

**ASSESSING 50 YEARS OF AMREF'S INTERVENTION IN KAJIADO
DISTRICT, KENYA**

AMREF Discussion Paper Series

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ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
AMREF	African Medical and Research Foundation
ARV	Antiretroviral
ASAL	Arid and Semi-Arid Lands
AusAID	Australian Government Overseas Aid Programme
BOAG	British Overseas Agencies Group
CBHC	Community-Based Health Care
CBO	Community-Based Organisation
CHM	Community Health Motivator
CIDA	Canadian International Development Agency
DANIDA	Danish International Development Agency
DDC	District Development Committee
DDP	District Development Plan
DfID	Department for International Development
DMOH	District Medical Office of Health
ECHO	European Commission Humanitarian Aid
FBO	Faith-Based Organisation
FGD	Focus Group Discussion
FINNIDA	Finnish International Development Agency
GOK	Government of Kenya
HIV	Human Immunodeficiency Syndrome
ITN	Insecticide Treated Net
KEPI	Kenya Expanded Programme on Immunisation
KIHBS	Kenya Integrated Household Budget Survey
km	kilometre
MCH	Maternal and Child Health
MIDPP	Maasai Integrated Development Partnership Project
MOH	Ministry of Health
MSC	Magadi Soda Company

NGO	Non-Governmental Organisation
NHSSP	National Health Sector Strategic Plan
NHU	Nomadic Health Unit
OECD	Organisation for Economic Co-operation and Development
ROK	Republic of Kenya
RTA	Rapid Trachoma Assessment
SAFE	Surgery, Antibiotics, Facial cleanliness & Environmental improvement
SIDA	Swedish International Development Co-operation Agency
SSI	Sight Savers International
STI	Sexually Transmitted Infection
TB	Tuberculosis
TBA	Traditional Birth Attendant
TOT	Trainer of Trainers
UK	United Kingdom
USA	United States of America
USAID	United States Agency for International Development
VHM	Voluntary Health Motivator
VIP	Ventilated Improved Pit
WASUP	Water and Sanitation Umbrella Programme
WHO	World Health Organisation
WMS	Welfare Monitoring Survey

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ABSTRACT

AMREF has been implementing health interventions in Kajiado District, Kenya, since the early 1960s. At that time, the rationale was that the pastoral communities were marginalised and in dire need of health services. Over the years, AMREF's interventions in the district have evolved and responded to specific and changing needs of the communities. This paper attempts to assess the impact of this long-term engagement and has employed a combination of different methodologies which included: a review of existing documentation within AMREF on programme/project design, reports and evaluations; a review and analysis of official secondary data; and collection and analysis of primary data from beneficiaries and key informants on their perceptions of project impact. A matrix was created to assist in collating and outlining all project information in a systematic and sequential manner ensuring that all projects covered within the period in question were examined.

The findings indicated that while the intended intervention outputs had been achieved, the demographics of the district had substantially shifted thereby altering the characteristic of target population. It was also found that, to a large extent, the health status of the communities in Kajiado had improved as a result of the interventions. Further, the interventions had enhanced the capacity of the communities to partner in their own health and contributed to strengthening the health system. However, because of the inherent lack of consistent adequate documentation of critical information and the fact that there were many other organisations implementing similar projects, it is difficult to attribute all the achievements to AMREF alone.

1.0 INTRODUCTION

Until very recently, the performance and impact of humanitarian and non-governmental organisations was accepted as an act of faith, predicated upon their reputation rather than rigorous objective assessment. But as the source of their support has expanded to include funds from public sources, particularly from governments and bilateral donor agencies, the pressure for more objective assessment of their interventions among target communities has arisen. This has been particularly pronounced following the global explosion of NGOs after the end of the Cold War, the spread of transparent democratic governance, and subsequent demands for formalisation of NGOs and professionalisation of their operational processes, as well as reliable and impartial evaluation of the impact of

their performance. Today, the issue of effectiveness is a major concern among civil society organisations as well as their donors and there is a large and growing literature focusing on conceptual and methodological problems associated with assessment of their impacts (Howes, 1992; Davies, 1997, and Fowler, 1997).

Two widespread reviews of donor-supported activities by NGOs have raised major concerns about their real impacts on the well-being of their target populations (Riddell *et al*, 1997 and Oakley, 1999). For a long time, there was little quantitative data providing concrete evidence on the extent to which NGO interventions could be scaled-up or replicated. Thus, the influence of these organisations on public policy and practice remained constrained due to the difficulty of providing clear evidence validating their achievements. However, in spite of the growing consensus concerning the need for rigorous verification of the impact of NGO's work, a number of problems concerning appropriate data and methodological designs for persuasively verifying their long-term outcomes on beneficiary local communities are yet to be resolved. These include exaggerated initial expectations (expressed in project objectives), diversity of activities and/or shifting project goals influenced by "mission creep", multiplicity of players with different missions and reporting requirements, inadequate baseline data and inappropriate methodological implementation design. These methodological problems may also be associated with the structure and operation scale of the implementing organisations themselves, and especially their corporate cultures. The problems mentioned above potentially afflict most non-profit humanitarian organisations, including the African Medical and Research Foundation (AMREF) which has been involved in a wide range of health-related interventions in a number of African countries over the last 50 years. Although some of the approaches initially pioneered by AMREF have since been adopted by other non-profit organisations and governments, little effort has been made to provide empirical evidence verifying their impacts on the well-being of target beneficiary communities, as indeed their long-term sustainability. In an attempt to fill this gap, this study seeks to assess the impact of one of the Foundation's longest interventions in Kenya-the Kajiado nomadic health project.

1.1 Evolution of AMREF

In 1956, three doctors – Michael Wood, Archibald McIndoe and Tom Rees drew up a groundbreaking plan to provide medical assistance to remote regions of East Africa. Spurred by combined effects of poverty, tropical diseases and lack of adequate health services in East Africa, their collective vision was born in the foothills of Mt Kilimanjaro in 1957. This saw the birth of the African Medical and Research Foundation and its Flying Doctor Service. At that time, there was one doctor to every 30,000 people in East Africa while Britain had 1:1,000. Medical facilities were extremely scarce, with rough terrain and often impassable roads making access to medical care difficult for people in rural and remote areas.

AMREF started providing health services for nomads in Kenya and Tanzania in 1961. In 1962, AMREF had set up the largest radio network in East Africa. The East African Flying Doctor Services was registered around the same time as AMREF UK. AMREF in Germany and the Flying Doctor Service in Zambia were established in 1963. AMREF in Switzerland and Netherlands were registered in 1969 and 1970 respectively. The following year, the Flying Doctors' Society of Africa was founded as the only privately owned aviation service in the world offering medical evacuation services. Over the years, donations through the Flying Doctors local and overseas network enabled them to provide life saving services. The Flying Doctor Service has evolved into an autonomous, profit-based entity with an annual budget of \$4.5 million. Over time, AMREF has also evolved from a one-man operation bringing surgical skills to mission hospitals into an organisation of international standing.

AMREF's vision is better health for Africa. Its mission is to ensure that every African can enjoy the right to good health by helping create vibrant networks of informed and empowered communities and health care providers working together in strong health systems. Today, AMREF implements its projects through country programmes in Kenya, Ethiopia, Uganda, Tanzania, Southern Sudan and South Africa with national offices currently in Austria, Canada, Denmark, France, Germany, Italy, Monaco, Netherlands, Spain, Sweden, UK and USA. Training and consulting support are provided to an

additional 30 African countries. In 1999, AMREF was awarded the Conrad Hilton Prize for Humanitarian work and in 2005 the organisation became the first ever African winner of the Gates Award for Global Health for making major and lasting contribution to the field of health in Africa.

Although African health systems strive to reach all communities, they are stressed by the burden of seemingly intractable diseases, insufficient human resources, organisational development failures, funding problems and insufficient community involvement/engagement in the design, implementation or evaluation of services. According to AMREF's 2007-2017 strategy, the gaps between the communities and the rest of the health system were reflected in the following: barriers to communication that compromise the ability to share information and a reluctance to guarantee communities a voice in decision-making, a disconnect between the informal health sector (e.g., community-based health care workers and traditional service providers) and those in the formal sector, missed opportunities to increase health promotion and preventive care efforts in communities, attendant problems of access to, and utilisation of quality services, weak data collection and research on community health needs, strengths and weaknesses for appropriate policy formulation and compromised or ineffective referral systems and access to specialist services.

