AMREF, they trained CHWS under the supervision of AMREF.

The trainees were community representatives and each village selected its own trainees. After a particular village was trained, the trainees participated in training the subsequent village under the supervision of AMREF and the initial TOTS. The initial villages which were directly approached by AMREF were six. The training started in 2004 and continues to this day. For the purpose of this report we will cover those that were trained between 2004 and 2008. Training was undertaken in fifty-five villages as at the end of 2008. The initial TOTS were trained in the basic skills of data collection, processing, analysis, interpretation, use of the data for decision making (Refer to figure 5).

> *After the elections were conducted at the village, the names were forwarded to the Kibwezi AMREF office. Training on data collection was provided to the new VHC members. The training was on diseases and methods of prevention, basic hygiene practices such as boiling drinking water, construction of latrines, use of ITNS for the prevention of malaria, importance of immunization for the under five's etc. Facilitation was by AMREF project staff and ministry of Health staff (I- 4).*

The TOTs were also trained in project implementation as well as quality control techniques for training programs. The CHWS received only the basic training. They were also trained in writing simple project proposals and running small-scale businesses. As a result of this training, there are many Income Generating Activities (IGAS) within the area that the various communities have initiated. The IGAS are of various types and magnitudes and they are spread all over. They vary from merry-go-rounds, tree nurseries, goat rearing projects, community bakeries, chicken rearing, etc. The TOTs/CHWs were trained in a variety of issues as shown by the following excerpts.

> *The project has trained TOTS/CHWS how to write simple project proposals which facilitate them to access finances from various donors. There are many IGAS operating within the community. They range from tree nurseries, goat keeping, fruits and vegetable farming, chicken rearing, computer bureaus, a community bakery and a merry-going activity (I-1).*

> *The TOTs/CHWs were trained in IT and the use of Personal Data Assistants (PDAs) by an organization known as 'AFRI-AFYA'. It is a non-governmental organization*

which came through AMREF. Their training has contributed positively towards the success of the project (I-2).

May be one of the most important conduits of communication could have been the TOTs/CHWs upon training between the project implementers and the community. The fact that there was/is little or no gap between them and the community played a very significant role in understanding the concepts of implementation strategy. The following excerpts bear that testimony.

The fact that the TOTs/CHWs were trained, and they in effect sensitized the community, a baseline survey conducted in their village has contributed in the community understanding their health status. This is an important aspect of the project implementation (I-9).

After the baseline survey in the village conducted by the TOTs/CHWs, they gave a feedback about their findings. This enabled the community members to realize their health problems and the gaps that existed. After about four months the village was given a village health register and trained on how to fill it (I-2).

Creating a working relationship between health facility workers and the TOTs/CHWs was rather difficult during the initial stages of implementation. However this improved over time and the health facility staff slowly accepted that the TOTs/CHWs were making their work easier since they were all serving the same community. In the initial stages of the project, the referrals from the TOTs/CHWs were not recognized at the health facilities despite the two groups having had been inducted together by the project.

The community has been taught by the TOTs/CHWs ways to identify symptoms of common diseases such as malaria. They have also been sensitized to seek for health services from the nearby health facilities. The TOTs/CHWs also refer those who need treatment to the nearest health facilities and provide them with referral forms. Those who cannot afford cost-sharing fees are also identified at the village level and referred to the health facilities for treatment (I-8).

Other problems encountered in communication were between the TOTs/CHWs and the community as shown by the excerpts from participant's, I-2 and I-3

In some areas, there are mixed feelings about the project (I-3).

Some community members particularly those who felt they were of higher social status than the TOTs/CHWs looked down upon them and wondered what they could offer. However, when they saw results within the community they accepted them (1-2).

5.2.2 Leadership

Leadership is defined as a process of social influence in which one person is able to enlist the aid and support of others in accomplishment of a common task [63]. The quality of leadership more than any other single factor, can determine the success or failure of an organization. In this regard, AMREF provided the institutional leadership required to spearhead the implementation of this project. Being a respected and leading non-governmental organization which has built a strong reputation in the region and in the country made this task less daunting. Participant I-9 could not have summed it better,

AMREF, the lead implementing agency has built a good relationship and trust with the community over time (I-9).

Leadership is a very important component in a partnership. It can either make or break a partnership. In the current context leadership manifested itself in various forms. There was leadership such as within the villages by the different cadres of government officials like the chiefs and assistant chiefs. At the village level, there was leadership by the TOTs/CHWs village chairmen and the village health committees.

The village elder coordinates the activities of the project at the village level. He is very important since in case of any problem(s) he convenes a village meeting and resolves any problems. He also reports problems which he cannot resolve to the assistant chief He is the assistant chief's linkman (I-2).

There was also leadership cum collaboration by the officer's in-charge of the nearby health facilities. All these forms of leadership contributed in one way or the other in producing results for the implementation of the project. Participant I-3 summed it thus;

The leadership provided by AMREF, the collaboration that exists between it, the community and the ministry of health (I-3).

The background of the person embodying the AMREF leadership is worth mentioning. He has many years worth of experience working both in the government as well as an AMREF employee. This helped in a big way since he is conversant with how both organizations

function. His educational background was also an important factor. He holds a masters degree in health sciences and additional qualifications in health information systems management. This educational background coupled with many years experience was not only essential and necessary but an important ingredient in understanding and implementing the project effectively.

Leadership can be manifested in a variety of ways. Categories of people chose to provide leadership which played a significant role in the implementation of the project as the following participants ascertain.

> *The TOTs/CHWs have been organizing community members to construct pit latrines especially for the elderly and the needy (I-8).*
>
> *The spirit of volunteerism has contributed in a big way towards the successful implementation of the project (I-13).*
>
> *The VHC invites other stakeholders to our village to solve various problems affecting us, which is a very good gesture (I-13).*

Perhaps the best example of leadership is by example. When leaders do so, those led find it easier to follow suit. Community members were able to easily learn from the VHCs since there was proof in what the VHCs were doing as participant I-2 attests.

> *VHC members should lead by example i.e.by maintaining clean households, practicing good hygiene such as boiling drinking water, use of mosquito nets, etc. A member of village health committee must be properly versed about the objectives of the project to be effective in his/her work. If you go to some households without being properly prepared about what you are going to tell them, they request that you leave. He/she should also be a good role model within the village/community. You cannot go telling members of the community about constructing latrines or acquiring ITNS when you don't have one yourself (I-2).*

There was a set criterion for selection of the Village Health Committee (VHC) members who are also referred in this report as TOTs/CHWS. This criterion was set and agreed upon between AMREF, the community and the key stakeholders. Part of the criteria was that-: (i) they should be acceptable and accessible by the community that they serve (ii) they should be literate i.e. should be able to read and write in English, Kiswahili and the local language (iii)

should have good public relations (iv) they should be outgoing (v) they should be people of good morals within the communities that they live etc.

> *Other community members see the benefits that the VHC members realize as a result of the new practices associated with the AMREF project and they follow suit (I-2).*

Not all the TOTs/CHWs had the same motivation and willingness to provide services to the community. Some began on a high tempo but later declined. There were various reasons for this kind of behavior ranging from unfulfilled personal expectations to failure to see instant results from their interventions. Others were simply not committed as shown by the following excerpt.

> *Some CHWs lack commitment to provide services (I-8).*

Lack of commitment by CHWs was a serious setback towards the implementation process. It did not only set a bad precedent to would be aspirants within the community who would have opted to join but also weakened the morale of those who chose to serve.

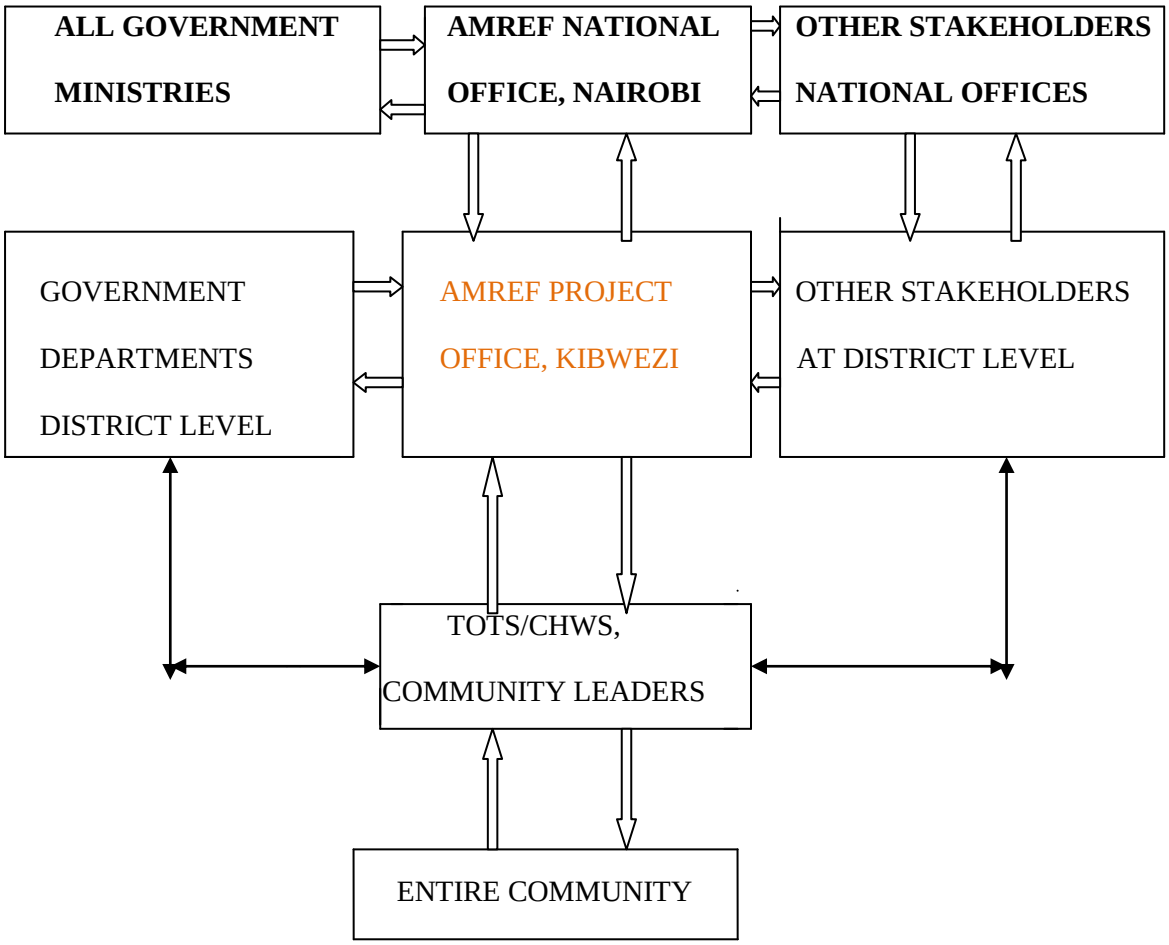
5.3.0 Roles and structure

Roles and the structure of the Kibwezi CB-HMIS project

The roles and structure of the project are as shown in Figure 4 AMREF's project office spearheaded the implementation of the project. This was mainly achieved through community mobilization and collaboration with other stakeholders. It ensured that all the required resources were in the right time and place to facilitate the implementation. One of the key activities that AMREF undertook was to facilitate training of TOTS/CHWS and that retained the newly acquired knowledge. This they did by way of undertaking continuous monitoring and evaluations. They ensured that project activities were done according to the project implementation objectives e.g. ensuring that reliable data was collected and maintained in the village health registers.

The community entry process was through the chiefs and their assistants who are the gate-keepers in every community in Kenya. After this, the local administrators organized for community meetings where the idea of the project was explained by AMREF in the presence of the local administrators.

Figure 4: Structure of the Kibwezi CB-HMIS project



However there were categories within the community structures which had to be represented since they play key roles in most community socio-economic development initiatives.

> *Persons to be involved included Traditional Birth Attendants (TBAs), village elders, church leaders and other opinion leaders. The leaders were given a one-week's training. After the training, they identified a pilot village. After identification of the pilot village, the village was again called for a subsequent meeting where eight representatives i.e. TOTs/CHWs were democratically elected. A balance between gender and ages was taken into consideration (I-8).*
>
> *The role(s) that the community needs to play in the implementation of the project need to be clearly spelt out to them from the inception of the project for the good of the project (I-9).*
>
> *TOTs who were trained participated in the training of subsequent villages. They also supervised the data collection. Each new CHW was paired with an experienced*

TOT/CHW during the baseline data collection to ensure that they did the right thing. They also participated in the validation of the data together with AMREF staff (I-7).

The role of the TOTS/CHWS was to participate in training of the community based on the project's implementation strategy. The TOTS were also supposed to supervise the CHWS during data collection, processing and analysis especially during the initial stages. During training workshops, the TOTS played a very active role of training the CHWS while the AMREF project staff did the quality assurance. AMREF project office ensured that the data collected was periodically organized, summarized, processed, analysed and interpreted. The community was provided with monthly feedback based on the data that they collected. The AMREF national office was also given a monthly progress report as well quarterly and annual reports about the implementation.

After the training conducted by AMREF, the TOTs/CHWs were assigned their roles in the community. They did a baseline survey in the village where they collected information on various issues (I-4).

Since we were trained together with health facility officials, they collaborated by way of accepting referrals cases from the community (I-9).

The TOTs/CHWs are best suited in educating the community since they are part of the community and they live are part of the community and understand the community's problem's better than anybody else (I-12).