1.2 Nomadic Health Programme

In order to respond to the dire needs for health services by pastoralists in remote parts of Kenya, AMREF began implementing projects, the earliest being Kajiado in 1961. Dr. Roy Shaffer started the mobile unit in Kajiado where health services were delivered through ground transport. They operated intermittent mobile clinics for nomadic Maasai pastoralists who were widely scattered over southern Kenya and northern Tanzania. Subsequently, AMREF started operating another mobile unit in Turkana. However, a laboratory to investigate the high incidence of hydatid cysts associated with *Echinococcus granulosus* tapeworms had earlier been set up in the arid region in 1977. The mobile unit was operated in the 'field' for a 25-day period, followed by a few days of administration and 13 days of leave for the staff. A schedule was made at the beginning

of the year incorporating a total of eight trips, leave and a training period for staff held in Nairobi. In the field, the unit was arranged into diagnostic, immunisation and antenatal sections, laboratory facilities and a dispensary with the most serious cases being referred to Kakuma Mission Hospital. Health education sessions were offered on an informal basis. There was also daily radio contact between the mobile unit and the base camp. Responding to the mobility of the Turkana, the mobile unit seemed to be compatible with their medical beliefs - offering an alternative to indigenous therapy while retaining the notion that the Turkana were responsible for their own health care. However, medical effectiveness was compromised by the very low frequency of contact with health care personnel and inability to carry out effective follow-ups.

1.3 Geographical characteristics of Kajiado district

Kajiado district is characterised by plains, valleys and volcanic hills and is situated between 600 and about 2500 metres above sea level. The climate of the district is influenced by altitude, especially Mount Kilimanjaro, Ngong Hills, Chyulu Hills, Loita Hills and Mau Hills. Most of Kajiado district is semi-arid and the temporal rainfall distribution is bimodal with an annual average of 600 mm but it increases with land elevation from 500 mm in the plains to 1250 mm in the highlands. Temperatures and potential evapo-transpiration vary with altitude and range from 12°C and 1700 mm in the highlands to 34°C and 2500 mm in the lowlands, respectively. Over the last 50 years the district has experienced cyclic droughts impacting negatively on poverty levels among the Maasai who mainly depend on transhumant production. Being a semi-arid region, access to water and sanitation in Kajiado have remained persistent health challenges.

The population of Kajiado district has increased more than five-fold since independence. This has mainly been as a result of migration from the densely populated neighbouring areas of Central and Eastern provinces, as well as the bordering areas of Rombo in Tanzania. The spatial distribution of the migrating population has been uneven leading to relative decrease in the proportion of the population of indigenous nomadic Maasai. The overall proportion of the Maasai population in Kajiado district has been declining rapidly from 78.9% in 1962 to 56.5% in 1989 and the trend has continued.

In the context of declining proportion of indigenous Maasai pastoralists, as indeed their gradual displacement to relatively drier parts of the district, the appropriateness of initial operational designs and the impact of AMREF's interventions on the health status and general well being of the target nomadic communities raises significant questions.

2.0 STUDY DESIGN

2.1 Scope and significance of the study

This study aims to assess the impact of health interventions by AMREF in Kajiado district, Kenya, since the early 1960s. The range of activities involved arguably constitute the largest and broadest health interventions by AMREF in any single area and some of the projects have also maintained consistent objective continuity. Potentially, this would make it possible to gain deep understanding of major phases in AMREF's operational transitions over time, as well as keen appreciation of critical socio-political contexts and long-term impacts on positive change in the health status and general well-being of the targeted local communities. An important underlying assumption here is that objective assessment of the impact of any project must ideally transcend narrow technical concerns relating mostly to efficiency of implementation.

Clearly, a study focusing on activities in a district such as Kajiado with unique ecological characteristics and disease profiles may only give a partial picture of the overall performance of AMREF, which is today the largest health-oriented non-profit organisation in Africa. However, given the long history and depth of the Foundation's interventions, it is expected that the results of this study may contribute in determining the extent to which outputs and outcomes of this long experience as well as the implementation designs of its interventions can be replicated in similar environments.

2.2 Conceptual and contextual challenges

While conceptualisation of the impact of interventions in terms of sustainable positive change has recently gained considerable currency among major health-oriented NGOs and their benefactors, it presents considerable methodological challenges, particularly in complex and dynamic socio-economic environments like Kajiado district. Compounded by relatively fast rates of natural population growth mainly due to in-migration, this has

exacerbated land use change, degradation of natural resources and decline of previously dominant transhumance pastoralism. However, these changes have also been significantly influenced by official government policy favouring sedentary agriculture and agro-pastoralism in contrast to transhumant pastoralism. Over the years, Kajiado district has witnessed the expansion of infrastructure and social facilities, including primary and secondary schools, as well as water, health and veterinary services. In addition to government efforts, a large number of local, national and international NGOs have been active in most parts of the district, providing support for similar interventions in many areas. In such circumstances, correctly determining causal paths for changes in health status and general well-being of the population and attributing these to any particular player, presents considerable difficulties, requiring intimate understanding of the socio-political contexts of project implementation.

2.3 Study design

The study adopted a case study approach utilising data and information relating to specific AMREF interventions implemented in Kajiado district since 1963. This included evaluation reports prepared for funding agencies and interviews with key stakeholders, particularly representatives of beneficiary communities as well some of the key players in the implementation of the projects. The inclusion criteria was community members knowledgeable about the activities of AMREF; participants consenting to participate in the study, and other stakeholders knowledgeable about AMREF's activities in Kajiado district. A purposive sample of 100 beneficiaries was selected in 4 of the 7 divisions due to uniqueness of the interventions undertaken by AMREF in the individual divisions. The sampled divisions were Kajiado Central, Isinya, Loitokitok and Magadi.

Kajiado Central: was sampled to study the borehole rehabilitation project. A multi-stage sampling design was used to arrive at the individual borehole site. Mailua borehole cluster was randomly selected from the 7 borehole clusters in the district.

Isinya: was sampled to study the shallow wells project but more importantly to determine the sustainability component for the water and sanitation interventions. AMREF had left the area four years earlier; so selection of the site was meant to shed

light on the project's continuity. A purposive sample of 20 beneficiaries were selected and interviewed in Olturoto location.

Loitokitok: was sampled to study water and sanitation projects. This included provision of VIP latrines and the installation of pipelines to supply water in the area. Loitokitok has become the bedrock for water and sanitation projects in Kajiado district according to the then Ministry of Arid and Semi-Arid Lands. A purposive sample of 20 beneficiaries was selected and interviewed in Rombo.

Magadi: was sampled to study the earliest and longest interventions undertaken by AMREF. Interventions undertaken in Magadi included safe motherhood, trachoma control, community health, school health education, water and sanitation, maternal to child health, sexual and reproductive health projects. A purposive sample of 30 beneficiaries was interviewed from Olkimaratian and Oldonyonyokie. In Olkimaratian, the beneficiaries were evenly distributed in Entasopia, Ngomongo, Soweto and Olkimaratian. In Oldonyonyokie, the beneficiaries were evenly distributed in Oldonyonyokie and Ereret.

2.4 Data collection and analysis

Personal interview method was used to obtain data from the beneficiaries. A structured interview schedule with closed and open-ended questions was used. Beneficiaries were required to give consent if they chose to participate in the study. Unstructured interviews were conducted with key informants using an interview guide. These were mostly former and current project staff, opinion leaders (local chiefs, local councillor and the District Officer), Ministry of Health officials (District Public Health Officers), Ministry of Education officials (Deputy District Officer and area Headmaster), former Ministry of Arid and Semi-arid Lands officials (Drought Management Officer) and the water artisans. A focused interview was used for the focus group discussions to explore, ideas, experiences and possible divergent views of the beneficiaries in the subject of study. Four focus group discussions (FGDs) with the various management committees were conducted in the district. Descriptive statistics were used to organise and summarise collected data. In addition, responses from open-ended questions, key informant

interviews and FGDs were analysed qualitatively according to emerging themes and then used to supplement, explain and interpret quantitative data.

2.5 Complementary methodologies

In order to respond to the challenges outlined earlier, the following three approaches were also adopted:

- a) A detailed review of all available project documents relevant to Kajiado district was undertaken to facilitate chronological ordering and categorization by type¹.
- b) Following this initial review, a comprehensive matrix was created. The information in the matrix included project objectives, activities, outputs, source and size of funding and summary of earlier evaluations².
- c) More comprehensive and contextualised interpretation and analysis of the data in the matrix was aided by additional information from secondary sources at the district and national levels. These included demographic, anthropological and socio-economic indicators.

3.0 DEMOGRAPHIC PROFILE OF KAJIADO

The demographic profile of Kajiado district has been very dynamic over the last 50 years. In-migration has witnessed an upward trend since 1962. Overall population densities are highest in Ngong, Isinya, Namanga and Loitokitok divisions; projected in 2008 at 66, 39, 24 and 22 per square km, respectively.

According to the 1962 population census, the Kikuyu, Kamba, Luhya, Luo and the Chagga started settling mainly in Loitokitok, Ngong and other townships in the district soon after independence. Most of the migrant populations were attracted by the farming and business opportunities in Kajiado district. It was also noted that the population of in-migrants has out numbered that of the native Maasai, particularly in Ngong and Kajiado townships.

¹ In many cases there was emphasis on indicator of project outputs rather than outcomes.

² The data yielded only a narrow picture of project achievements since the broad socio-economic perspectives required for meaningful contextualisation was not available.

The indigenous population of Kajiado district has continued to practise traditional pastoralism that encouraged semi-nomadism where most land was communally owned. But there has also been significant diversification into agriculture and sub-division of land. The motivation for initial establishment of group ranches came from the need to protect pastoral land against encroachment and sub-division by immigrants. But, the government welcomed further sub-division and enacted a policy since the early 1980s to promote it (Campbell *et al*, 2003). Thus sub-division of group ranches and registration of individually-owned parcels hastened the pace of land sales to outsiders and promotion of farming in the district.

In Loitokitok, the immigrants have settled mainly in the high potential agricultural areas and market centres which have undergone a population explosion over the years and witnessed radical land use change. Almost the entire area between the Tanzania border and the semi-arid plains has been cleared and turned into agricultural farms operated by immigrant communities as well as the Maasai. (Campbell *et al*, 2003).

Urban and market centres have also attracted in-migrants in Kajiado district. The average rate of population growth in the last 10 years has been 8.6%, 7.2%, 3.7%, 2.8% and 0.4% for Ngong, Ongata Rongai, Kajiado, Namanga and Loitokitok respectively (Kajiado DDP, 2002).

The overall poverty incidence in the district is 40.9%, but it is unevenly distributed among administrative divisions. It was noted that Loitokitok (66%), Mashuru (61.5%) and Isinya (60.1%) had the largest proportion of poor people. The proportion of the poor in the other divisions is estimated at 45.4%, 35.6% and 11.4% for Magadi, Namanga and Ngong, respectively. However, even within these divisions, poverty was not uniformly distributed as it was lower in high potential agricultural areas and urban areas close to Nairobi. In divisions neighbouring Nairobi, that is, Ngong and Isinya, poverty was aggravated by pressure on land due to the high population of in-migrants. In rural divisions like Mashuru, part of Central and Magadi, poverty was aggravated by poor

infrastructure, acute water shortage and frequent droughts which sometimes wiped out their livestock.

Poverty and health are inextricably linked and influence each other directly or indirectly. Most of the illnesses associated with poverty are infectious diseases such as diarrhoeal illness, malaria and tuberculosis. Health and health-related information (WMS II, 1994 and WMS III, 1997; and KIHBS, 2006a) for Kajiado district indicated the following:

- The proportion of households using boreholes and protected wells as the main source of drinking water had increased over time.
- The proportion of non-functional boreholes had declined from 63.5% in 1994 to 33.3% in 2002.
- Access to safe drinking water had increased from 63.1% in 1994 to 73.8% in 2006.
- The proportion of households able to access safe drinking water in less than 30 minutes had been on an upward trend while the proportion of households able to access safe water in more than 60 minutes was on a downward trend.
- Sanitation remains a major challenge in the district due to the mobility and socio-cultural beliefs of the Maasai. Access to safe sanitation declined from 63.8% in 1994 to 43.8% in 2006 with rural Kajiado recording the lowest sanitation levels with 26.1% coverage.
- The number of households without any form of toilet facility declined drastically from 75% in 1987 to 36.2% in 1994, but rose again from 1994 to 56.2% in 2006. This is possibly due to the population increase resulting from high in-migration.
- Seventy-three per cent (73%) of the poor households had no toilet facilities compared to 38.6% of the wealthier population.
- The levels of diarrhoea had declined drastically from 7.1% in 1987 to 2.7% in 2006, possibly attributed to improved access to safe water supply.³ The overall prevalence of diarrhoea in Kajiado district among children under 5 years was

³ The result of a correlation between access to safe water and diarrhoeal morbidity showed that an increase in safe water access resulted to a decline in the prevalence of diarrhoea.

5.9% in 2006 compared to the national prevalence rate of 10.7%. Children from poor households (13.4%) had a higher prevalence of diarrhoea compared to those from non-poor households (4.8%).

- The prevalence of eye problems in Kajiado district (5.1%) was almost four times higher compared to the national (1.4%) prevalence. This was mainly due to the high endemicity of trachoma in the district. It should, however, be noted that the prevalence of eye infections had declined slightly from 5.3% in 1987 to 5.1% in 2006.
- Home delivery in Magadi division declined from 67% in 1994 to 58.7% in 2006. Although district-wide numbers remained extremely high, utilisation of the hospital facility during delivery had also improved over the 12-year period rising from 32.6% to 41.3%. However, the prevalence of home deliveries among the poor (77.8%) was higher compared to the non-poor (62.5%). The utilisation of health facilities was also lower among the poor (22.2%) compared to the non-poor (37.5%).
- Access to health care by the Maasai who had generally moved further into the drier parts of the district was low given that these were the areas with majority of poor people.
- The proportion of mothers assisted by a traditional birth attendant during delivery declined from 62.5% in 1994 to 56.7% in 2006. These levels are still very high and could result in persistently high infant and maternal mortality rates. Also, 77.8% of the poor use a traditional birth attendant during delivery compared to 56% of the non-poor.
- Immunisation coverage increased from 36% in 1987 to 61% in 1995 with a drastic drop to 45% in 2001. The proportion of children aged 12-23 months who were immunised improved tremendously from 63.7% in 1994 to 71.6% in 2006 with 58.7% of the non-poor having received full immunisation coverage compared to 45.3% of the poor.
- According to the 1999 population census, more than half of the people took more than an hour to reach the nearest dispensary. Sixty one point three per cent (61.3%) of the residents had to walk more than 5 km to access a health facility.

- Infant mortality rate rose from 45/1000 in 1979 to 47.9/1000 in 1999. However, the infant mortality levels were lower compared to the national levels (70/1000 in 1979 and 77.1/1000 in 1999).
- Although life expectancy at birth was 63 years in 1999, this was still higher than the national average which had declined from 61.9 to 56.6 years for the same period. However, there has since been a rapid decline in the life expectancy to 43 (DMOH, 2000).

In summary, the results from the secondary data sources indicated that poverty was a major impediment towards realising positive health outcomes. In addition, significant positive health outcomes may not have been achieved in the district as shown by the trends in mortality levels, under-five mortality, crude death rate and life expectancy. This could be attributed to low access to health facilities, low immunisation and sanitation coverage as well as high levels of home deliveries. Measles was by far the leading cause of infant mortality in Kajiado district (Kajiado District Development Plan 1997-2001). This was consistent with the trend in immunisation coverage which was on a decline. However, the high prevalence (13%) of HIV/AIDS (DMOH, 2000), may also have contributed to the rapid decline of life expectancy in the district.

In-migrants from neighbouring communities have generally settled in the areas well served by health facilities, road networks and water projects. The nomadic Maasai have moved further away into the more arid areas in search of pasture. Thus, the pastoralists in the district are constantly moving, yet the interventions tend to be static. This implies that after sometime, long-term projects may end up serving beneficiaries not originally targeted, while the living standards of the nomadic Maasai continues to deteriorate. However, it must also be acknowledged that this community has experienced significant socio-economic transformations over the last 50 years.

4.0 HISTORICAL EVOLUTION OF AMREF INTERVENTIONS IN KAJIADO DISTRICT

The historical transformation of AMREF's interventions can be divided into four phases. Between 1957 and 1969, the Nomadic Health Unit provided intermittent curative and preventive services in Maasailand. Following a review of the health situation and needs in Kajiado and Narok districts in 1963 and 1964, the mobile service delivery system was found appropriate because of the mobility of the Maasai (Shaffer, 1963)⁴.

Thus the period 1970-1985 saw the introduction of mobile clinics with emphasis on prevention, teaching and training. Its main geographical areas of focus were Kajiado, Bissil and Isinya (AMREF, 1975). During the 1986-1999 period, emphasis shifted to community-based health care which included adult literacy classes, workshops/field visits, establishment of health committees, safe motherhood and trachoma control. Finally, during the 2000-2008 period, AMREF shifted focus towards water and sanitation interventions with an aim of improving the health status of communities. AMREF's presence in Kajiado since the early 1960s has witnessed specific health interventions which can be grouped into six broad categories, namely: mobile health and health centres, community-based health care, school health education, trachoma control, water and sanitation, safe motherhood and reproductive health.