5.3.1 Training Programs for various Categories of Stakeholders

In an effort to ensure that as many stakeholders understood the objectives of the implementation strategy, AMREF in collaboration with the ministry of Health conducted extensive training activities within the project area. The training was on various aspects such as-:

(a) Training facility based health workers on disease surveillance and referral systems, strengthening rural health facility governing structures and mechanisms of targeting the poorest of the poor within the community. This training targeted nurses, medical records officers/technicians, public health officers/technicians, rural health facility committees, nursing officer in-charges of the rural health facilities, social workers and community based rehabilitation workers for the disabled persons. The philosophy of providing this training was

to build a critical mass of well qualified health facility workers to collect, summarize, compile, analyze, disseminate and make use of information effectively

(b) Training for rural health facility workers in health management information system targeting, clinical officers, nurses, medical records officers/technicians, community clerical officers and non-governmental health facility staff. The philosophy of providing this training was to build a critical mass of qualified health facility workers to collect, summarize, compile, analyze, disseminate and make use of information effectively

(c) Training for community health workers on diseases surveillance, referral systems, strengthening community governance structures, community based-health management information systems and on mechanisms for targeting the poorest of the poor within the community. This training program targeted traditional birth attendants (TBAs), community based distributors of contraceptives (CBDs), traditional herbalists, church leaders, village health committees, assistant chiefs, public health technicians, dispensary committees, community based organization (CBO) community social organization (CSOs) representatives, health centre committees and community based-health management information system committees. The philosophy of providing this training program was train a critical mass of community workers to promote and enhance better health care for all community members in taking health as their own responsibility and liaising with health workers at the rural health facilities for prompt action and for better health services

(d) Training for community health workers and health facility staff on community based-health management information systems and software applications. This training specifically targeted community health workers (CHWs), rural health facility in-charges, and health records officers and technicians. The philosophy providing this training was to build a critical mass of health facility staff and community workers well qualified to collect, summarize, compile, analyze, disseminate, and use information emanating from both CB-HMIS and HMIS

(e) Training for community health workers in community based health-management information system. This training program targeted village elders, community health workers, representatives of faith based organizations, representatives of civil society organizations, community health extension workers and assistant chiefs. The philosophy of this training program was to build a critical mass of well qualified community health workers to collect, summarize, compile, analyze, disseminate and make effective use of information.

All these training programs were undertaken in different but appropriate venues. They were also undertaken in appropriate environments conducive for the various types of training programs and with the appropriate equipments such as computers or other equipment(s) as the needs demanded. The training programs were coordinated by the leading implementing agency (AMREF) in collaboration with other key partners such as officers from the ministry of health. Consultant trainers were also hired in areas which the key implementers did not have the necessary expertise. Training curriculums for each training program were designed to ensure that they conformed to the project implementation guidelines (Refer to training curriculums in appendices).

> *We ensured that the community appreciated the project as their own and that we were simply facilitators who would be there for some time and then leave. They were thus trained on collection, processing, analysis, interpretation and decision making based on the information (I-1).*
>
> *Mothers of child-bearing age were trained on basic reproductive health (I-7).*
>
> *The project has built the capacity of CHWs through training and in effect the CHWs are transferring the knowledge gained to the community. This process has contributed a pragmatic way of addressing community problems (I-12).*

Figure 5 is a schematic representation depicting how the training package was delivered from AMREF, to the TOTs then to the CHWs and subsequently to the communities in the villages. As can be seen from the figure the training began in 2004. The trainings for the TOTs/CHWs were coordinated by AMREF in collaboration with the partners. The training is an ongoing activity but this report covers those trained up to the end of 2008.

Villages V1, V2, V3, V26, V30 and V45 were identified directly by AMREF. This is because as the figure shows, they are from different administrative areas known as sub-locations. After AMREF identified a particular village within a sub-location, the rest of the villages were identified by the first village and the process continued until all the villages were exhausted in that particular sub-location. During the training and baseline surveys in each of the villages, the TOTs/CHWs from the neighbouring villages which had received training paired with the new trainees. This process was to ensure that the CHWs in the new villages understood all the details of the training. The TOTs from the six initial villages were provided with training in basic concepts of the implementation strategy i.e. technical aspects such as household

sanitation, food security, data collection, etc. They were also trained as trainers of trainers (TOTs) which meant that they participated as trainers during the training. Finally, they were also trained in training quality control. This means that they participated in the training quality control of other villages in collaboration with AMREF and other partners during all training programs.

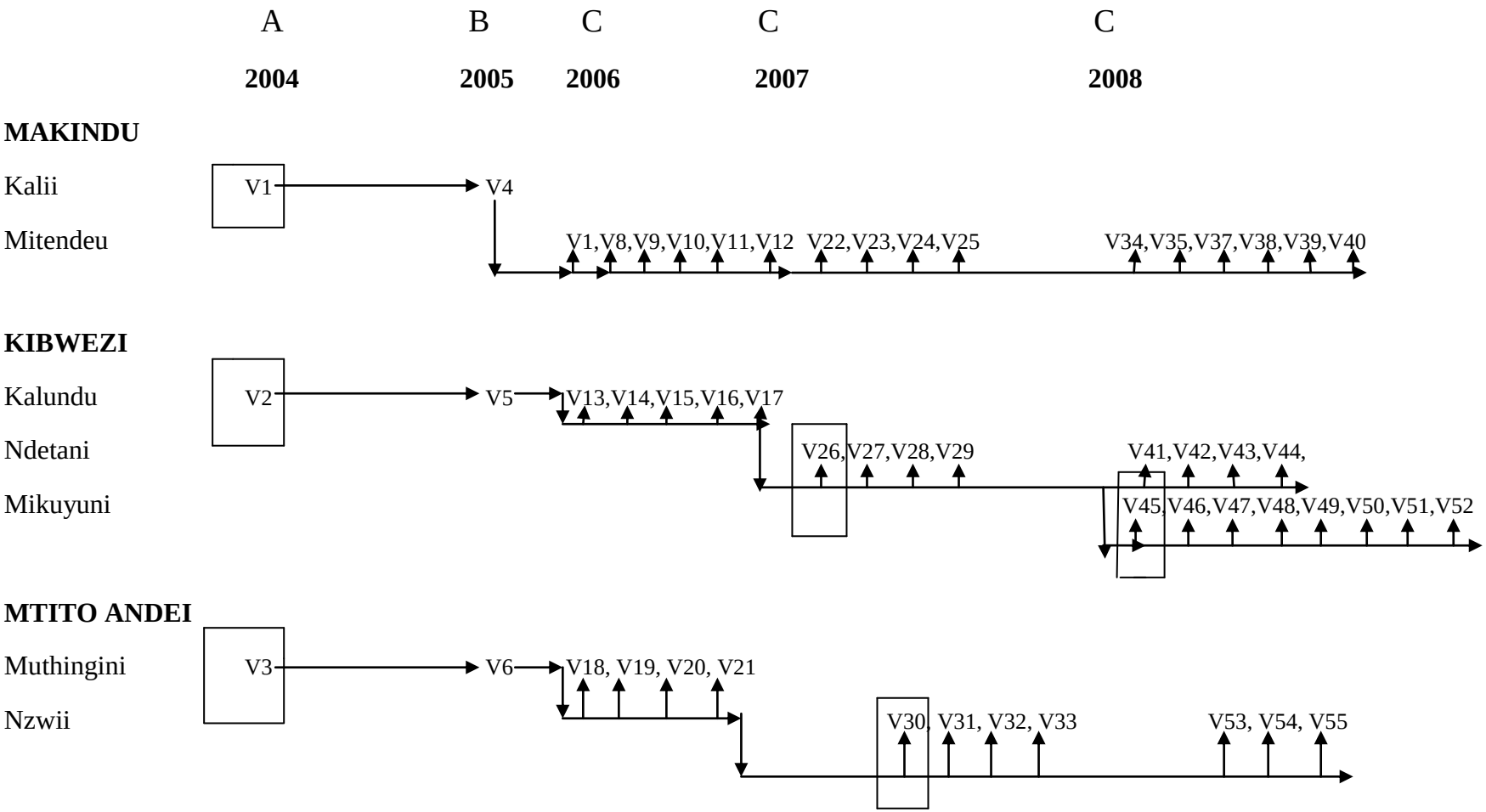
The beauty of training TOTs who later participated in the training of other CHWs is that after training and practicing of what they had learnt in their respective villages as well as other villages, they were in a position to identify practical issues/problems related to the training package. This assisted in improving the quality of the subsequent trainings as well as assisting in the revisions of the training programs. In conclusion, six villages all the levels of training i.e. basic, intermediate and advanced while forty-nine villages received only the basic training. As at the end of 2008, almost all the seven sub-locations i.e. Kalii, Mitendeu, Kalungu, Ndetani, Mikuyuni, Muthingini and Nzwii had achieved 100 percent training.

The government played several important roles through different departments e.g. the provincial administration provided an enabling environment for the implementation, they also provided security when required to do so. Other key roles played by the government included providing health services to the community through the ministry of health as shown by I-14,

> *The community was able to identify through the data that they collected households where children had not been immunized. After identification they were able to call upon the health workers and those children who had not been immunized were immunized and this raised the immunization coverage (I-14).*
>
> *The ministry of health worker's, are the key actors when it comes to implementation particularly when they are provided with information that requires action. They have the technical knowhow as well as the drugs which AMREF does not have. Of course this is made possible because of the cooperation of the community (I-14).*

They also played the role of community mobilization through chiefs and assistant chiefs. Active participation by the government in the project implementation played an extremely important role. The community gained confidence that the project was indeed important due to the support that it received.

Figure 5: Project dissemination map by division and village



There are 3 Divisions i.e. Makindu, Kibwezi and Mtito Andei. Under the divisions are the sub-locations and then the villages marked as 'V'. The villages enclosed in the boxes were selected directly and trained by AMREF. The rest were trained by the respective villages as shown.

This support catalysed support from other stakeholders including periphery ones which augured very well for the successful implementation.

> *The TOTs/CHWs should be supervised by officers working in the nearest health facilities for proper coordination of the services that they provide to the community (I-12).*

The ministry of roads ensured that the existing road network was properly maintained and new one's erected when the need arose. The ministry of culture and social services registered Organized Community Groups (OCGS) to formalize their activities within the community. The ministry of water provided water when and where it was needed. This involved the rehabilitation of malfunctioning water projects as well as through innovative water harnessing such as roof catchment during the rainy seasons. The ministry of Education through the schools within the project site participated by way of training pupils and students on Personal Hygiene, Sanitation and Health Education (PHASE). This is a long-term strategy which educates pupils and students in schools through health clubs.

The ministry of Agriculture provided education to the community on farming techniques as well as appropriate irrigation practices. These interventions assisted in ensuring that there was adequate food both for subsistence and for sale. Figure 6 below shows vegetables and fruits grown by members of an Organized Community Group (OCG) through a small-scale irrigation project.

Figure 6

The group grows enough for their own consumption and sell, the surplus produce in the local market. The community was also advised on food security, post-harvest storage and nutrition by the ministries of health and Agriculture respectively. The ministry of Finance advanced loans to the community through project proposals written by the community. It also provided them with technical advice on investments.

> *Kikwasuni village started a goat rearing project, a fruit and vegetable growing project through irrigation (I-4).*

Other key partners included the Non-governmental organizations (NGOS) as well as Faith based organizations who ran health facilities and who collaborated by way of providing health services to members of the community.

5.4.0 OUTPUTS

Outputs are the fruits or results of the partnership context. They result from either the positive or negative cycles of the partnership. There are three types of results, the synergistic results, additive results and antagonistic results. Each of the results will be discussed in detail hereafter. The focus of the results, are biased towards the health of the community.

> *Health is a very important investment. It contributes to positive development. When I call for meetings many people attend because they are healthy (I-3).*

5.4.1 Additive results

Additive results are those which do not enjoy benefits of the partnership context. In short, additive results are those that would have been realized by a single partner without necessarily involving the services of an outside partner. Whether other partners played a role in their realization, they would still have occurred anyway. In the current context, there are results which could have been realized through the participation of AMREF on its own e.g. providing training to the community. This is because similar results have been realized in many other AMREF projects where partnership has not played a significant input. When community members are properly trained, certain change(s) are/is expected to take place. The prevalence of certain diseases such as malaria has reduced which is attributed to the intervention of the project as shown by excerpts I-7 and I-8,

> *There were many diseases before the implementation of the project. They have now been significantly reduced. This reduction can be attributed to the training the*

community has received on good hygiene, use of ITNs, importance of delivering in health facilities, good environmental sanitation etc (I-7).

Cases of malaria have reduced as a result of the widespread utilization of ITNs (I-7).

The prevalence of drug abuse has reduced and the use of condoms has increased among the youth (I-8).

The realization by the community about its health status through sensitization triggered the beginning of kitchen gardens and the improvement of post-harvest storage. The nutrition of the community has improved which is a good health investment. This can be attributed to the intervention of the project.

Community sensitization about its health status by the TOTs/CHWs has contributed to the community taking appropriate measures to improve its health status (I-9).

Most households have started kitchen gardens and vegetables are readily available. The vegetables play a big role in improving their nutritional status I-4.

Food security has improved as a result of the community improving their post-harvest storage (I-8).

5.4.2 Synergy results

Synergistic results are unique. They cannot be realized without enhanced partnership interaction. They can only be realized in an environment which is favourable for positive growth i.e. where good leadership is practiced, where the right policies prevail, where the internal and/or external environments are favourable, etc. In summary, synergy can only be realized when all the resources are put to optimal use for the good of the partnership. The results from such a partnership surpass the additive results of all the individual partners. This could be best be described by the statement ‘unity is strength’.

The project has done very well since it has succeeded in partnering with key partners during its implementation such as the ministry of Health through the District Health Management Team (DHMT), the provincial administration and other community partners such as CBOs. The CB-HMIS is a part of the integral part of the government community strategy. It is part of the national health sector strategic health II which emphasis on accessing quality health care to the people and empowering the people to

be responsible for their own health. This project has really sensitized us and it has given us baseline information which has helped us to realize where we currently are. We should not just stop there (I-14).