4.1 Mobile health clinic and health centres

The main objective of the Mobile Unit was to offer a "complete child protection programme through immunisation, school medical services and curative medicine in remote parts of Maasailand." The unit mainly provided prophylaxis, vaccination and curative services (AMREF, 1970). However, simple curative medicine and measures were considered as only temporary palliative in the special context of the nomadic environment. To ensure a lasting effect, considerable emphasis was put on preventive and promotive health measures. Flights were also used to complement the activities of the mobile units in remote areas (AMREF, 1973).

⁴ In 1964, Anne Sperry, a French doctor, joined the team where she conducted "mango-tree clinics" in Kajiado and Lamu districts, and Northern Kenya. In 1966, she was joined by two nurses to run ground mobile clinics among the Maasai in Kajiado and Narok Districts. The area they covered was so vast that they were only able to visit each site three times a year.

Following discussions and planning with local health authorities, new policies were adopted and changes were made to the Mobile Unit Project. It was decided that the units would work with the already established dispensaries and health centres in the area instead of “working mainly in areas without their own health facilities.” It was noted that since the unit was established a decade earlier, there had been tremendous increase in the number of dispensaries, which could be better utilised if the unit worked in them. The changes were seen as a move to strengthen and support the services, especially in maternal and child health. Furthermore, the community could receive better services from the dispensaries, and the morale of “isolated” health workers would be boosted. The pattern of curative work and prophylactic immunisations continued as before but camps were now set up near the dispensaries and health centres. Those in charge were encouraged to join in the work, to accompany the prophylactic day-safaris, and familiarise themselves thoroughly with the practical aspects of prophylactic work as well as update their knowledge on the most important disease problems in the area (AMREF, 1975).

Children in Kajiado district were dying from common, infectious and easily preventable diseases, thus a child care centre was established. However, many centres in remote parts of Kajiado lacked refrigerators, which made routine immunisations very difficult. Those that survived were sometimes disabled by polio and tuberculosis (TB). The unit therefore set up a complete child protection programme with immunisation as one of its prime objectives. 1977 marked the 8th year that mass immunisations had been completed in Kajiado District. A total of over 250,000 immunisations had been completed, a remarkable landmark for the unit (AMREF, 1976). In collaboration with the MOH immunisation teams in Kajiado, the unit continued to meet children who were obviously in need of help. In September 1978, Lengisim area in Kajiado was hit by an outbreak of plague and the unit responded by helping the Division of Vector Borne Diseases and MOH on a plague surveillance campaign.

By 1979, two more objectives were proposed, i) to support the government's rural health programme by directing services towards rural and poor people most in need and whose conditions could be helped through improved access to minimal primary health care; and ii) to enable the district health teams offer services and carry out preventive health campaigns through utilisation of AMREF's mobile services, including use of light aircraft to cover remote areas. AMREF's Mobile Rural Services Project was also involved in the development of two sub-programmes, Kajiado Child Care Centre and the Mbirikani Child Care Centre which was later turned over to two mission organisations under the supervision of the Mobile Unit. In 1980, the unit was finally integrated with the government and mission rural health programmes in remote parts of Kenya. This was so that it could cover as many rural communities as possible. (AMREF in Action, 1980).

In the second half of 1984, the unit had taken over a Child Survival Programme in Kajiado and Narok districts as part of AMREF's famine relief project which was designed to help feed over 32,000 children under the age of five. In the same year, the immunisation programme was redesigned to supplement and sustain the Kenya Expanded Programme on Immunisation (KEPI). By 1985, family clinics were run in collaboration with the Ministry of Health and other NGOs so that the unit could cover more space without having to duplicate the work done in the hospital. Due to financial shortfalls, many mobile units supported by the government were withdrawn. This meant that AMREF had to cover some of the extra zones. An evaluation of 1984 (Kaseje *et al.*, 1984), recommended that there was need to devolve from mobile clinics to fixed centres for more effective delivery of services. This led to the setting up of Entasopia dispensary in 1984 which was handed over to the Ministry of Health in 1986 and later returned to AMREF in 1992. Since the mobile clinic had placed strong emphasis on curative health care services, the CBHC components emphasised preventive health through community and school health education, community health workers and community development.

The component of cost-sharing was also introduced in the Entasopia clinic. This static health centre was intended to serve as a focal point for mobile clinics, mother and child health and CBHC activities, the main emphasis being more efficient provision of

preventive and promotive services. One major weakness of the mobile clinic service had been lack of continuity with regard to community health and preventive health personnel.

Health sector reforms in Kenya identified formation of effective partnerships as an important strategy for providing quality health services to various communities in the country, particularly in the rural areas. This led to expansion of Entasopia into an integrated health programme aimed at training, service provision, community participation and intersectoral collaboration. The programme was based at the Entasopia health centre that also acted as a referral centre for six collaborating government health dispensaries. The involvement of the community at various levels of the project enhanced a sense of ownership, which also ensured long-term sustainability. Such community involvement and participation included the CBHC approach through volunteer CHWs, CHMs, TBAs, opinion leaders and CBOs. Involvement and working in partnership with the various key stakeholders, such as the GOK/MOH, Magadi Soda Company (MSC) and Maasai Integrated Development Partnership Project (MIDPP) enabled mutually shared responsibilities and design for an exit strategy. This was made possible through capacity building and advocacy. The Entasopia Integrated Health Programme covered trachoma control, community-based health care and the school health programme (Entasopia Integrated Health Programme, 2004).

The project was started with the aim of increasing access, utilisation and ownership of quality health care services at health facility and community level. It was accomplished through increased access to an essential and sustainable MCH delivery package for a nomadic pastoral population, increasing capacity of Entasopia health centre and five government dispensaries to provide quality health care services and increased management capacities of health facility management committees to support health care delivery.

4.2 Health promotion and education

Health education emerged as a component of the Nomadic Health Unit when it was recommended that prevention, teaching and training be included as a strategy to ensure sustainability (AMREF, 1971). Its main goals were to extensively increase teaching,

expand the publishing field and increase field research programmes. The component of health education was used in different programmes e.g. nutrition education which was conducted using trained villagers who had been selected by the community. This led to the introduction of the School Health Programme targeting primary schools. The latter part of the unit's services was based on the "peripheral dispensaries and health centres, at Meto, Elangat Waus ('Mile 46'), Shompole, Olkiramatian ('Kalima'), and Ewaso Kedong (AMREF, 1976). TB scouts and cough watchers who had been selected by the community were trained on TB control, detection and treatment (AMREF, 1972). By 1974, the School Health Programme had been extended to nine primary schools. The mobile unit also travelled further into remote areas to discuss immunisation, TB, dehydration, education, nutrition, eye infections and other preventable diseases. The school was viewed as a starting point for adult literacy and nutrition classes thus rousing interest in community development (AMREF, 1976).

After the survey in April 1984, four rural schools were selected to serve as learning centres in order to improve school hygiene and environmental conditions of the areas surrounding the schools. Support came from AMREF's Health Behaviour and Education Department who were planning to publish a teacher's manual. Mobile clinics were also held in the schools where outreach immunisation and trachoma projects were functioning. In addition, they were assigned a full-time health educator. Health education activities involved school health education, health education in community groups, home visiting and follow-up, hygiene clubs and seminars for teachers and women groups (AMREF Nomadic Health Unit, 1987). In the following year, an assessment of the nutritional status in four schools near Loitokitok was conducted (AMREF, 1988).

With the establishment of the Integrated Entasopia Health Programme, child and adolescent health activities were ongoing in eight primary schools, one secondary school, six pre-schools, as well as among youth out of school. This was achieved through continued active health clubs in schools and organisation of health advocacy festivals focusing on HIV/AIDS awareness.

Health education and promotion became an integral part of the water and sanitation projects. Schools continued promoting health activities e.g. in Mashuru and Namanga divisions hygiene and sanitation promotion was introduced in four schools. Training of school teachers in reproductive health and rights were conducted in Magadi and Loitokitok divisions. Forty schools in these areas included reproductive health as part of the teaching package.