In my opinion the most important synergistic result was the scaling-up of the pilot project. This includes expansion from the initial villages within Kibwezi and to the other districts.

Scaling-up of the pilot project

The definition and objectives of scaling-up in detail have been undertaken in chapter 2. However it has briefly been re-visited here. Scaling-up is defined as broadening the use and impact of existing or new practices. It can also be defined as an effort or efforts to increase the impact of an innovation successfully tested in a pilot or experimental project. The ultimate objective of scaling up is to benefit more people and to foster policy and program development on a lasting basis. There are two types of scaling-up here. The first is the expansion of the project activities from the initial six villages identified by AMREF to the fifty-five villages within Kibwezi district beginning 2004 to the end of 2008. The second type of scaling-up is the expansion of the entire Kibwezi CB-HMIS pilot project to other parts of the country. The first scaling-up of the initial villages has been described in detail under the sub-title 'Roles and structure'. The second scaling-up to other parts of the country is what is discussed in this chapter.

Two key participants felt that since the Kibwezi pilot project had already succeeded, it should be scaled-up to other parts of the country with similar health challenges. This was indeed the initial goal of the pilot project. The following participants strongly felt that the project should be scaled-up to other parts of the country so that they too can experience the benefits which the Kibwezi community is enjoying.

The project should be expanded i.e. it should not be stopped since it has assisted in unearthing many problems such as education gaps, disease prevalence, immunization gaps, food insecurity and how these problems should be solved (I-3).

Mainstreaming of the CB-HMIS to the whole country would be a good idea using Kibwezi as the pilot i.e. this should be part and parcel of all health workers duties in the country. Places like Kajiado which is a neighbouring district, other districts in Eastern province, Turkana district in Rift Valley, or North Eastern province districts

which are Nomadic would be very ideal for scaling-up since they have similar characteristics (I-14).

The TOTs who started with the pilot project should participate in other areas where this initiative has not been initiated. This is because the project improves the quality of lives of the communities and it should be scaled-up to other parts of the country where people have similar problems. With this kind of initiative, Kenyans can benefit immensely (I-9).

The project is currently being implemented in three other districts i.e. Busia, Nairobi and Oloitokitok. Two of the three districts i.e. Busia and Oloitokitok are rural districts. Oloitokitok has similar characteristics as Kibwezi and was recently carved out of Kajiado district which neighbours Kibwezi. Busia district has fertile soil and majority of the people are crop farmers as opposed to Kibwezi and Oloitikitok districts who practice mixed farming. In Nairobi, it has been scaled-up in one of the biggest slums in East Africa known as Kibera slum. What is common in all these areas, is that the communities living there have little or limited access to health services. It will be interesting to see how it will fair in the three areas particularly in Nairobi which is an urban set-up and thus diametrically different from the other two. The improvement of household sanitation and the doubling of the number of mothers delivering in health facilities is a step in the right direction, participants I-2 and I-12,

The project has successfully been implemented. It has succeeded in majority of the objectives it intended to address such as on disease prevention. The use of insecticide treated nets (ITNS) for the prevention of malaria is widespread, latrine coverage has improved, food security has improved, and the community has been empowered to solve its own problems (I-12).

The delivery by mothers in health facilities has increased from about 36% to 67% as a result of the project intervention (I-2).

There were results which were not directly health oriented but which contributed to the well-being and subsequent improvement of the health and quality of life of the community.

A group of 15 villagers are growing vegetables and fruits on a joint project through irrigation. The fruits and vegetables they grow are consumed by their families and the surplus is sold to other villagers. They have also started a goat rearing project which is located in one of VHCs home. This contributes to economic empowerment (I-4).

Figure 7

Immunization of the under five's has improved considerably due to TOTs/CHWs organizing outreach clinics. It was at 68% during the baseline but currently it is at 99%. Pit latrine coverage has increased 72% the baseline to 87% currently in the village (I-8).

Immunization coverage has increased from 70% to 98% and this can be attributed to the project (I-7).

IGAs are an important ingredient and can be a strong factor for sustainability. The community is already united and benefiting economically from the IGAs. The outputs accrued from the IGAs address many socioeconomic needs including health (I-14).

Figure 8

The project contributed to some interesting but nevertheless useful by-products. One of the initial TOTs who participated very actively in the implementation activities of the project got elected as a councilor. As a result of participating in training many TOTs/CHWs within his sub-location and beyond, he became very well known. He began the project activities in 2004 and by 2007, he had been so well known. He seized that opportunity and decided to run for office. He went through and till this day he continues to actively participate in the activities of the project. He has been nicknamed the 'father of the project'. He personally attributes his election to his involvement in project activities and is indeed very grateful. During the interview he was very excited and hopes that the project will be scaled-up nationally.

He reckons that those who were involved in the pilot intervention activities should be involved in the national scaling-up process since they are conversant with the pros and cons of the implementation strategy. The councilor attributes the successful implementation of the project to the good reputation that AMREF has built over the many years in Kibwezi. He plays a significant role in advocating for the project and in mobilizing resources for its implementation and development. He is a living example of what positive collaborations can achieve.

5.4.3 Antagonistic results

Antagonistic results refer to results which are less than all the partner inputs put together. Put differently, these outputs are much less than what the partnership process would produce. The partnership is therefore not of any significance. It should otherwise never have occurred since it contributes to zero or negative outputs. It contributes negative interaction of both material and/or human resources. Perhaps the best description is loss in a business scenario i.e. where nothing or negative results are realized from an investment.

Poor maintenance and lack of repair of IT equipment in one of the community IGAs is a case in point. This may have been a case none of the partners not taking it upon themselves to have it repaired because of an attitude of 'why me and not the other'. Since the equipment was used by both the health facility staff and the community, either or one of the partners should have taken it upon themselves to have it repaired. This was a case of negative partner interaction,

> *There is poor maintenance of the IT equipment. The printer in the resource centre broke down some time ago and has not been repaired (I-12).*

Some village health committee dropped out in several villages after they realized that some anticipated personal benefits such as allowances and/or employment opportunities from the implementing agency were not forthcoming. In some villages, selection of the TOTs/CHWs was not democratically executed. Some village chairmen, chiefs or their assistants influenced the selection of their relatives or friends. In some cases those selected were also not literate contributing to poor performance. This led to overworking of those who met the selection criterion and did not augur well for the project implementation. These tainted representatives were not accepted by the community and in most cases their performance was below expectation. Dropping out of TOTs/CHWs was one of the most depressing actions in the implementation process since it did not only create a bad precedent but contributed to low morale and de-motivated those who remained. Reasons for dropping out were varied but this seriously the implementation process as can be seen from the following excerpts.

> *Some of the VHCs dropped out and this affected the smooth running of the implementation. The transition period between the time when they drop out and the when they are replaced is very trying since there is a lot work especially the data updates and validations. Valuable training resources are lost when those trained drop-out (I-13).*
>
> *Dropping out of some TOTs/CHWs contributes to low morale for those who remain. This leads to lower outputs and overburdens those who remain especially before replacements are made (I-8).*
>
> *Two of the VHCs dropped out after one year (I-2).*
>
> *Five (5) VHC dropped out due to unmet personal expectations (I-6).*

Drought is a perennial occurrence in Kibwezi the area being semi-arid. The community undergoes untold suffering during these periods. This is contributed by erratic rains leading to crop failure. Water becomes scarce and people have to travel long distances in search for it. In some cases, the government distributes relief food either directly or through non-governmental organizations such as AMREF. The community has been attempting to store rain water in earth-dams but there is a limit to how long the reserves can last. There are some piped water projects initiated by several organizations but this has not covered everybody.

There is little or no participation by the community in project implementation activities, especially during drought periods. The community concentrates on survival i.e. looking for food and water (I-3).

The community had an expectation of food hand-outs at the beginning. AMREF had previously been involved in food distribution and some associated the new project with food distribution despite explanation that this was a different project (I-4).

The VHCs had a difficult time during the drought culminating in feeling of helplessness particularly when there is no solution to the food insecurity problem. This problem is exacerbated by poverty and few sources of livelihoods. It de-motivates the VHCs (I-8).

There were varying reasons ranging from poor monitoring of project activities by the TOTs/CHWs, to lack of unity amongst themselves. However these are common phenomena and most development projects suffer similar setbacks. Following are some negative cycles of interaction.

Sometimes there is lack of proper monitoring of project implementation activities I-6.

There was lack of unity of purpose among the VHCs leading to poor implementation results (I-8).

Some of the VHCs are not good role models and this works negatively for the project making them ineffective (I-14).

Lack of cooperation between the VHC and the community contributes can be a source of poor results (I-9).

The community at times insists on the recruitment of unsuitable CHWs e.g. those who cannot read or write or not committed to community service (I-8).

Lack of motivation can contribute some negative aspects during the implementation of a project as is evidenced in the current scenarios. Providing motivation especially monetary can create a bad precedent for the future especially where volunteerism is anticipated. There are pros and cons especially too when one considers sustainability of the project. Some of the TOTs/VHCs with false expectations were discouraged when their expectations were not met as seen in the following.

Some of the VHCs have false expectations. This works against the spirit of the project implementation leading to poor outputs and/or drop-outs (I-14).

Lack of logistical support by the project particularly on issues like transport and/or allowances is a hindrance to the implementation of the project (I-4).

In some villages/sub-locations, the provincial administration was not very supportive of the project activities. This was due to a variety of reasons. Some members of the provincial administration may be new and may not be aware of the objectives of particular projects.

The assistant chief was not supportive of the project activities. This affected the collaboration of some community members (1-5).

Political interferences both from local politicians and/or from some senior politicians who may wish to gain political mileage from the project activities may yield negative results. The following participants experienced examples of such interferences.

Political interference in running the project activities can contribute to negative results (I-10).

Failure to update partners about the activities of an on-going project is a serious error of omission. This did not augur well for the development of the project. However, it is both an expensive undertaking and at times information may not reach every partner on time.

Lack of continuous sharing of information about the project and joint decision making can contribute to antagonistic results. Sharing of information avoids duplication of efforts amongst stakeholders (I-11).

Sometimes there is lack of proper communication and cooperation between AMREF, other stakeholders and the community (I-6).

Some of the stakeholders felt left out of the implementation process and did not take the issue kindly. Prior to the project intervention, a good proportion of the community received health services from herbalists since they were closer to them than from the static health facilities.

Not all stakeholders were properly involved in the implementation of the project e.g. the Ministry of water, ministry of education, herbalists and traditional healers. Prior to the implementation of the project were playing a significant role in addressing the

community's health needs. They feel isolated and this does not augur well for the implementation of the project (I-12).

Clear operation guidelines have no substitute in a partnership. This is a reference manual for every partner in relation to a common undertaking such as the Kibwezi CB-HMIS community project. When it is present and/or unclear, partners are left in the dark

Failure to develop and operationalize clear partnership guidelines with stakeholders contributes to ambiguity and lack unity of purpose. There are no terms of reference for stakeholders (I-14).

At the beginning of the project, some of the households who were not sure about the objectives of the project were skeptical and withheld personal information from the TOTs/CHWs. However this is expected with any new undertaking.

Initially, some households did not feel free in providing information about their backgrounds to the VHCs particularly during the village baseline survey. They felt that the VHCs were prying into their privacy and they feared that they would pass on the same information to other villagers. This however improved with time (I-5).

Some TOTs/CHWs felt helpless when they encountered medical emergencies during home visits while collecting data. Personally, I feel this is a sensitive issue since it deals with the health of individuals. One is tempted to ask if the TOTs/CHWs have the capacity to handle medical emergencies. It is an issue beyond the scope of this study but which nevertheless came up several times.

The TOTs/CHWs feel very discouraged whenever they visit household members and encounter medical emergencies. They feel helpless and wish if they would have been trained to provide basic first-aid they would be more useful to the community (I-6).

6.0 DISCUSSION AND CONCLUSIONS

Partnership is a process where different parties faced with a common problem come together in search for the best solution. Partnership helps in broadening a single party's limited vision of what is possible. It based on the old adage that 'two heads are better than one' and that one by itself is not good enough [16]. Partnership is building and nurturing positive relationships for a common purpose. It requires mutual understanding, sharing of concerns, being in agreement, including agreeing to disagree. It requires openness to one another's strengths and weaknesses and tolerance. Those involved in partnerships can be individuals, groups, organizations, governments with other governments, governments with its people such as the partnership existing between the Kenya government and the Kibwezi community, etc.

When partners generally benefit equally from their relationship, they tend to be more enduring and high performing [12]. Partnerships are not a panacea to all the problems facing mankind. However it is an emergent phenomenon that is increasingly being embraced by many parties to seek solutions to the myriad problems facing them such as community development, environmental protection, conservation, disease prevention, commerce, poverty reduction, behaviour change such as alcohol and/or drug abuse, etc. Different parties come together when each realize that the problem at hand cannot be solved by any one of them alone. This was what dawned on AMREF when it realized the problem facing the Kibwezi community. It also realized it could not resolve the problem alone and therefore invited other stakeholders.

Partnership however has been in practice since the biblical times. Joseph in the bible [64] reassures his brothers that God will surely come to them, and will bring them out of Egypt to the land of promise. In this bible story Moses is used by God to bring out the Israelites from bondage. God partners with many people to rescue Moses and nurture his life as well as with the Israelites in their quest to get out of Egypt[65].

In the current context, AMREF's vision is-: 'to improve the health for the people of Africa.' Its mission is-: 'to ensure that every person in Africa enjoys the right to good health by helping to create vibrant networks of informed and empowered community and health care providers working together in strong health systems'[66]. These objectives correlate positively with the mission of the current project which aims-: 'to empower communities to actively participate in improving its own health. It aims to do this through the creation of vibrant networks of stakeholders, partnering with the community and empowering health care

providers' [46]. The Kibwezi CB-HMIS uses information and health education as its key intervention strategies and CHWs as its change agents. Those who struggle to improve and save the lives of the downtrodden and the marginalized play the role of partners. They do so as institutions such as AMREF or as individuals such as the many TOTs/CHWs who volunteer their time, skills and other resources.

The Alma Ata declaration emphasized that health and health care begin at the household level, and that the community is an integral part of the health system. It advocated for social justice and equity clearly highlighting health as a fundamental human right. AMREF's focus on community based health care, community partnering and its empowerment is therefore in tandem with the definition of health. It is an acknowledged fact that health cannot function in a vacuum. The Ottawa Charter emphasizes certain prerequisites for health which include peace, adequate economic resources, food and shelter, and a stable eco-system as well as a sustainable resource use. The recognition of these prerequisites highlights the inextricable links between social and economic conditions, the physical environment, individual lifestyles and health. These links provide the key to a holistic understanding of health which is central to the definition of health promotion. Health promotion is the process of enabling people to increase control over, and to improve their health[67].

The Kenya Health Sector Strategic Plan II recognizes AMREF as one of its most important partners and acknowledges its broad range of activities which include clinical services, emergency response, training and advice in health policy and systems development. One of the key lessons that AMREF has learnt is that in many cases communities working in collaboration with health professionals are able to identify practical solutions to most of their health problems that works best for them. A key means to improve health systems is therefore to build partnerships and linkages between communities and to share these solutions with other stakeholders in order to develop healthier policies and practices [68]. The realization of this important lesson necessitated the conception and subsequent implementation of the Kibwezi CB-HMIS project.

The results of the current case study will be discussed within the framework of the Bergen Model of Collaborative Functioning (BMCF). The framework is organized into inputs, throughputs and their interactions which led to production of outputs and their maintenance.

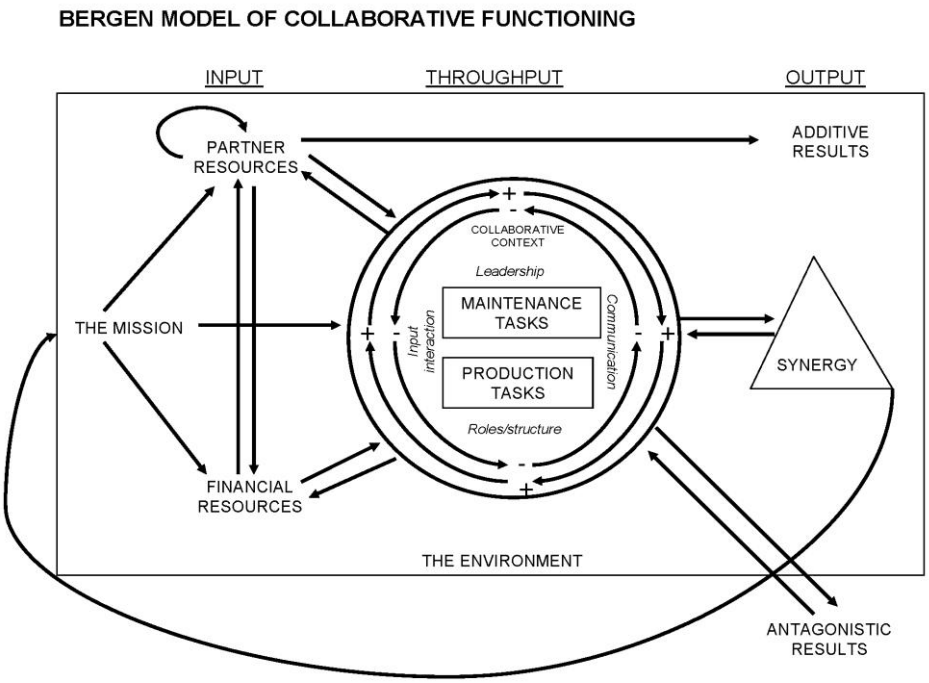


Figure 9

While implementing all its community health projects, AMREF collaborates with the local communities as well as the government and other non-governmental stakeholders. What may vary is the level of collaboration especially with the local communities. In the current project, the level of collaboration with the local community was of a very high degree culminating in the creation of demand for services at the grassroots level. This was a shift from the previous arrangement where the service providers decided what the community should get. The community was involved in almost all the decision making processes concerning the project activities and it is no wonder going by the results, the level of project ownership is reasonably good. All the partners contributed valuable inputs towards the project implementation. The inputs were in various forms such as the bulk of the finances provided by AMREF, time from, commitment and service by the community, expertise and ideas from various government departments, finances in the form of IGA loans from various donors, etc.

Partnership Inputs

As indicated in the results chapter, there were three types of main inputs i.e. the partner resources, financial resources and the problem which rallied the partners together to create the partnership. Partner resources constituted time, finances, knowledge and skills. All the

partners contributed their resources generously towards the implementation of the pilot project. AMREF contributed the financial as well as other logistical resources such as transport and facilitated communication between the various stakeholders. The government which is one of the most important partners created a conducive, environment for the implementation of the project. This was done through the involvement of various government departments especially the ministry of health which participated almost in the day to day activities of the project implementation. It was involved in the training of the community representatives as well as in the provision of health services required by the community. Of all the government departments, the ministry of health played a very significant role. The beneficiary community also provided a very important input, its time and commitment without which the implementation would not have been realized. The community problem was the rallying call which brought all the partners together. AMREF provided the much needed leadership both as an institution as well as in the person of the project manager who ably coordinated the activities of the implementation process [13].

It may be safe to acknowledge that without the healthy partnership that was created and nurtured, the successful implementation of the project might not have been possible. Many partnerships break even before they accomplish their initial goals [15]. It is prudent that this time-limited coalition of partners who come together to solve all or some of their common interests [13] evaluate the potential benefits of coming together. In my view, the partners were convinced beyond reasonable doubt that the purpose for coming together outweighed the converse. As a result of coalescing together and creating functioning partnership created through building their collective capacities they ultimately reaped the tremendous benefits of the successful project [16] i.e. the Kibwezi CB-HMIS project.

Throughputs

This is where the inputs interact with one another to produce outputs. The outputs can either be positive or negative depending on the direction of the interaction. Inputs on their own cannot create outputs but have to be catalyzed by factors such as leadership, communication, roles and structures and the overall environment within which the processes takes place [24]. The operating environments within which they operate can be physical, political, administrative, etc. Like in a manufacturing process, many factors can contribute to either positive or negative results analogous to profit or loss in a business enterprise.

Communication in a partnership is similar to fuel in a moving vehicle. It is a fact that without fuel a vehicle cannot move. Communication plays a very significant role in a partnership. In the current context, the role played by communication was very important especially at the community level. In reference to figure 5, it can be seen that the project had several levels of communication. This communication was categorized into two types, communication with the stakeholders at international, national, local and with the community. However the most elaborate communication was between the project office and the community. The implementation strategy was communicated by the TOT/CHWs to the community after they were trained by AMREF in collaboration with other stakeholders. This process of training the TOTs/CHWs who in effect trained the community and the back and forth communication between the community, the TOTs/CHWs to AMREF and then back to the community was very effective and fuelled the process of implementation.

Positive cycles of interaction

There are four critical factors that influence positive interaction in a partnership. They are-: skilful leadership, inputs, formalised roles and procedures and effective communication. Skilful leadership fosters positive interaction in a partnership, inspires confidence, focuses partners on the tasks at hand, and promotes a climate of trust, autonomy and patience. It also resolves conflicts and enhances pragmatism [26]. If these factors were to be ordered in priority of effectiveness, skilful leadership would be prioritized in the first position. This is because it plays a very significant role in partnership functioning. Without it, all the other inputs would come to nought. In the current study skilful leadership vested in the person charged with the responsibility of the project implementation played his role very well. The AMREF national office provided the project with the financial resources and though at times they were delays in channeling them when they were needed, in most cases they were available. At institutional level, AMREF's financial policies dictate nothing short of transparency and accountability. On financial transactions, all undertakings have been streamlined and partners are well aware about AMREF's financial procedures. Lack of adequate information by partners concerning financial undertakings such as on allowances is fertile ground for conflict amongst partners. However when adequate information is availed to all the partners it promotes openness and trust.

Communication concerning the performance of the project was done through periodic statistical bulletins. Feedback was provided to all partners without failure and this in my

opinion promoted a climate of trust and confidence that indeed their efforts were going towards the intended project activities. Health facilities within the project area were able to compare the data that they collected at the facility level and what the project collected. This is a very healthy practice since both partners were serving the same community. The information flow is a very elaborate system that serves the entire community, health facilities and other stakeholders (refer to appendix 6). Face to face communication especially between the community and the AMREF project staff is a regular practice ([16] [17] [24]. There are monthly data validation meetings with members of every village health committee. During these meetings, any issues related to the project activities are addressed and this in my view helps in building the community's confidence that their efforts are recognized and valued. It also helps in improving the quality of the data concerning project activities.

Negative cycles of interaction

The same factors which contribute to positive cycles of interaction in a partnership can on the other hand do so negatively. There is no system without a loophole. The information system and the communication between the partners was not hundred percent effective and it broke down occasionally. This scenario is not unusual in partnership functioning [15]. This scenario was occasioned by for example financial delays from the AMREF national office to the project office in Kibwezi, vehicle breakdowns, poor road infrastructure especially during the rainy season, etc. This made it difficult for the project staff to reach members of the community as and when was necessary.

As is well known, it is not easy to maintain partnerships more so when they are many partners. There were lapses from time to time and some of them felt left out of the project activities. A case in point is one government department at the district level who felt that his office was not provided with regular information concerning the project activities. There were also complaints that clear terms of reference between key partners and AMREF was lacking. However having terms of reference and adhering to them is another issue altogether. Lack of continuous information sharing and joint decision making lapses contributed to negative cycles of interaction.

Other negative loops occurred when TOTs/CHWs dropped out when their anticipated personal expectations were not met. As a result of poor communication and/or misconceptions on their part, some joined as TOTs/CHWs with the expectations of employment or personal benefits such as huge allowances despite information that service to the community was

purely on voluntary basis. When their expectations were not met, they dropped out of the project and this contributed to more work and low morale for those who chose to remain before replacements were done.

Lack of maintenance of the IT equipment which the community used both as an IGA and for purposes of data storage, processing and simple analysis contributed to negative cycles of interaction. The main reason for this scenario was because it was not crystal clear whose responsibility between the partners who was responsible for the maintenance. It reflects lack of ownership of the project on the part of the community. There may have been a breakdown in communication about this since this equipment was donated by another partner to the community through AMREF.

Drought which is a perennial phenomenon in this area adversely affects community participation in the project activities. They devote most of their energies in searching for food and water. At the onset of the project implementation, some households were a bit skeptical in providing some information which they felt was rather personal and should not have been shared. This trend however changed with time but initially provided some negative cycles of interaction.

There was also lack of cooperation by some members of the provincial administration such as chiefs and their assistants making it rather difficult for the TOTs/CHWs to undertake project activities. The TOTs/CHWs also felt discouraged particularly when they encountered emergencies within households and could offer any help. This coupled with the fact that at times they were not recognized both by the health facility staff as well as by the community contributed to negative cycles of interaction. These issues were addressed by the AMREF project staff and resolved as and when they arose.

Outputs

Three types of outputs were identified. They were synergistic, additive and antagonistic outputs [24]. The additive outputs are those that have nothing to do with the partnership i.e. they would have been realized even without the partnership interaction. The mathematical representation for this scenario is $2 + 2 = 4$. In the current study, examples of additive outputs are those which happened such as the reduction of certain diseases in the community such as malaria, immunization coverage improved and improvement of household sanitation. The reduction was attributed to the project implementation. These outputs would have been

produced with the interaction of AMREF and the community without necessarily involving other partners.

Synergistic outputs are those that would not have been produced at all without the positive interaction of the partners. This production is also influenced by all the other positive attributes such as skilful leadership, communication, partner values etc. The mathematically representation for this kind of output is 2 + 2 = 5. This clearly demonstrates that there is extra production from the additive scenario. Examples of synergistic outcomes are scaling-up of the project from its initial villages to other villages and subsequently to other districts. This would not have taken place without the active participation of multiple partners. Several government departments as well as other non-governmental partners participated henceforth contributing to this superb production.

Antagonistic outputs are those that derail the functioning of the partnership such as the withdrawal of some partners, wastage of partner's resources such as time, finances and efforts. The mathematical representation for this scenario is 2 +2 = 3 meaning that even what was invested has been lost. In the current study, dropping out of TOTs/CHWs is a classic example of antagonistic output since this resulted in the wastage of partner financial resources, training time and efforts. It also contributed to the demoralization of those TOTs/CHWs who opted to remain as well as giving them added responsibilities. Another example is lack of cooperation emanating from members of the provincial administration and/or rural health facility staff. This dealt a blow to the outputs of the TOTs/CHWs contributing to antagonistic outputs.

Methodological considerations

The results of this study are based upon the findings of a qualitative study. A case study methodology was used. Case studies are bound by time and activity and researchers use a variety of methods to collect the data [54]. In an effort to guard against threats to validity and reliability of the data, certain methodological precautions were undertaken during the study. These threats were safeguarded by undertaking triangulation which is achieved by using different methods of data collection in an effort to increase convergence [54]. Reliability refers to consistency of the research findings i.e. if an independent researcher conducted a similar study using the same methodology, would s/he come up with similar findings [59]. It also refers to whether the method(s) used measure what it/they purport to measure [59]. All methods used in the study were documented in an attempt to comply with this requirement.

Triangulation is described as a valuable craft skill acquired through exposure or from careful considerations from studies done by others [69]. The study involved key informant interviews, focus group discussions, official project documents and observations. During all the interviews, audio taping was done notes were taken. Still photographs were taken some of which have been used in the results chapter. All these methods were undertaken in an attempt to increase the validity or the truth. Deviant cases were included in the results in an effort to give a balanced view of the findings [60]. To cater for anecdotalism, a reasonable sample of participants was undertaken. The data is thus in my honest opinion not based upon a few well-chosen 'examples' but a critical investigation of, the project implementation strategy [60].