4.3 Community-based health care

Following the evaluation of the Nomadic Health Unit in 1984, one of the observations was that there was need for community participation in the unit's activities. Two workers were attached to the Nomadic Health Unit and based in Kajiado to investigate the feasibility of community-based health care amongst the Maasai. They identified a strong community need for improved educational facilities and facilitated setting up of adult literacy classes. Immediate needs that were identified included modification of the traditional Maasai house into healthier dwellings and construction of short-term water reservoirs. The original objective of the programme was to train and support 100 community health workers. The programme covered Oloibelibel, Pilewa, Oloongwesi and Esilalei (AMREF, 1987). The activities of CBHC included adult literacy classes, formation of health committees and workshops/field visits. A baseline survey was also conducted to obtain information necessary for project planning, monitoring and evaluation at Enkorika, Pilewa, Oloibelibel, Oloongwesi and Esilalei (AMREF, 1988).

In the safe motherhood initiative, the community-based approach had been used with continued training and follow-up of volunteer workers, TBAs and community health workers (AMREF, 1990). The following year, the CBHC's goal was to get the nomadic and pastoralists in Kajiado to participate in improving their health. This was achieved through training and follow-up of community health motivators and an intersectoral workshop on co-ordination and collaboration for organisations working in Kajiado (AMREF, 1987).

A community-based trachoma control intervention was established through the introduction of new salaried community health workers residing in the *bomas* to facilitate

regular visits. Community health motivators (CHMs) would continue to play an important role in mobilising health innovations within the community (Bess, 1992). The CBHC projects operated autonomously and independently overlapping in geographic and institutional areas. It was envisaged that with increased emphasis on the Entasopia fixed clinic, the dispersed elements of AMREF's CBHC programme would be better coordinated, monitored and supported. As Entasopia expanded, it was necessary for the CBHC projects in and around Entasopia to be strengthened, if preventive health was to assume a stronger position (Bess, 1992). The Community-Based Health Care Programme then expanded geographically and became part of the Integrated Health Programme aimed at improving the health status of the people of Magadi and those living in parts of Ngong division (MABS consultants, 2002). Over time, the community-based health care approach has become an integral component of all AMREF projects in Kajiado.

4.4 Trachoma control

The programme began in 1984 and was viewed as vital since the prevalence rate of the disease, which was preventable, was exceedingly high in some areas. Some local health workers were trained in the diagnosis and treatment of the disease. Two strategies were adopted for trachoma control. Each house in the programme was expected to maintain a 'leaky tin' used to wash away the secretions around the eye and volunteer workers were recruited to stock tetracycline ointment and treat any patient with trachoma or acute conjunctivitis (AMREF, 1987). This resulted in a dramatic decline in the prevalence of blinding trachoma. By 1988, the proportion of individuals found to be suffering from active infectious trachoma had fallen from 53% to 15% (AMREF, 1988). Yet it was observed by the Institute of Ophthalmology (1993) that the trachoma control programme among the semi-nomadic community in Kenya, had given disappointing results. Nomadism was identified as a major problem making accessibility to water a challenge problem and the leaky tins were not used well. A strategy was proposed to introduce and sustain a system for community surveillance and accurate monitoring of trachoma cases and risk factors. The aim was to establish whether community involvement in these monitoring activities would encourage healthy behaviour, ensure timely treatment and reduce active trachoma. This was to be achieved by developing tools for community observation, monitoring and feedback status and factors contributing to it. New salaried

Community Trachoma Monitors were to be employed to provide primary eye care, measure and record visual acuity and encourage behaviour change. (The Institute of Ophthalmology, 1993). Although an evaluation of the community monitoring and trachoma control project indicated a downward trend in prevalence of trachoma, the prevailing rate remained high in villages with considerable migration of people from outside the project area.

The implementation of the SAFE strategy had been successful with regard to antibiotic delivery and use, acceptance of the leaky tin concept, and construction of separate enclosures for animals. It was established that there was little collaboration in trachoma control between the Ministry of Health and AMREF, while water was considered to be the single most important factor to address in order to minimise migration and improve the general hygiene of the inhabitants (Adala, 1999). However, lack of water in the area remained virtually beyond AMREF's control. Community-based trachoma control then became part of the Integrated Entasopia Health Programme. Pfizer supported the Community-Based Trachoma Control Project for two years (April 2001-March 2003). This support enabled the training of more volunteer CHMs on WHO's initiative of 'SAFE' strategy used globally in control of trachoma. In order to expand the project into the remaining parts of the division, Sight Savers International (SSI) offered to fund a Rapid Trachoma Assessment (RTA) in Shompole location, the results of which indicated a very high-generalised trachoma prevalence of 59% (MABS Consultants, 2002).

A subsequent study to determine the prevalence of trachoma in Shompole location in Magadi division established a general prevalence rate of 59.5%. This could have been attributed to reduced frequency of facial cleaning and the fact that toilets were non-existent in the studied *manyattas*. However, the aspect of water scarcity could not be established at the time due to the influence of the heavy rains (Ndale, 2003). A final evaluation produced positive results, indicating that the prevalence of trachoma had dropped significantly from 46.4% in 2002 to 16.0% in 2006. This in turn, led to scaling up of the SAFE approach to cover the whole Kajiado district. The Integrated Trachoma Control Project – Phase 2 was initiated with the goal of reducing the prevalence of active

trachoma below 10% and the prevalence of blinding trachoma to 1% through construction of latrines, mass treatment of 80% of the target population and demonstrational plastic water storage tanks.

4.5 Safe motherhood and reproductive health

The Safe Motherhood Project emerged as an activity under Community-Based Health Care Project at Oloshooibor. It aimed at improving management and quality of antenatal care and delivery in order to make motherhood safe. It also aimed at promoting better health care for children under two years old. This arose from the observation that although many pregnant women were seen at the mobile clinic, they only came to seek curative services for themselves or their sick children. Among the pregnant women observed at the unit, 290 of the 340 (85%) were examined only once (AMREF, 1988). A baseline survey conducted in Pilewa, Oloibelibeli, Oloongwesi and Esilalei which were the most remote and least accessible, indicated that the most prevalent diseases were immunisable and treatable. It was therefore proposed that traditional health practitioners be identified and trained. The survey also showed that 88% of the women delivered at home, illiteracy levels were 53% and the households spent 7 hours daily fetching water. A training module for TBAs was developed, immunisation was enhanced, growth monitoring of children by trained CHMs was undertaken, adult literacy classes were introduced and intersectoral collaboration was enhanced. Following the baseline, four health committees were established to guide the CHMs and communities in matters related to health. The project then embarked on training traditional birth attendants and community health motivators (Nomadic Health Unit, 1989).

A baseline survey aimed at strengthening maternal and child health services in Saikeri, Olkiramatian, Oldorko, Ngurman and Shompole revealed the following: 80% of deliveries took place at home; there was low knowledge of modern contraceptives, usage of latrines, immunisation coverage and prevalence of early marriages. Later, sexual and reproductive health education as well as HIV prevention interventions were initiated in Magadi and Loitokitok divisions in order to reduce child and maternal mortality.

4.6 Water and sanitation

The setbacks of water scarcity and non-use of latrines had persisted in Kajiado district since the inception of the mobile unit. Water security had particularly been recognised as critical to improved results in trachoma control as well as a means of minimising migration in search of water for livestock. The water and sanitation activities mainly included: borehole construction, development and rehabilitation, shallow well construction, construction of VIP latrines, education and training in hygiene and sanitation. The water projects started with rehabilitation of Esonorua shallow well aimed at increasing accessibility to clean and sufficient water supplies in addition to improving the health status of women and children who were the main drawers of water. A 1990 survey established that there were over 1,000 direct beneficiaries of the project. In 1993, AMREF began rehabilitating 80 boreholes most of which had broken down by the end of the project in 1996. As part of the lessons learnt, it was recommended that future interventions must be participatory and sustainable, involving development of local communities. The futility of repairing out-of-date equipment that had outlived their usefulness was also noted.

The Kajiado Shallow Wells Project was started in June 1996 as a collaborative venture between AMREF, the Dutch-funded ASAL programme in Kajiado and the local community. The project operated in two pilot areas – Isinya and Rombo where there was high potential for shallow ground water. The project goal was to improve access to safe water for domestic and livestock use by developing the lining of wells and installing pumps. An important strategic approach in this respect included cost sharing, inter-sectoral collaboration, and technology transfer through training of local artisans, participatory planning and management of water supplies with communities and capacity building of the community. Following a 1999 mid-term evaluation, 120 wells had been protected in both Isinya and Rombo. The achievements of the pilot project included provision of safe and permanent water throughout the year, reduced walking distance to water points, effective management of the wells through water committees, transfer of the technology enabling local communities to dig their own wells, training on pump installation and maintenance as well as education in health and hygiene. It was, however,

proposed that the coverage area of the project be expanded and the project duration extended.

In April 1999, the Boreholes Rehabilitation Project commenced again, this time taking into account lessons learnt from the previous phase. The project aimed at sustainable rehabilitation of boreholes. In line with the earlier recommendations, the project employed the following strategies and activities: community participation, capacity building (training borehole committees), cost-sharing and intersectoral collaboration. Since these strategies were being applied for the first time, it was agreed that they be evaluated after the end of the first year of operation and lessons learnt applied to the remaining period of operation. This evaluation would serve to determine the most cost effective implementation strategies. The areas covered were Mashuru, Central, Isinya and Namanga divisions and its achievements included reduced walking distance to water points from an average of 15 km to 5 km, reduced migration rate, emergence of water-related income-generating activities, increased school attendance and enhanced ownership and management skills among community members (Mugo, 2000). By November 2000, 35 shallow wells had been protected and equipped with hand pumps, 19 VIP latrines were constructed at both institutional and household level. In the following year, 45 new wells were completed, 40 VIP latrines constructed and a giant spring well protected. Focus then shifted from Isinya to Rombo.

By 2002, 231 shallow wells, 5 springs, 3 small gravity schemes totalling 13 km and 65 demonstrational VIP latrines at both institutional and household level were completed. Around this period, there was greater potential of spring protection in Rombo. This technology was very appropriate, cost effective, sustainable and community-friendly in terms of cost sharing. It could be explored to serve populations far away from the source through gravitating water down stream. In 2003, 40 more shallow wells and 20 VIP latrines were successfully completed. The major constraint encountered was the slow community contribution towards project activities. In cost sharing, the community was more willing to provide labour rather than money.

The environmental health intervention proposed to provide technical backstopping and to plan, co-ordinate and support the development, implementation, monitoring and evaluation of water, sanitation and hygiene projects in all AMREF operation sites. The Mbirikani Integrated Health and Community Development Project proposed to build and support community capacity to improve their health status and welfare sustainably. The operational areas were Loitokitok and Mbirikani divisions. The project embarked on building the capacity of the community to improve access to safe and adequate water for domestic and livestock use, to empower the community to reduce the prevalence of malaria and to demonstrate the impact of an integrated health and development intervention model. The project managed to develop and equip a 5-km water pipeline, construct 12 VIP demonstration toilets, train 28 artisans on water and sanitation technologies and work with six primary schools.

In 2005, Magadi Water, Sanitation and Hygiene Promotion Project began interventions to improve the health of children and youth in Magadi division. The project aimed at improving sanitation coverage from 5% to 20% among 25,000 residents of Magadi, increase access to safe, sustainable and adequate water from 39% to 45% and also directly improve hygiene practices among children and youths over a period of three years. Through this project, access to water facilities has increased to 53% and sanitation coverage to 15%. Although there was increased access to water, 64% of the people still used untreated water and prevalence of diarrhoeal diseases was still high. There was an observed decline in skin and eye infections amongst children under five years. Although there had been efforts to enhance replication and utilisation of latrines in the homesteads, 96% of the households did not have latrines and used the bush method for faecal disposal. It was observed that it was necessary to extend the project period and to allocate additional funds if the project was to meet its objectives with respect to sanitation. Malaria also remained a major problem and a priority area of intervention in Magadi.

The Kajiado Shallow Wells Project implemented in Loitokitok and Mashuru aimed at increasing access to safe water and adequate supply to 4,000 under-served households including the improvement of safe sanitation and hygiene practices. The project

constructed and equipped eight large wells; 11 km gravity flow systems and protected one spring. AMREF partnered with the Greenbelt Movement to increase access to water, sanitation, hygiene and environmental conservation in Namanga and Mashuru divisions. The project aimed at increasing access to safe and adequate water by 25% in five years; promote malaria prevention and community-based afforestation and soil conservation. The project constructed two shallow wells, rehabilitated two old non-functional boreholes, distributed 300 mosquito nets, constructed roof catchments in four schools and constructed four VIP demonstration toilets. In addition, eight water source artisans were trained on operation and maintenance.

The Water and Sanitation Umbrella Programme (WASUP) set out to sustainably increase access to safe water, sanitation and hygiene in nine divisions in five districts in Kenya, including Kajiado.

4.3 Developments in health services and water and sanitation

This section summarises the history of health and water development in Kajiado district from 1974 to date. It gives the governments' development thrust in these sectors as stipulated in the various national and district development plans. It also highlights the achievements realised over time in the district.

1974-1978: In 1969, Kajiado district was served by 159 hospital beds giving a ratio of 1.86 beds/1000 people. With the opening of a 95-bed hospital in Loitokitok, the district was above the national target. However, health centres and dispensaries were the key element in the health services for the rural population. For the next period, a programme of nutrition and child care education for the rural mothers was proposed. The District Development Committee was to schedule the incorporation of self-help water projects in consultation with the Ministry of Water Development into the district programme (Republic of Kenya. Kajiado District Development Plan (1974-1978)).

1979-1983: During this period, Kajiado district had an average hospital bed/population ratio of 2.5:1000. This was much higher compared to the national hospital bed/population ratio of 1.37:1000. However, lack of qualified personnel, financial constraints and lack of

constant reliable water supply in most parts of the district hindered effective provision of health services. Continued expansion and extension of curative, preventive and promotive health services was proposed. This would include expansion of mobile services to improve access to health services in remote areas (Republic of Kenya. Kajiado District Development Plan (1979-1983)).

1984-1988: The health sector was negatively affected by the trimming of government expenditure. The strategy of utilising mobile health units to remote areas was adversely affected given that Kajiado was a large but thinly populated district. In terms of health facility/population ratio, the district was worse off in 1983 than it was in 1979. This could be explained by the high rate of population movement into the district. However the district had 100% achievement rate in the establishment of the mobile units (36 mobile units). Utilisation of the programme was seriously constrained by inadequate operating funds. During the period, less than 50% of the boreholes in the district were working reducing the functional borehole density in the district to about one borehole every 20 km² (Republic of Kenya. Kajiado District Development Plan (1984-1988)).

1989-1993: Health policy during this period was meant to address better record keeping on child health for future planning and primary health care. The health data by this time could not clearly establish trends or indicate whether various measures adopted on health were effective. Socio-cultural barriers were seen as major constraints on nutrition and the general health status of children. Other issues included lack of community participation, nomadism, lack of transport and lack of funds. It was proposed that health education facilities be strengthened in the district and mobile units increased. Primary health care was to be supported with an increase in manpower in all rural health facilities. The policy proposed the following: 80% increase of immunisation cover, 80% increase in immunisation coverage against tetanus, the increase in number of trained traditional birth attendants in order increase use of contraception, reduction of malaria cases by 10% and increased contribution of double latrines. Emphasis was to be given to rehabilitation of existing boreholes rather than drilling new ones given that less than 50% of the drilled

boreholes were working (Republic of Kenya. Kajiado District Development Plan (1989-1993)).

1994-1996: The health facilities continued to be under-utilised due to the migratory lifestyle of pastoralists, low population in some areas due to remoteness, lack of water and inaccessibility to the health facilities due to lack of transport and poor communication network. Attendance to antenatal and postnatal clinics was low with most deliveries taking place at home with the aid of a TBA. The infant mortality rate among those accessing the health facilities was 73.6/1000. The major causes were malaria, measles, gastroenteritis and subsequent dehydration, acute respiratory infections, malnutrition, neonatal tetanus, pertussis and polio. During this period, the immunisation coverage increased from 73,136 in 1989 to 75,489 in 1992 representing a 3.2% increase in three years. Family planning acceptance had increased by 43.6% and 280 TBAs had been trained. Out of the 381 boreholes, only 136 (36%) were in operation. One-third of the boreholes were individually owned and properly maintained. It was proposed that more attention needed to be paid to borehole rehabilitation (Republic of Kenya. Kajiado District Development Plan (1994-1996)).

1997-2001: Biased distribution of health facilities was noted in many urban centres such as Ngong, Kiserian, Kajiado and Loitokitok. In remote rural areas of the district, there were only a few health facilities which were widely scattered and patients had to walk for long distances to access medical attention. As a result, mortality and morbidity rates were high in the district as shown by the infant mortality rates of 90/1000. However, immunisation coverage rose in 1995 to 61% compared to 52% in 1993. The distribution of health facilities was to be made equitable with special preference to the rural areas. One of the major constraints observed was insufficient water, with people walking up to 15 km daily to fetch water for domestic use. It was therefore proposed to increase household access to safe water from 58.1% to 70%, increase latrine coverage from 38% to 55% and increase improved housing from 46.8% to 80% (Republic of Kenya. Kajiado District Development Plan (1997-2001)).