During the process of the interviews as well as the focus group discussions, the researcher sought clarifications of the data. This involved having short breaks after a period of interviewing or discussion and reading back what had already been collected to the participants. The feedback from the study participants helped in making appropriate verifications ([62]. This process was repeated upon conclusion of all the data where a meeting was held and preliminary findings presented to a sample of the study participants as well as to the AMREF management.

One of the key objectives of the Kibwezi CB-HMIS strategy was to scale-up to other areas upon successful implementation of the pilot phase. This is referred to as generalization or transference of the study findings to new settings [36]. In quantitative studies this is widely practiced by selecting random samples and making inferences on to the parent populations [60]. However this practice has its limitations in qualitative studies. Referred to as the external validity, it is the norm in law and clinical medicine but the contexts have to comparable [59]. All the research ethics were followed which included among others sending my research protocol to the AMREF research ethics committee for approval before the commencement of the study.

The role of the researcher

The researcher made all the necessary efforts to develop the level of skill appropriate for a human instrument or, a vehicle through which data was collected, analysed and interpreted [52]. A qualitative researcher can learn the most about a situation by participating and/or being immersed in it [61]. This is a cardinal rule in qualitative studies. In this respect, the researcher made efforts to learn as much as possible within the given timeframe about the implementation strategy identifying its strengths and weaknesses. The researcher has

participated in quantitative research studies in the past. However, this is the researcher's first qualitative case study. He was provided with the necessary guidance by experienced supervisors throughout the process of the study. Coming from a quantitative background, there may some biases. The researcher is an employee of AMREF which implemented the Kibwezi CB-HMIS project. He however made all attempts to avoid any form of bias during the study. It should however be noted that the project is one out of over fifty community health projects and the researcher has no personal interest in any of them.

The data

As reported earlier, the data was collected through face to face interviews as well as from reviewing of official project documents. Audio taping was also undertaken concurrently with the taking of notes, observations and photographs where appropriate ([51] [52] [54]). In an effort to ensure that there were no overlaps, summaries for key informant interviews and focus group interviews were done on a daily basis. As is the practice in qualitative studies, inductions were made but within the framework of Bergen Model of Collaborative Functioning (BMCF). The process of analysis was not linear and went back and forth from inputs, process and outputs.

The data was mainly collected in Kiswahili though in some cases where the study participants could not understand either English or Kiswahili the local language was used. The researcher understands functional Kiswahili and made use of an expert in the local language for translations. One cannot rule out losses in meanings of translations from the local language and Kiswahili into English. It is my considered opinion that if it was possible to undertake the whole process of data collection in the same language, the quality of the data might have been better. The time taken as well as other resources might as well have been reduced. However, the product of the current report is the best product within my means given the existing circumstances.

6.3.0 Conclusions

Several conclusions were reached in the current study. It shows that partnerships between donors and NGOs on the one hand and NGOs with community on the other as well as with other stakeholders can contribute to positive and sustainable community development [16]. However the cooperation of the central government which in the current case was one of the most important stakeholders is of paramount importance. It helps in building the much needed

confidence with the community when it (the community) realizes that indeed the NGO is simply supplementing the role of government responsibility. Their cooperation and active participation helps them get out poverty and relatively improve the quality of their lives.

The role played by training in building the capacities of the community cannot be over emphasized ([44] [43]). Without training the implementation of the project would not have been possible. This is due to the fact that most concepts required for the project implementation were new to them. There was no way that the community would have participated in the project implementation without learning them. Training transformed the community and sensitized them as well the rural health facility workers about the objectives of the project. It was one of the key pillars in the project implementation.

The creation of IGAs in the community is another key pillar in the maintenance and sustainability of the project. The positive interactions that take place in all these spheres can also be attributed to the skilful leadership, accountability and transparency on the part of AMREF both at institutional level and individual level [13]. What is not in doubt is that the pilot project was successfully implemented and has yielded fruits. It is upon this firm evidence that the intervention is currently being scaled-up in three different districts in the country. It is hoped that with the success of the three, the intervention will be rolled out to the whole country. It is however safe to be patient and adopt a policy of waiting since anything is possible.

Finally, the fact that the pilot project implementers thought it wise to venture in the scaling-up of the project to three other districts with a possibility of a national expansion is enough evidence that indeed the pilot project is a success story.

6.4.0 Implications for further research

It is very clear from this research and others before that more research is needed to establish the factors which facilitate or inhibit partnership functioning. Considering the myriad problems facing communities and given the fact that these problems cannot be resolved by partners on their own. Further research will also assist in establishing the suitability of the Bergen model of collaborating functioning (BMCF) in different settings. The current study has proved beyond reasonable doubt the utility of BMFC as a research framework in analysing data for a public-private partnership. It may be of interest to undertake further research to establish why partnership is an emergent concept now more than before [16].

Further research is also needed to establish the elements within the BMFC which must be included for a partnership to function effectively. It would be quite interesting to further establish the contribution that each element plays for a functional partnership ([13] [15]; [24]). For example, is leadership of more importance than communication within the throughput section? If so why, or why not? Does it matter for example matter which partner provides resources such as finances for the partnership to function effectively? If partner 'A' provides more resources than partner 'B' in a partnership involving several other partners, does that inhibit the freedom of other partners within the partnership? Which factors contribute more to synergy in a partnership and why? This and many other questions call for further research.

In the current study volunteerism by the community plays a critical role in the project implementation. One wonders what fuels volunteerism particularly by community resource persons (CORPS)? Is it sustainable? Research is also needed to investigate if volunteers on average benefit much more than other beneficiary community members [17]. What makes them volunteer when others shun that role? In the absence of volunteerism like the one exhibited in the current study, are other cost-effective alternatives?

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8.0 APPENDICES

APPENDIX 1

TOOLS

MAIN RESEARCH QUESTIONS

1. For each initial village, what was the course of the dissemination chain in terms of the length and number of links?

2. What factors account for the length and number of links in each dissemination chain?

The questions to be used for the Initiating villages

(a) What was the total number of TOTs in the dissemination chain of each initiating village, what is the distribution of TOT lengths, what was the total duration of the dissemination chain, and what was the average duration for TOT's in each dissemination chain? (Quantitative, requires the use of administrative data).

(b) For each TOT initiation, what were the precipitating events/activities/social interactions? (Questions b to d, are qualitative questions requiring interviews, one interview in each village).

(c) From the viewpoint of the Head of each village committee (or the next most active Committee member of the Head is not available),

(i) What were the main mileposts marking successful implementation of the project in his/her village?

(ii) What were the main mileposts marking successful initiation in the next TOT village in the dissemination chain?

(iii) What features of implementation does he/she regard as essential to successful implementation?

(d) From the viewpoint of the Head of each village committee (or the next most active Committee member of the Head is not available)

(i) What were the main mileposts marking setbacks in the implementation of the project in his/her village?

(ii) What were the main hindrances in initiation of TOTs?

(iii) What features of implementation does he/she regard as risk factors for failure of TOTs?

IN-DEPTH INTERVIEWS/FOCUS GROUP DISCUSSION GUIDES FORSTAKEHOLDERS

Q1. What features of implementation do you regard as essential for successful implementation of the project?

Q2. What are the main hindrances in the implementation of the project?

Q3. What features of implementation do you regard as risk factors for failure of the project implementation?

Q4. Are there any other issues you would wish to state in relation to the implementation of the project?

APPENDIX 2

Ministry of Health

CURRICULUM

for

COMMUNITY HEALTH WORKERS

in

COMMUNITY BASED HEALTH MANAGEMENT INFORMATION SYSTEM

Revised May 2009

TABLE OF CONTENTS

ACRONYMS

AEO	**Agricultural Extension Officers**
AMREF	**African Medical and Research Foundation**
CHW	**Community Health Worker**
CSO	**Civil Society Organization**
DHMT	**District Health Management Team**
DO	**District Officer**
DMOH	**District Medical Officer of Health**
FBO	**Faith Based Organization**
GOK	**Government of Kenya**
CHMIS	**Community Health Management Information System**
KCO	**Kenya Country Office**
NGO	**Non-Governmental Organization**
PHT	**Public Health Technicians**
TBA	**Traditional Birth Attendants**

ACKNOWLEDGEMENT

AMREF would like to sincerely thank the teams that participated in the development of this document including the Makueni District Planning Unit, the Makueni and Kibwezi District Health Management Teams, the Ministry of Health Headquarters and the Provincial Administration in Makindu, Kibwezi and Mtito Andei Divisions of Kibwezi District. It would have been extremely difficult to prepare this curriculum without their assistance.

AMREF would also wish to acknowledge with gratitude the financial assistance provided by Rockefeller and Ferguson Foundations which financed this activity.

NICASSIUS K. NDWIGA

PROJECT MANAGER

COMMUNITY HEALTH MANAGEMENT INFORMATION SYSTEM

AMREF KENYA

1. GENERAL OBJECTIVE/RATIONALE

The aim of this curriculum is to equip the community health workers with adequate knowledge and skills of CB-HMIS so as to have an appreciation of its importance in improvement of community health services. It will also equip them with adequate knowledge, and skills in data collection, summary, compilation analysis and interpretation of data. The emphasis on utilization of information for managerial skills is aimed as the subsequent results of this curriculum. Further to this, dissemination of data to various levels will be emphasized and this will be a big contribution towards improvement of availability of population-based data that are currently missing unless otherwise obtained through census.

2. PHILOSOPHY

To build a critical mass of well qualified community health workers, who will collect, summarize, compile, analyze, disseminate and use information.

3. ADMINISTRATION OF CURRICULUM

3. 1. Learners

Village elders

Community Health Workers

Representatives of Faith Based Organizations

Civil Society Organization representatives

Community Health Extension Workers

Assistant chiefs

3.2. Training Venue

Should be within the community but conducive for learning.

3.3. Training Duration

The training will take 6 full days. This excludes dates of arrival and departure from training venue

3.4. Trainers

Trainers of this curriculum should be:

Health Records and Information Officers

Public Health Officers

Planners (DDOs, Statisticians, Demographers)

Agricultural Extension Officers

Community Development Officers

Provincial Administration

3.5. Certification

A certificate of attendance will be issued to participants who will have fulfilled the following conditions.

- Attended and participated fully in all training sessions.
- Acquired knowledge and skills in CB-HMIS measured through accomplishing the given exercises.

3.6. Teaching Aids

The following training aids will be used:

Chalk/ and board

Flip charts

Overhead projector/LCD Projector

Transparencies

Hand outs

Felt pens

News prints

Stationery

CB-HMIS Tools.

3.7. Curriculum Review

This curriculum will be reviewed from time to time in order to ensure that intended purposes are met and new techniques in information technology are incorporated in the content.

The time for review will, therefore, be determined by the existing needs.

4. FUNCTIONS/RESPONSIBILITIES

4.1. CHWs

- Will be expected to enter the following details in the Demographic Household Village Register: Date of entry, date of birth, household number, sex, birth status, person who conducted delivery, place of birth, date of death, place of death and major cause of death.
- Will be expected to collect data on diseases, immunizations, growth monitoring, disability, water, sanitation and food security at the household level.

4.2. Assistant Chief.

- Issue certificate of birth and death and ensure the same is indicated in the Village Register through village elders.
- Call for barazas based on community needs.

4. 3. Village Elder

- Keeps custody of the Village Register assisted by the village secretary and presides on all meetings of village CHWs.
- Ensures all CHWs update registers as required.
- Ensures that births and deaths are all entered in the Village Register.

4.4. CHEWs

- Ensures that the data from the Village Registers are validated, entered and analyzed; and feedback given to the community and office of the DMOH.
- Co-ordinates all community health workers activities in collaboration with Community Health Unit committee.

5. TRAINING OBJECTIVES

At the end of the training participants should be able to:

- Fill various CB-HMIS registers and forms accurately
- Summarize data
- Do simple analysis
- Explain analysis
- Use information for planning, decision making and problem solving
- Disseminate data to various levels
- Store and observe safety procedures to all records maintained
- Observe confidentiality of all records
- Explain the need for accurate and timely reporting

6. TRAINING METHODS

The following training methods will be used

Lecture

Demonstration

Discussion

Brain storming

Role play
Lepsa

Assessment

Field visit

7. FUNCTIONS, SPECIFIC OBJECTIVES AND CONTENT

7.1. Village Register

At the end of this topic learners should be able to allocate household numbers accurately, fill the register, understand the contents, appreciate and ensure accuracy of entries.

FUNCTION	SPECIFIC OBJECTIVES By the end of this topics, the learners should be able to:	CONTENT	DURATION
CHWs to register all births alive, still births and mother's status The assistant chief to direct the village elder to record all deaths in the village register The village elder to identify deaths occurring at hospitals and other places and record them accordingly in the village register	Identify and number household accurately Record births and deaths in the register accurately Appreciate the importance of confidentiality and GOK secrecy on records Differentiate different places of births and deaths Summarize the register using summary form accurately Make use of births and deaths information during their planning and day to day decision making during their meetings	Definitions of households Explanation of household numbering systems Explanation of the importance of numbering and recording of households accurately Description of different methods of data collection using CB-HMIS registers Explain procedures of doing entries in the general village register and summary Analysis of births and deaths data Explain legal aspects of: Official Secrecy Act Safe storage of documents Confidentiality Explanation on use of information in community action planning,	2 Hours 3 Hour 1 Hours

		decision making and problem solving	4 Hours
TOTAL TIMING			10 HOURS

7.2. Register of Diseases, Immunization, Growth Monitoring and Disability

At the end of this topic learners should be able to fill the register, understand the content, appreciate and ensure accuracy in making entries on diseases, immunization, growth monitoring and disability.

FUNCTION	**SPECIFIC OBJECTIVES**	**CONTENT**	**DURATION**

(CHWs) together with the village elder to make entries in the register on: Diseases Treatment outcome Place of treatment Immunization Growth monitoring	To be able to; Record drugs and contraceptives distribution and diseases accurately To establish immunization status and monitor growth on children using road to health card	Explain procedures of recording Explain different types of contraceptives Explain community common diseases, symptoms, signs and simple management Identification of : Immunization status Growth monitoring and Interpretation of road to Health cards.	4 Hours
CHWs to identify persons with disabilities and mental illnesses	Identify persons with disabilities	Explain different methods of identifying different types of disabilities and mental conditions	4 Hour
TOTAL TIME			8 Hours

7.3. Register of Other Health Related Sectors

At the end of the topic participants should be able to fill the Register, understand the content, appreciate and ensure accuracy in recording.

FUNCTIONS	SPECIFIC OBJECTIVES	CONTENT	DURATION

Collecting information on water and sanitation and entering in the register. Collecting data on households with latrines Collecting data on households with dish drying racks and mosquito nets. Collection of data from households on food situation	At the end of the training the CHW will be able to: Identify protected and unprotected water sources. Identify households with storage tanks. Identify households with VIP, pit latrines and water closet. Identify households with dish drying racks and mosquito nets Determine food situation in the household	Identification of protected water sources and importance of protecting them. Explanation of different methods of protecting water sources. Explanation of different methods of solid waste disposal Explanation of importance of having dish drying racks and mosquito nets in the households Explanation of different methods of determining food quantities and storage in the household.	2 Hours 2 Hours 1 Hours 1 Hours
TOTAL TIMING			6 Hours

7.4. DATA MANAGEMENT

FUNCTIONS	SPECIFIC OBJECTIVES	CONTENT	DURATION
Carry out simple data summary, analysis and use of information	At the end of the topic, learners should be able to carry out simple analysis and make use of information for their action planning.	Explanation of how to summarize data from the register Explanation of different methods of data presentation e.g. tables, simple bar charts and pie charts. Data Analysis e.g. ratios, percentages and averages. Outline data/information flow. Utilization of information in planning, decision making and proposal development.	2 Hours 4 Hours 2 Hours 1 Hours 6 Hours
TOTAL TIMING			**15 HOURS**

PANEL OF REVIEWERS

The following people were members of the panel that reviewed this and the other documents in the CBHMIS Tool Kit.

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APPENDIX 3

AMREF
Better Health for Africa

Ministry of Health

CURRICULUM

for

COMMUNITY HEALTH WORKERS

on

Disease Surveillance, Referral systems,

Strengthening Community Governance Structures,

CB-HMIS and Mechanisms for Targeting the

Poorest of the Poor

Revised May 2009

TABLE OF CONTENTS

ACRONYMS

AMREF	Africa Medical and Research Foundation
ANC	Anti Natal Clinic
CBD	Community Based Distributors
CBHMIS	Community Based Health Management Information System
CBMT	Community Based Management Team
CBO	Community Based Organization
CBR	Community Based Rehabilitation
CHW	Community Health Worker
CORP	Community Owned Resource Persons
CSO	Community Social Organization
FIF	Facility Improvement Fund
IGA	Income Generating Activities
ITN	Insecticide Treated Nets
KCO	Kenya Country Office
NGO	Non-Government Organization
NO	Nursing Officer
PHO	Public Health Officer
PHT	Public Health Technician
RCO	Registered Clinical Officer
RHF	Rural Health Facility
SSPHC	Strengthening Systems at Primary Health Care
TBA	Traditional Birth Attendant

ACKNOWLEDGEMENT

AMREF would like to sincerely thank the teams that participated in the development of this document including the Makueni District Planning Unit, the Makueni and Kibwezi District Health Management Teams, the Ministry of Health Headquarters and the Provincial Administration in Makindu, Kibwezi and Mtito Andei Divisions of Kibwezi District. It would have been extremely difficult to prepare this curriculum without their assistance.

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NICASSIUS K. NDWIGA

PROJECT MANAGER

COMMUNITY HEALTH MANAGEMENT INFORMATION SYSTEM

AMREF KENYA

1.0. GENERAL OBJECTIVE/RATIONALE

The aim of this curriculum is to equip the community health workers with adequate knowledge, skills and appropriate attitude in community disease surveillance, referral systems, rural health facility governance, CB-HMIS and identification of poorest of the poor in the community. It will also equip them with adequate knowledge and skills in data collection, summarization, compilation, analysis, interpretation and dissemination.

2.0. PHILOSOPHY

To train a critical mass of community workers who will promote and enhance better health care for all by involving all community members in taking health as their own responsibility and liaising with the health workers at the Rural Health Facility for prompt action and for better health services.

3.0. ADMINISTRATION OF CURRICULUM

3.1. Learners

TBA, CBD, CHW, Village Elders, Traditional Herbalists, Church Leaders, Village Health Committee, Assistant Chief, PHT, Dispensary Committee, CBOs and CSOs Representatives, health Center Committee and CB-HMIS Committee.

3.2. Training Venue

Must be residential and within the project area.

3.3. Training Duration

The training will take five full days. This excludes dates of arrival and departure

from training venue.

3.4. Trainers

Trainers of this curriculum should be specialists in:

- Health Records and Information
- Public Health

- Planning, Statistics, Community Development
- Provincial Administration
- Health Administration
- Poverty

3.5. Certification

A certificate of attendance will be issued to participants who will have fulfilled the following conditions:

- ❖ Attended and participated fully in all training sessions.
- ❖ Acquired knowledge and skills in all areas measured through accomplishing the tasks given.

3.5. Teaching Aids

The following training aids will be used: Chalk and board, Flip charts, Overhead/LCD projector, Transparencies, Hand outs, Felt pens, News prints, Stationery, and CB-HMIS forms.

3.6. Training Methods

The following training methods will be used: Lecture, demonstration, discussion, brainstorming, role play, lepsa, exercises and field visit.

3.7. Curriculum Review

This curriculum will be reviewed from time to time in order to ensure its intended purpose is met. The time for review will be determined by the prevailing needs.

4.0. COMMUNITY HEALTH WORKERS FUNCTIONS AND ROLES IN REFERRAL SYSTEM

The main functions of the CHWs are to:

- ♦ Identify and advice pregnant women to improve personal hygiene, attend ANC clinic, deliver in health facility, take child for immunization, register birth of the child and seek medical care in health facility for complications arising from the pregnancy or delivery. CHWs should accompany mothers in labor pain to the health facility and report home deliveries to Assistant Chief for registration.
- ♦ Mobilize community for action on promotion of health and prevention of disease in the community. Examples include:

- Create awareness on family planning, advice on family planning methods, and distribute non-prescription contraceptives to clients.
- Diagnose common illnesses in the community, treat the minor cases and refer the serious cases to health facility for further management.
- Identify health problems and report notifiable diseases and disease outbreaks to health workers.
- Conduct growth monitoring of children.
- Promote increased use of ITNs in the community.

- Mobilize community resource for health in the village.
- Collect data from assigned households; enter the data in the CBHMIS Village Register; analyze the data; disseminate the information to the community and use the results for planning interventions.
- Represent the community in the sub-location health committee
- Organize health community meetings.
- Initiate Income Generating Activities.
- Collecting information on poverty and identifying the poorest of the poor and referring them to the health facility for waiver of user fees.
- Serve as the link person between the community and CB-HMIS project
- Ensure the execution of committee resolutions
- Keep records of all assets owned by the CB-HMIS committee on behalf of the community
- Improve socio-economic status of the village through appropriate interventions.
- Liaise and collaborate with the other community health workers in the village

5.0. DISEASE SURVEILLANCE AND REFFERAL SYSTEMS

GENERAL OBJECTIVE

At the end of this topic the learners will be able to improve referral systems for the patients to access quality health care services. They will also be able to identify signs and symptoms of common diseases in the community in order to refer to the health facility in time.

SPECIFIC OBJECTIVES At the end of the topic learners will be able to:	**CONTENT**	**DURATION**
-Advise pregnant mothers to attend ANC clinics at least 4 times before delivery	-Explanation on the importance of pregnant mothers to attend ANC clinics at least 4 times before delivery.	20 min
-Advise pregnant mothers on the importance of delivering in the health facility	- Explanation of the importance of health facility delivery	20 min
-Notify the Assistant Chief on births and deaths in the village for registration	- Explanation on notification of the Assistant Chief on births and deaths in the village correctly for registration	20 min

-Liaise and collaborate with the other community health workers in the village	- Explanation on the importance of networking with other community health workers	30 min
-Advise mothers on the importance of immunization	- Explanation on the importance of immunization and child welfare clinic	30 min
-Advise the client correctly on different methods of family planning in the village	-Explanation on different methods of family planning	30 min
-Increase awareness to the community on different methods of family planning	- Explanation on advantages and disadvantages of different family planning methods	30 min
-Monitor and refer the client to the health facility in case of any complications -appropriately refer the client to the health facility for general examination and other services before starting any of the family planning methods	- Explanation on them the importance of referring the client to the health facility for general examination and other services before starting any of the family planning method	30 min
-Mobilize the community effectively to utilize their resources on health related matters	**-** Explanation to village elders on the methods of community mobilization and utilization of resources on health related matters	1 Hour
-Keep and maintain proper health records in the village e.g. births, deaths, and notifiable diseases	- Explanation on proper record-keeping ,analyzing, utilization of the data and feedback, on births, death and notifiable diseases	1 Hour 30 min
-Notify health workers on disease outbreaks immediately	- Explanation on disease outbreak early warning **-** Explanation on epidemic, early warning preparedness and response	1 Hour 30 min
-Have inventory of all households in the village	-definition of a household, the process of numbering and its importance	30 min
-Represent the village effectively in the sub location health committee	- Explanation on leadership skills -explain to him his roles and duties in the sub location health committee	30 min
-Conduct health education in the village effectively -identify and report notifiable diseases to the health workers	**-** Explanation and demonstration of effective communication skills	1 Hour

-Interpret correctly growth monitoring charts and advise mothers accordingly	-interpretation of child health card and proper nutrition in early childhood	30 min
-Keep and maintain required health standards	- Explanation on hygienic practices	30 min
-Give proper guidance and counseling on health related matters	- Explanation and demonstration of guidance and counseling skills	30 min
-Mobilize community resources effectively for promotion of health	**-** Explanation on how to identify resources and mobilize community resources for health	30 min
-Give proper health education	- Explanation and demonstration of effective communication skills	30 min
-Organize regular health community meetings	**-** Explanation on how to organize regular health committees meetings	30 min
-Link the community with health workers in the facility	-explanation on the importance of networking with the community	1 Hour
-Initiate IGAs in the village	-explanation on how to identify ,establish and sustain the IGAs	1 Hour
-Monitor and evaluate the functions of the CORPs	-explanation on simple methods of monitoring, and evaluation	1 Hour
-Give feed back to the community on health related matters	- Explanation on different methods of giving feedback to the community	30min
TOTAL		**16** Hour**s**

6.0. STRENGTHENING COMMUNITY GOVERNANCE STRUCTURES

GENERAL OBJECTIVE

At the end of the topic the participants' involvement in governance of rural health facility will be enhanced.

SPECIFIC OBJECTIVES At the end of the topic learners will be able to :	**CONTENT**	**DURATION**
-describe the steps involved in conducting a	definition of a meeting	45 min

successful meeting	-state the steps involved in conducting a successful meeting	
-to develop a relevant work plan on health issues in the village	-definition of a work plan -list steps in developing a work plan	1hr
-list the number of stakeholder in the community	-description of a stake holder -identify responsibilities of stake holders	30 min
-identify available local resources for optimal utilization	-definition of resources -explanation of resource utilization	30 min
-Explain good financial management system	-definition of management -definition finance -explain to them simple financial management	1 hr
-to identify the available resources -mobilize and utilize resources appropriately	-definition of resource mobilization -steps in resource mobilization definition of resources -different methods of identifying resource in the community	1hr
-to be able to monitor and evaluate the planned activities	-definition of monitoring -definition of evaluation -description of steps in monitoring and evaluation	1hr
TOTAL		**5 .15hrs**

7.0. MECHANISMS FOR TARGETING THE POOREST OF THE POOR

GENERAL OBJECTIVE

At the end of this topic learners will be able to identify the poorest of the poor in the community and enhance their equitable access to quality health care.

SPECIFIC OBJECTIVES At the end of the topic the learners will be able to:	**CONTENT**	**DURATION**
-Identify the poorest of the poor at community level. -Develop community action plans targeting the poorest of the poor	-Definition of poverty. -Listing of causes of poverty. -Explanation of effects of poverty. -Demonstration of poverty ranking methods. -Identification of poorest of the poor. -Explanation of ways of improving access to health care amongst the poor. -Identification of available resources for improving health amongst the poor.	2 Hours
-Carry out effective monitoring of poorest of the poor households and community poverty alleviation interventions	-Definition of monitoring and evaluation. -Explanation of steps involved in monitoring poorest of the poor households. -Explanation of steps involved in monitoring community poverty alleviation interventions.	1 Hour
-Effective information feedback to the community	-Definition of communication. -Demonstration of methods of effective communication. -Explanation of importance of feedback in communication.	1 Hour
-Prepare periodic summaries	-Explanation of the importance of making summaries -Description of summary sheets. -Illustration of how to make entries in a summary sheet.	1 Hour
TOTAL		**5** Hours

PANEL OF REVIEWERS

The following people were members of the panel that reviewed this and the other documents in the CBHMIS Tool Kit.