2002-2008: Currently, Kajiado district has two district hospitals, 19 health centres, 40 dispensaries, and 26 private health institutions. The average distance to a health facility is 10 km. The most prevalent diseases are malaria, respiratory infections, diarrhoea, skin diseases and eye infections. The doctor/patient ratio is 1:66,412, the crude birth rate is 46.9/1000, crude death rate is 8/1000, infant mortality rate is 45/1000, under-five mortality rate is 74/1000, life expectancy is 43 years, total fertility rate is 6.3 per woman and the HIV prevalence rate is 13%. The main development goal for the district is to achieve a broad-based sustainable improvement in the welfare of the people. The poverty incidence is 41%. Several challenges remain evident including diminishing pastoral resources due to increasing population pressures, sub-division of group ranches and the sale of land, mainly in high and medium potential areas thus pushing pastoralists to the drier parts of the district. The district has poor access to education due to the persistence of cultural practices such as early marriage and *moranism*. The infant mortality rate has dropped to 40/1000 while immunisation coverage dropped to 45%. Several strategies adopted to improve health status include provision of improved health facilities with quality services within walking distance; community education for disease prevention; promotion of community health workers and discouraging negative cultural practices. In the water sector, rehabilitation of existing water supplies was to continue and the importance of harvesting rain water was emphasised. Participation in the projects has been enhanced by empowering communities to manage their own water supplies and distribution systems. Cost-sharing has also been introduced in the construction and repair works (Republic of Kenya. Kajiado District Development Plan (2002-2008)).

This summary of broad and activities in the health sector, particularly since the early 1990s clearly shows that AMREF's interventions have been in harmony with the national and district specific policies and plans. It also indicates that to a large extent they have often complemented the government's health services during periods of public budget shortfalls and especially in remote rural areas of Kajiado district.

5.0 FINDINGS

5.1 The project data matrix⁵

Over the last decade, there has been significant concern about objective verification of achievements by NGOs. This has fuelled the need for objective evaluation of projects (Howes, 1992). Since the 1990s, a number of studies have sought to assess the overall impact of NGO activities on the general wellbeing of the target beneficiary communities. One example of this is the study conducted on behalf of OECD/DAC (Riddell *et al.*, 1997). It sought to determine the current status of impact assessments, drawing on evidence from 60 separate reports on 240 projects undertaken in 26 countries. One important conclusion of this study points out the paucity of reliable data which could support conclusions about efficiency, effectiveness and sustainability of most projects. Broadly, similar conclusions were also realised by a second review, the Danish NGO Impact Study, which relied less on documentary evidence, but was based on extensive field work in order to assess both beneficiaries and field staff perceptions of the projects. It developed a matrix of selected projects and examined 45 Danida-funded projects in four countries (Oakley, 1999). Like the Danish NGO Impact Study, the present study in Kajiado district employed triangulation methods to assess the impact of several programmes. After the analysis of the project matrix, secondary data was used to examine the trends for projects specific to AMREF's interventions. In the final stage both the beneficiaries and field staff's perceptions of the projects were examined. The project matrix was applied as a tool to analyse individual projects/interventions. The analysis focused on the issues of programmatic consistency, strategic findings, sustainability and effectiveness. The first level of analysis sought to highlight whether programme/project objectives had been consistently and sequentially achieved and whether expected project outputs were produced⁶.

⁵ The project matrix is a comprehensive summary of project objectives, activities, outputs, outcomes and other experiences which facilitate both horizontal and vertical analysis in an input-output transformation framework. The information was derived from project documents.

⁶ It is noted that the sources of data for the matrix presented challenges of quality and adequacy.

5.2 Programmatic findings

Interventions were analysed in terms of project objectives, activities, outputs, outcomes and impact. A total of 26 interventions were studied. It was noted that 11 (42.3%) of the interventions were still ongoing. In addition, AMREF's approach had undergone substantial transformation over time, the initial interventions started without objectives and/or baseline studies and the expected outputs lacked verifiable measurements to facilitate the specification of trends, making their achievements almost impossible to determine. However, the situation improved over time with projects having well stipulated objectives. The information shows positive achievements of immediate objectives. The project matrix presented evidence of AMREF's project objectives being in tandem with the national objectives/strategies stipulated in the National/Sectoral Development Plans. The National Health Objectives (1970-1979) emphasised preventive and promotive health services, curative health provision, provision of health supplies and provision of rural health services (ROK, 1970; ROK, 1979). But AMREF had been providing these services since 1963 when immunisations and curative services pioneered the initial interventions. By the early 1970s, the school health education became an entry point into the community.

Between 1984 and 1993, the Ministry of Health proposed increased coverage and accessibility of health services in rural areas, provision of preventive and promotive health programmes, emphasis on maternal and child health and family planning and community-based health care (ROK, 1984; ROK, 1989). These objectives were also an integrated component of AMREF's interventions. For example, the community-based health care started in 1984 as a strategy to control trachoma through community health motivators and volunteer health workers who provided the services to the Maasai *bomas*. Family planning and provision of preventive and promotive health programmes (through school and community education programmes) were also part of AMREF's interventions.

During the same period, AMREF had built Maparasha Clinic and acquired Entasopia Clinic which was intended to increase coverage and accessibility of rural health services in line with the national objectives. Cost-sharing had also been introduced for curative

services provided in the clinic in Entasopia. This was also in tandem with the national objectives as a way of increasing alternative financing mechanisms to maintain health facilities. The 2002-2008 national objectives coincided with the expansion of the Entasopia Health Clinic into an integrated health programme. The National Health Objectives proposed to enhance expanded programme on immunisation, strengthen reproductive health education, implement the malaria control action plan and integrate the disease surveillance concept throughout the health system (ROK, 2002). During this period, AMREF supported the implementation of malaria control activities by the sale and marketing of ITNs by CBOs as an income-generating activity, use of TOT approach to train youth peer educators to raise awareness through STI/HIV/AIDS health education and promotion and community health education to increase immunisation coverage.

The information also showed implementation of water projects by AMREF being in line with the national strategies. The national water objectives and strategies between 1994 and 2001 set to provide clean and portable water, introduction of cost-sharing, integrated approach to water resources management and the introduction of low-cost appropriate technology in the building and water sector (ROK, 1994: ROK, 1997). This period coincided with active involvement of AMREF in the water sector. The organisation embarked on an initiative to provide clean and portable water through the shallow wells technology, rehabilitation and drilling of boreholes. It also introduced cost sharing, community capacity building, intersectoral collaboration, health and hygiene education, protection of water sources and formation of community management committees. Most of these activities were also part of the Water Act 2002 which provided for stakeholder involvement in management of water resources, supplying the poor with water, protection of the quality of water sources and cost recovery as a means of sustainable service provision.

Only 10 (38.5%) of the total number of interventions undertaken by AMREF had a baseline survey. This made it difficult for the projects without a baseline to prove the gains achieved as a result of the interventions. Since most of the projects rolled out in phases, it was feasible that the recommendations of the end-term evaluation could have

been used as the baseline for the next phase. The absence of adequate baseline information is an almost universal complaint found in both NGO and donor meta-evaluations synthesis studies (Manifield, 1996; Riddell *et al.*, 1997; Oakley *et al.*, 1998; Evison, 1999). Another less noted phenomenon is the incidence of baseline survey data being lost or forgotten, and unavailable to evaluation teams (Goyder *et al.*, 1997). Among all interventions, 15 (57.7%) had reported outcomes as a result of the project objectives and activities. However, for the majority of interventions the outcomes reported could not be specifically measured. The reporting was mostly in the form of general perceptions that could not be quantified. The information in most cases failed to show the assessment of performance against the objectives while in other cases, outputs and outcomes could not be differentiated during reporting.

Although most NGOs have monitoring systems, many writers (Fowler, 1997; Riddell, 1997; Roche, 1999) have noted the pervasive problem of organisations monitoring expenditure, activities and outputs but not effects and impacts. Many evaluations indicate a problem of measurability of objectives (Thin, 1999). In order to assess impact, a degree of clarity over the objectives of humanitarian assistance would be essential, whether at project level or a broader level. Consensus on what constitutes a humanitarian outcome is one of the principle challenges to measuring impact (Hallam, 1998). The impact study by the Finnish NGO Support Programme concluded that most of its studies had been restricted by limited capacities of NGOs to adequately monitor and evaluate their development projects (Riddell and Jha, 1994). This challenge has also been evident in the case of AMREF. Limitation of the instruments used in AMREF as indeed other NGOs to monitor, evaluate and review their project activities is a key reason for their inability to conclusively substantiate their achievements (Fowler, 1997).