NAME	TITLE	MOBILE NUMBER	E-MAIL ADDRESS
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APPENDIX 4

Ministry of Health

CURRICULUM FOR TRAINING COMMUNITY HEALTH WORKERS AND HEALTH FACILITY STAFF ON CBHMIS AND HMIS

SOFTWARE APPLICATIONS

Revised May 2009

TABLE OF CONTENTS

ACRONYMS

AMREF	African Medical and Research Foundation
CHW	Community Health Worker
CBHMIS	Community Based Health Management Information System
HMIS	Health Management Information System

ACKNOWLEDGEMENT

AMREF would like to sincerely thank the teams that participated in the development of this document including the Makueni District Planning Unit, the Makueni and Kibwezi District Health Management Teams, the Ministry of Health Headquarters and the Provincial Administration in Makindu, Kibwezi and Mtito Andei Divisions of Kibwezi District. It would have been extremely difficult to prepare this curriculum without their assistance.

AMREF would also wish to acknowledge with gratitude the financial assistance provided by Rockefeller and Ferguson Foundations which financed this activity.

NICHASIUS K. NDWIGA

PROJECT MANAGER

COMMUNITY HEALTH MANAGEMENT INFORMATION SYSTEM

AMREF KENYA

1.0. GENERAL OBJECTIVE/RATIONALE

The aim of this curriculum is to give health facility staff and community health workers a broad introduction to Computing and Information Technology and equip them with skills in data entry and analysis to help them generate reports and disseminate information using the CB-HMIS and HMIS software packages.

2.0. PHILOSOPHY

To build a critical mass of health facility staff and community health workers (CHWs) well qualified to collect, summarize, compile, analyze, disseminate and use information emanating from both CB-HMIS AND HMIS.

3.0. ADMINISTRATION OF CURRICULUM

3.1. Learners

CHWs, rural health facility in-charges and health records and information officers.

3.2. Training Venue

Must be residential and have appropriate computers for practical sessions

3.3. Training Duration

The training will take five full days excluding the dates of arrival and departure from the training venue.

3.4. Teaching Aids

The following training aids will be used: Flip charts, Overhead/LCD projector, Transparencies, Hand outs, Marker pens, Stationery, CB-HMIS data collection tools, Computers (at least one computer for every two participants) with Microsoft Office, CB-HMIS and HMIS software Packages installed.

3.5. Training Methods

The following training methods will be used: Lecture, demonstration, discussion, brain storming, role play and exercises. Much time should be dedicated for practical exercises especially if the participants do not have prior computer knowledge.

3.6. Certification

A certificate of attendance will be issued to those who will satisfy the instructors that they have gained knowledge and skills in the use of computers in data analysis and reports production.

4.0. SPECIFIC OBJECTIVES AND COURSE CONTENT

4.1. INTRODUCTION TO COMPUTERS

SPECIFIC OBJECTIVES At the end of the topic, learners will be able to:	**CONTENT**	**DURATION**
Understand what a computer is and how it operates	• Introduction to Computers • Definition of a Computer • How a computer operates • Parts of a computer at a glance • The data input, processing and output cycle • Working with a computer – use of the keyboard, mouse, monitor and other basic devices	1 Hour
Understand the components of a computer system	• Components of a computer system ○ Broad introduction to Hardware components ○ Broad introduction to Software	30 Minutes
Understand the basic care and maintenance practices to observe when handling a computer	• Threats to a computer system • Dangers resulting from poor usage habits – health risks, social threats. • Basic care and maintenance practices to limit the imminent risks	30 Minutes
Distinguish between System Software and Application Software, and understand that most of the so-called "Packages" are application software Gain a basic understanding of some of the common application software at an appreciation level	• Operating systems ○ Broad introduction ○ What an operating system does ○ Interaction of the OS with hardware and application software • Application software ○ Definitions and broad introduction to Application software ○ Word processors – Microsoft Word ○ Spreadsheet applications – MS Excel ○ Database Applications – MS Access	3 Hours
Understand the capabilities of computers in Data Communications and some of the technologies involved in transmitting data from	• Data Communication Technologies – Traditional and Modern	2 Hours

computer to computer (and to other devices)		
TOTAL		7 Hours

4.2. Community Based and Health Facility Management Information Systems

SPECIFIC OBJECTIVES At the end of the topic learners will be able to:	CONTENT	DURATION
• Understand the manual procedures for entering and updating data into CBHMIS registers • Understand the MoH data collection forms for the HMIS	Review data collection tools and procedures observing accuracy and quick forwarding of reports to the relevant authorities	2 Hours
TOTAL		2 Hours

4.3. The CBHMIS Package

SPECIFIC OBJECTIVES At the end of the topic learners will be able to:	CONTENT	DURATION
• Understand the computerized CBHMIS and be able to enter data based on the sample data filled in the practice for Topic 2 above. • Run reports from the data entered and interpret the output generated. • Export the reports to simple packages like Microsoft Excel,	• Review of CBHMIS data capture screens • Review of CBHMIS reports • Revision of spreadsheet package (MS Excel) and how CBHMIS reports integrate with MS Excel • Revision of MS Word and document editing	4 Hours

create charts and perform further analysis. • Prepare a statistical bulletin using Microsoft Word based on the output generated and further analyzed in the objective above		
TOTAL		4 Hours

4.4. The HMIS Package

SPECIFIC OBJECTIVES At the end of the topic learners will be able to:	**CONTENT**	**DURATION**
• Understand the computerized HMIS and be able to enter data based on the sample data filled in the practice for Topic 2 above. • Run reports from the data entered and interpret the output generated. • Export the reports to simple packages like Microsoft Excel, create charts and perform further analysis. • Prepare a statistical bulletin using Microsoft Word based on the output generated and further analyzed in the objective above	• Review of HMIS data capture screens • Review of HMIS reports • Revision of spreadsheet package (MS Excel) and how HMIS reports integrate with MS Excel Revision of MS Word and document editing	4 Hours
TOTAL		4 Hours

4.5 PRACTICAL CASE STUDY

SPECIFIC OBJECTIVES At the end of the topic learners will be able to:	CONTENT	DURATION
Enter data and analyze it using computer packages	Demonstration on how to enter data using village registers and HMIS forms into computer and how to analyze it for onward dissemination to users. This is a practical session and each participant should have a hand in it.	16 hours

PANEL OF REVIEWERS

The following people were members of the panel that reviewed this and the other documents in the CBHMIS Tool Kit.

NAME	TITLE	MOBILE NUMBER	E-MAIL ADDRESS
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APPENDIX 5

Ministry of Health

CURRICULUM

for

FACILITY BASED HEALTH WORKERS

on

Disease surveillance and Referral System,

Strengthening RHF Governing Structures, and Mechanisms for Targeting the Poorest of the Poor

REVISED MAY 2009

TABLE OF CONTENTS

ACRONYMS

AMREF	Africa Medical and Research Foundation
ANC	Anti Natal Clinic
CBD	Community Based Distributors
CBHMIS	Community Based Health Management Information System
CBO	Community Based Organization
CBR	Community Based Rehabilitation
CHW	Community Health Worker
CORP	Community Owned Resource Persons
CSO	Community Social Organization
HC	Health Facility
IEC	Information, Education and Communication
IGA	Income Generating Activities
ITN	Insecticide Treated Nets
KCO	Kenya Country Office
NGO	Non-Government Organization
NO	Nursing Officer
PHO	Public Health Officer
PHT	Public Health Technician
RCO	Registered Clinical Officer
RHF	Rural Health Facility
SSPHC	Strengthening Systems at Primary Health Care
TBA	Traditional Birth Attendant

ACKNOWLEDGEMENT

AMREF would like to sincerely thank the teams that participated in the development of this document including the Makueni District Planning Unit, the Makueni and Kibwezi District Health Management Teams, the Ministry of Health Headquarters and the Provincial Administration in Makindu, Kibwezi and Mtito Andei Divisions of Kibwezi District. It would have been extremely difficult to prepare this curriculum without their assistance.

AMREF would also wish to acknowledge with gratitude the financial assistance provided by Rockefeller and Ferguson Foundations which financed this activity.

NICASSIUS K. NDWIGA

PROJECT MANAGER

COMMUNITY HEALTH MANAGEMENT INFORMATION SYSTEM

AMREF KENYA

1.0. GENERAL OBJECTIVE/RATIONALE

The aim of this curriculum is to equip the health workers at Rural Health facilities level with adequate knowledge, appropriate practices, skills and attitude in Disease surveillance, Referral system, HMIS, CB-HMIS, Governance and poverty issues in support of health care accessibility. It also aims at equipping them with adequate knowledge and skills in data collection, summarization, compilation, analysis and interpretation. Use of information in their managerial roles is emphasized.

2.0. PHILOSOPHY

To develop a critical mass of health workers who will provide health services at Rural Health Facilities effectively and efficiently.

3.0. ADMINISTRATION OF CURRICULUM

3.1. Learners

RCO, Nurse, Nutrition Officer, HRIT, PHT, PHO, RHF Committee, Nursing Officer I/C, social workers and CBR staff.

3.2. Training Venue

Must be residential and within a Level 2 or 3 health facility catchment area.

3.3. Training Duration

The training will take five full days excluding dates of arrival and departure from training venue.

3.4. Trainers

Trainers of this curriculum should be specialists in:

- Health Records and Information
- Health Administration
- Public Health
- Poverty
- Clinical medicine

3.5. Certification

A certificate of attendance will be issued to participants who will have fulfilled the following conditions:

- ❖ Attended and participated fully in all training sessions.
- ❖ Acquired knowledge and skills in all areas measured through the accomplishment of the tasks given.

3.6. Teaching Aids

The following training aids will be used: Chalk and board, Flip charts, Computer and its software, Overhead/LCD projector, Transparencies, Hand outs, Felt pens, News prints, Stationery, HMIS forms and Calculators.

3.7. Training Methods

The following training methods will be used: Lecture, Demonstration, Discussion, Brain storming, Role play, Lepsa, Exercises and Field visit.

3.8. Curriculum Review

This curriculum will be reviewed from time to time in order to ensure it includes the most current practices on health issues. The time for review will be determined by the prevailing needs.

4.0. HEALTH WORKERS ROLES AND FUNCTIONS

- ♦ Carry out diagnostic and curative duties
- ♦ Provide preventive and promotive services
- ♦ Provide rehabilitation services
- ♦ Keep patients' records and information
- ♦ Manage health facility
- ♦ Refer patients
- ♦ Collect, analyze and summarize data
- ♦ Package information for specific purposes
- ♦ Conduct successful meetings
- ♦ Keep and maintain government procurement and financial procedures
- ♦ Disseminate data and information to relevant authority or community
- ♦ Provide technical advice on environmental health and sanitation issues

- ♦ Co-ordinate development activities in the facility including use of government procedures in building and construction.
- ♦ Propagate linkages between the facility, the community and other stake holders
- ♦ Mobilize resources
- ♦ Maintain security of the facility
- ♦ Maintain and ensure confidentiality of patients' information
- ♦ Identify cases for waiver and exemption.

5.0. DISEASE SURVEILLANCE AND REFFERAL SYSTEMS

General Objective

The topic aims at strengthening rural health facility workers in skills of identifying cases under disease surveillance and also referring patients to other levels of health care. It is intended to promote efficiency and effectiveness of patients' care both at community and health facility levels.

SPECIFIC OBJECTIVES (i) By the end of this topic learners will be able to carry out duties of disease surveillance and referral system. More specifically they should be able to :	**CONTENT**	**DURATION**
-Diagnose, treat and refer patients to the next level for further management	-updates on diagnosis, treatment and referral systems	1 Hour
-Conduct uncomplicated deliveries and refer when necessary for further management	-update on conducting uncomplicated deliveries	30 min
-Give immunization -Carry out ANC clinics properly and refer when necessary for further management	-Update on giving immunization -Update on carrying out ANC	30 min
-Collect ,analyze and keep proper records	-Review and update on data collection ,analysis and proper record keeping	30 min
-Conduct family planning activities	-update on conducting family planning	30 min

and refer when necessary	activities	
-Do growth monitoring	-Update on growth monitoring and referral systems	30 min
-Manage the health facility effectively	-Update on management skills	30 min
-Offer proper guidelines on sanitation and environmental health -do health education	-Explain on proper guidelines on sanitation and environmental health -Review health education	1 Hour
-Know the importance of contact and defaulter tracing -Know the importance of home visiting	-Review contact tracing and home visiting -Review defaulter tracing	30 min
-Detect in time priority diseases under disease surveillance	-Review the detection of priority diseases under disease surveillance	1 Hour
-Distribute I.E.C materials	-Review the importance of distribution of I.E.C materials	30min
-Have proper case management skills	-Review guidelines on proper case management	30 min
(ii) By the end of this topic learners will be able to adhere to the Government Referral System Guidelines.	-Review Government Referral System Guidelines - Review Community Referral System	2 Hours
TOTAL HOURS		9 Hours 30 min

6.0. MECHANISMS FOR TARGETING POOREST OF THE POOR

General Objective

At the end of the training Rural Health Facility workers and Management Committees will be able to apply Government policy on waivers for health services.

SPECIFIC OBJECTIVES By the end of this topic learners will be able to :	CONTENT	DURATION
-know government policies in relation to fee waiving and exemption to the poor	-Discussion of government policies in relation to fee waiving and exemption to the poor -Explanation of how the poorest of the poor are identified at Level 1. -Explanation of the roles of health facility staff and committees in implementing the Government policy on waivers.	1 Hour 2 Hours 2 Hours
TOTAL HOURS		5 hours

7.0. STRENGTHENING RURAL HEALTH FACILITY GOVERNING STRUCTURES

General Objective

This topic is intended to equip rural health facility health workers with knowledge, skills, appropriate attitude and practice on facility governance through promotion of partnership between community, CBOs, CSOs and local NGOs. This will strengthen health service delivery at levels 1,2and 3 of service focus.

SPECIFIC OBJECTIVES By the end of the topic the participants will be able to **:**	CONTENT	DURATION
-Manage health facility effectively and efficiently	**-**Definition of management -Explanation of managerial functions -Description of good planning and proper managerial procedures	30 minutes
-Conduct successful meetings	-Explanation of process of inviting people to meetings, developing the agenda and taking minutes -Description of procedures of conducting	1 Hour

	effective meetings	
-manage facility finances as per government financial and supplies procedures	-explanation on government financial and supplies management and procedures	30 minutes
-disseminate information effectively	-description of information dissemination methods	30 minutes
-acquainted with effective preventive maintenance skills	definition of preventive maintenance -explanation of importance of preventive maintenance	30 minutes
		30 minutes
-acquire skills in public relationship	-state factors that enhance good public relationship	30 minutes
-acquire knowledge and skills on resource mobilization	-definition of resources -explanation of resource mobilization -steps involved in resource mobilization -definition of contract	1 Hour
-acquire knowledge on government contract procedures	-description of government contracts procurement procedures	1 Hour
-be able to plan and develop good security systems	-explanation of importance of security -explanation of ways of developing and enhancing good security system	1 Hour
TOTAL HOURS		7 hours

PANEL OF REVIEWERS

The following people were members of the panel that reviewed this and the other documents in the CBHMIS Tool Kit.

NAME	TITLE	MOBILE	E-MAIL ADDRESS

		NUMBER	
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APPENDIX 6

Ministry of Health

CURRICULUM

for

RURAL HEALTH FACILITY HEALTH WORKERS

in

HEALTH MANAGEMENT INFORMATION SYSTEM

REVISED MAY 2009

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ACRONYMS

ABD	Available Bed Days
AO	Average occupancy
ALS	Average Length of Stay
DHMT	District Health Management Team
FIF	Facility Improvement fund
GOK	Government of Kenya
HMIS	Health Management Information System
HMT	Hospital Management Team
PHC	Primary Health Care
PMO	Provincial Medical Officer
% OCC	Percentage Occupancy
OBD	Occupied Bed Days
TOI	Turn Over Interval

TOB Turn Over per Bed

ACKNOWLEDGEMENT

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AMREF would also wish to acknowledge with gratitude the financial assistance provided by Rockefeller and Ferguson Foundations which financed this activity.

NICHASIUS K. NDWIGA

PROJECT MANAGER

COMMUNITY HEALTH MANAGEMENT INFORMATION SYSTEM

AMREF KENYA

1.0. GENERAL OBJECTIVE/RATIONALE

The aim of this curriculum is to equip the health workers at health facility level with adequate knowledge of HMIS so as to have an appreciation of its importance in improvement of health services. It will also equip them with adequate knowledge and skills in data collection, summary, compilation, analysis and interpretation of data. Emphasis on utilization of information for management of health services is aimed to be the subsequent results of this curriculum.

Further to this, dissemination of data to various levels will be emphasized and this will be a big contribution towards improvement of reporting rates.

2.0. PHILOSOPHY

To build a critical mass of well qualified facility health workers, who will collect, summarize, compile, analyze, disseminate and use information effectively.

3.0. ADMINISTRATION OF CURRICULUM

3.1. Learners

Registered Clinical Officers

Nurses

Health Records & Information Technicians

Community Clerical Officers

Non-government health facility staff

3.2. Training Venue

Must be residential and near a suitable health facility with appropriate practical facilities.

3.3. Training Duration

The training will take seven [7] full days. This excludes dates of arrival and departure from training venue

3.4. Trainers

Trainers of this curriculum should be specialists in:

- Health Management Information system
- Health records and information
- Health service management
- Planning, demography, community development and statistics

3.5. Certification

A certificate of attendance will be issued to participants who will have fulfilled the following conditions.

- Attended and participated fully in all training sessions.
- Acquired knowledge and skills in HMIS measured through accomplishing the given exercises.

3.6. Teaching Aids

The following training aids will be used:

Chalk/ and board, Flip charts, Computer, Overhead projector/LCD Projector, Transparencies, Handouts, Felt pens, News prints, Stationery, HMIS forms and Calculators

3.7. Curriculum Review

This curriculum will be reviewed from time to time in order to ensure that:

- It meets its intended purpose.
- Emerging issues and new techniques in information technology are incorporated in the content.

The time for review will be determined by the prevailing needs.

4. HEALTH WORKERS ROLES/FUNCTIONS

4.1 Roles and Functions of the Health Workers in HMIS

- Generation and collection of epidemiological and management data, availing tools for data collection, clerking, tallying and filling of forms.
- Compilation and summarization of data.
- Data editing, classifying and presentation.
- Data analysis and interpretation.
- Use of information in:
  Planning, budgeting, disease surveillance, logistics, supervision, monitoring and evaluation, problem solving/decision making and co-ordination.

- Dissemination of data/information.
- Storage, retrieval and disposal of data/information.
- Ensure ethical handling of data/information at all levels, confidentiality and legal aspects.
- Mobilization of community to participate in HMIS.

4.2 Training Gaps and Reasons why they Exist

FUNCTION	GAPS	REASONS WHY GAPS EXIST
1. Generation and collection of epidemiological and management data, availing tools for data collection, clerking, tallying and filling of forms	Inconsistency in tallying. Inadequate tools. No indication of impression/diagnosis.	Lack of tally sheets Heavy workload Negative staff attitude. Poor utilization of available tools. Inadequate knowledge on filling the forms. Confusion on who should tally.
2.Compilation and summarization of data	Failure to complete summary forms. Poor presentation of data. None editing. Poor data classification.	Lack of feedback Negative staff attitude. Inadequate supply of tools. Poor time management. Inadequate supportive supervision. Inadequate training in compilation/summarization of data.
3. Data analysis and interpretation	Failure/Inability to analyze data	Lack/inadequate equipment. Inadequate knowledge and skills on data analysis and interpretation.
4.Use of information	Poor report writing Non-use of information. Inappropriate use of Information.	Poor planning. Inadequate supervision. Lack/inadequate knowledge/skills. Fear of being exposed. Poor motivation.
5. Dissemination of data/information	None reporting. Incomplete	Lack of commitment. Logistical problems.

	reporting. No feedback. Sharing rarely done. Poor decision making. Late reporting.	Heavy workload. Lack of awareness. Poor leadership. Inadequate training. Vested interests. Negative attitude. Poor time management Inadequate supportive supervision. Lack of team work. Fear of intimidation.
6.Storage, retrieval and disposal of data/information	Failure to store. Poor storage. Difficult to retrieve. Unable to retrieve. Improper disposal.	Lack of storage space. Lack of training on legal ways of disposal. Lack of tracing system. Negative staff attitude. Lack of disposal equipments. Complicated disposal procedure. Lack of skills/knowledge in filling system. Inadequate funding. HMIS not prioritized.
7. Ensure ethical handling of data/information at all levels, confidentiality and legal aspects.	Unethical practices. Inadequate confidentiality and understanding of legal aspects.	Lack of knowledge on medical legal aspects. Lack of safe filling facilities. Inadequate training on professional ethics. Negligence/negative attitude by staff Inadequate personnel.
8. Mobilization of community to participate in HMIS	Inadequate community Mobilization by	Inadequate training. Lack/Inadequate knowledge/skills in

	health workers. Inadequate community Participation in HMIS.	mobilization. Poor public relations. Lack/Inadequate resources i.e. transport Negative staff attitude. Wide area coverage. No time for mobilization. Poor staff motivation.

5.0.TRAINING OBJECTIVES

At the end of the training, participants should be able to:

- Fill various HMIS forms accurately.
- Acquire HMIS tools and resources on time.
- Fill in relevant patients' notes the disease impression and final diagnoses correctly and explain the importance for doing so.
- Explain who fills what HMIS form and when to do so.
- Demonstrate skills in editing, classification and presentation of data.
- Define analysis.
- Demonstrate steps and different methods of data analysis.
- State the ownership/advocacy of HMIS.
- Explain the need for reporting accurate and timely data.
- Describe use of information in decision making and problem solving, planning, supervision and steps involved.
- Identify and use modern methods and technology of data/information storage, retrieval and disposal.
- Appreciate the need to rehabilitate and use existing storage facilities.
- Appreciate the importance of confidentiality and security of health records and information.
- Appreciate the importance of community mobilization to participate in HMIS activities.

6.0. TRAINING METHODS, SPECIFIC OBJECTIVES AND COURSE CONTENT.

6.1. Training Methods

The following training methods will be used: Lecture, Demonstration, Discussion, Brain storming, Role play, Lepsa, Exercises, and Field visits.

6.2 Specific Objectives and Course Content

6.2.1 Generation and Collection of Epidemiological Data

The main aim of this topic is to introduce participants to HMIS and make them understand concepts of data collection, different sources of data, tools used and acquisition of those tools using different sources of funding**.**

SPECIFIC OBJECTIVES At the end of this topic, learners should be able to:	CONTENT	DURATION
Describe health records, data and information. Explain different sources of data and tools used in collection of data. Correctly fill the relevant forms. Order and stock enough tools. Indicate the correct diagnosis/impression. Demonstrate & describe the rationale of using HMIS tools. Explain the importance of generation and collection of data. State who is to fill the HMIS forms at various levels.	Description of health records, data, information and their importance to Epidemiological studies. Explanation of different sources of data and tools used to collect data. Types of HMIS forms Demonstration of correct filling of the HMIS forms. Importance of collection of timely data. Importance of completeness and accuracy of data. Roles of various health workers in generation and collection of epidemiological and	30 Minutes 30 Minutes 1 Hour 1 Hour 15 Minutes

	management data. Sustainability of HMIS supplies. Importance of indicating diagnosis.	15 Minutes 1 Hour 1 Hour 30 Minutes
TOTAL		6 Hours

6.2.2. Compilation and Summarization of Data/Information

The main objective of this topic is to equip participants with knowledge, skills and appropriate attitude towards data summary and presentation so as to allow its immediate utilization at facility level.

SPECIFIC OBJECTIVES At the end of this topic, learners should be able to:	CONTENT	DURATION
Demonstrate skills in editing and classifying data.	Definition of data editing and classification. Demonstration of editing and classifying data.	1 Hour 1 Hour
Demonstrate ability for summarizing data in tabular form.	Description of different tabulation methods.	2 Hours
TOTAL		4 Hours

6.2.3. Data Analysis and Presentation

Demonstrate steps and different methods of data analysis.

This topic is to enable the participants to skillfully analyze and present different types of information in various ways.

SPECIFIC OBJECTIVES	CONTENT	DURATION
1. Demonstrate presentation of data in various ways 2. Demonstrate skills in simple data Analyzes	Demonstration of data presentation in various ways e.g. charts, bar graph Demonstration of simple statistical methods for data analysis. e. mean, median and mode	4 Hours 3 Hours
TOTAL		7 Hours

6.2.4. Use of Information

This topic is to enable the participants to use information for decision making and problem solving, planning monitoring and evaluation and communicating effectively.

SPECIFIC OBJECTIVES At the end of this topic, learners should be able to:	CONTENT	DURATION
State the importance and use of information in health	Explanation of information use in	3 Hours

Planning. Demonstrate skills in report writing through use of information	planning, decision making, problem solving and disease surveillance. Demonstrations on how to use information in report writing	2 Hours
TOTAL		5 Hours

6.2.5. Dissemination of Data/Information

This topic will equip participants with knowledge and skills for communicating information to the relevant stakeholders more effectively. It is also intended to improve the data/information flow to various points on time.

SPECIFIC OBJECTIVES At the end of this topic, learners should be able to:	CONTENT	DURATION
Appreciate the need to share information with other stakeholders on time. Give timely feedback	Identification of different information users. Types of information to be shared. Methods of sharing information. The need for giving timely feedback. Description of time management and team work. Explanation of levels of data and information flow.	1 Hour 2 Hours 2 Hours
TOTAL		5 Hours

6.2.6. Storage, Retrieval and Disposal of Data/Information

The main objective of this topic is to equip participants with relevant basic knowledge on how to store, retrieve and dispose records, data and information.

SPECIFIC OBJECTIVES At the end of this topic, learners should be able to:	CONTENT	DURATION
Describe different methods of records, data and information storage. Demonstrate records, data and information retrieval methods. Explain procedures followed in records, data and information disposal. Appreciate the need to store data and information.	Explanation of methods of records and data storage, e.g., manual and electronic filing systems. Tracing system, storage facilities filing equipment, Methods/procedures of disposal of records, data and information such as shredding, incineration and recycling. Rehabilitation and usage of existing storage facilities.	3 Hours 2 Hours 1 Hour
TOTAL		6 Hours

6.2.7. Ensure Ethical Handling of Data/Information

This topic is to allow participants know the confidentiality aspects and legal implications of records, data and information.

SPECIFIC OBJECTIVES At the end of this topic, learners should be able to:	CONTENT	DURATION
Define confidentiality state medical legal aspects state the need to maintain confidentiality appreciate the importance of professional ethics	Definition of confidentiality. Importance of confidentiality. Introduction of medical legal aspect in relation to HMIS. Explanation of the importance of professional ethics. Importance of safe custody. Discussion on legal implications of not observing professional ethics.	4 Hours
TOTAL		4 Hours

6.2.8. To Mobilize Community for Participation in Linking CBHMIS and HMIS

Community information is important and should be linked to facility based information to form a comprehensive database on health. This topic, therefore, is to equip participants with knowledge, skills and appropriate attitudes in linking CB-HMIS and HMIS.

SPECIFIC OBJECTIVES At the end of this topic, learners should be able to:	CONTENT	DURATION
Demonstrate steps in CB-HMIS development Participate effectively in development and	Outlining the steps in CB-HMIS development. Demonstration of procedures carried out by an existing CB-HMIS site Explanation of importance of linking CB-HMIS and HMIS.	8 Hours

linkage of CB-HMIS and HMIS.		
TOTAL		8 Hours

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The following people were members of the panel that reviewed this and the other documents in the CBHMIS Tool Kit.

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