Logical frameworks have been useful in encouraging identification of indicators at the planning stage, but less so in ensuring their actual use during project monitoring and evaluation (Davies, 1997). While a culture of setting targets, measuring performance and assessing achievements in quantifiable terms has emerged (Wallace and Chapman, 2003), it has not been widely adopted. Results-based assessment as a management strategy has

increasingly become an instrument of choice focusing on performance and achievement of outputs, outcomes and impacts (OECD/DAC, 2002). Donors such as USAID, DfID, AusAID, ECHO, CIDA and Danida have adopted results-based management approaches creating demand for analysis of impact (British Agencies AID Group, 2002). The overall conclusion by the OECD/DAC group pointed to the formidable difficulties associated with assessing the impact of project interventions, and the considerable efforts that would be needed for NGOs to build more effective impact assessments in their evaluation activities (Riddell *et al.*, 1997). It was further noted that even humanitarian interventions are increasingly aiming to protect livelihoods, as well as preventing mortality and protecting nutritional status. Livelihood approaches to assess impact invariably rely on key informant interviews or focus group discussions with target groups, beneficiaries or affected population (Hofmann, 2004). All these methodological concerns are relevant to AMREF interventions in Kajiado. The matrix information showed that the majority of AMREF's projects that had wound up were indeed evaluated upon completion. Although mid-term evaluation was a rare design concept among interventions running for long periods of time, most recent projects (from year 2000) had mid-term evaluations. However, virtually all the interventions identified for this study failed to report the wider impact of their work.

5.3 Strategic findings

The findings clearly demonstrated that AMREF had built a capability to both adjust to emerging national and area-specific health needs as well as capacity to influence national health policy. The evidence also showed that project interventions generated adequate health information that is already in use and shared. A borehole manual was also developed as a guide for training borehole operators, while a guide for training traditional birth attendants was developed through AMREF's experiences in Kajiado district. Community-based health care had also evolved into a Diploma programme offered by AMREF through an expansive knowledge base of its interventions. Majority of AMREF's interventions from the 1990s had adopted community partnering through cost-sharing, capacity building of the community, intersectoral collaboration and community involvement through the formation of community management committees. Although these committees are recognised by the government through the national strategy, there

was no information to show that the information generated was being shared with the government. These committees had been charged with running the affairs of the Entasopia Health Centre and Water and Sanitation Projects. All these strategies were aimed at increasing project sustainability. However, lack of information to monitor changes in the poverty levels among beneficiaries made it difficult to show evidence of sustainability. In terms of community partnering, it was difficult to establish whether the beneficiaries were treated with respect as partners. The findings, however, also revealed that the data from interventions failed to link costs and effectiveness. The projects did not report on cost effectiveness and the few evaluations that tried to determine cost effectiveness never went beyond the simple cost per beneficiary analysis e.g. the evaluation for the Trachoma Control Project (2001-2003).

The majority of AMREF's project evaluations shared common weaknesses as most them seemed to monitor only the activities of project interventions rather than their effects on the target beneficiaries. No data was captured beyond the immediate project area to indicate how the socio-economic status of the beneficiaries had changed over time. Most of the evaluations also lacked baseline data to facilitate quantification of the gains from the interventions. The use of control groups was also very rare, making attribution of the gains by AMREF impossible to objectively verify. However, this was not unique to AMREF projects. It has been observed that attempts to analyse the impact of humanitarian interventions are often handicapped by a lack of baseline data and knowledge about regular seasonal variations in key indicators (Hofmann *et al.*, 2004). Control groups ("with"/"without") are a commonly used research tool in the social sciences, where changes over time between those affected by a project and those outside a project can be compared. However, the technique is rarely used for analysing the impact of humanitarian aid (Robert *et al.*, 2001; Tomashek *et al.*, 2001). Where it is not possible to create a control group comparison, economists and other social scientists have used statistical analysis of determinants, which usually means a regression-based approach (White, 2001). Attribution of AMREF's interventions beyond the project level was also marred by several additional constraints. These included multiplicity of actors, different forms of programmes being undertaken and the difficulties involved in to

demonstrating responsibility and coverage of its partners. While impact may be measurable, it was not certain that it could be attributed to any specific intervention (Hofmann, 2004). The information also showed that difficulties in the operating environment in terms of its dynamic socio-economic nature had hardly been monitored over time. It therefore remains difficult to speculate over the extent to which important demographic changes in Kajiado have impacted on AMREF's projects over the last 50 years.

5.4 STAKEHOLDER PERCEPTIONS

5.4.1 Source of information

This section discusses the perceptions of beneficiaries regarding the achievements by AMREF in the district over the last 50 years. The strategies of AMREF in terms of capacity building, community partnering and sustainability were raised. A hundred (100) beneficiaries aged between 19-89 years were interviewed to solicit their perception about AMREF's activities in the district. Fifty-nine per cent (59%) of the respondents were male while 41% were female. The women were perceived to be very active through groups, which empowered them economically. These units were strategic entry points to health interventions.

Of the total number of respondents, 30% came from Mailua, 20% from Rombo, 20% from Olkimaratian, 10% from Oldonyonyokie and 20% from Olturoto locations. Mailua is a remote location in Kajiado Central selected for evaluation of the borehole rehabilitation projects. Rombo is an agricultural zone in Loitokitok with a very high population of in-migrants. It was also selected for assessment of water and sanitation projects. Olkimaratian is another key site where AMREF has been active over the last 40 years. Both Olkimaratian and Oldonyonyokie are located in Magadi. Olturoto is a location in Isinya selected for the shallow wells project. Isinya has undergone a population explosion mainly from in-migrants who have settled in the region due to its proximity to Nairobi city.

In terms of divisions, 30% of respondents were from Kajiado Central⁷, 20% from Isinya, 20% from Loitokitok and 30% from Magadi divisions.

5.4.2 Analysis of results

Asked to indicate their awareness of organisations involved in health interventions in Kajiado district, 73% named AMREF as the major organisation involved in health interventions in the district. In fact, an overwhelming majority (92%) of the beneficiaries named AMREF as one of the three major organisations involved in health interventions in Kajiado district. Further, the responses showed that there was a significant relationship between the division of residence and awareness of AMREF. In Magadi division, AMREF was mentioned as the major organisation involved in health interventions in the district

The major activities of AMREF cited by the beneficiaries included water provision (37%), health education and training(28%), control of eye problems (22%), shallow wells installation (21%), borehole rehabilitation (20%), provision of ITNs (19%), provision of latrines (17%), construction of classrooms (17%), sexual and reproductive health (13%).

The finding indicated that the local population in Kajiado had a clear perception of AMREF as the major provider of health and sanitation services in the district over the last 40 years. This was somewhat surprising considering that the government services had considerably increased in the last 30 years.

The major activities of AMREF cited by the key informants included health education and training (68%), control of eye problems (37%), shallow wells installation (37%), borehole rehabilitation (32%), provision of latrines, construction of classrooms (32%), maternal and child health and pipeline installation (22%).

⁷ Kajiado being a vast district, was recently upgraded into three independent districts and so Kajiado Central and Loitokitok are now fully fledged districts.

Overall, it was evident that major achievements by AMREF cited by the beneficiaries in order of prominence included increased access to clean and safe water, reduction in distance to the water source, decline of malarial morbidity, decline of eye problems, reduction of diarrhoea morbidity, improved sanitation through latrine use and improved health care services. On their part, key informants cited a decline in eye problems, increased access to clean and safe water, reduced diarrhoeal morbidity, maternal mortality, child mortality, malarial morbidity and the reduced distance to the water source. It was therefore clear that interventions in water and sanitation were perceived to be the most successful in the district.

In terms of health status of the local community, an overwhelming majority (97%) of the beneficiaries acknowledged that their health status had improved over the last 40 years. Most of the beneficiaries perceived their health status in terms of child mortality, maternal mortality, crude death rates, eye infections and diarrhoeal morbidity all of which they claimed had improved significantly. It was, however, noted that the movement of in-migrants to many areas of the district may have played a synergistic role in assisting the Maasai to embrace good hygiene practices. Moreover, the majority (83%) of the beneficiaries acknowledged that AMREF was the main organisation that had made significant contribution to the improvement of health status within the local community. They further acknowledged that AMREF has undergone gradual transformation in its mode of operation to meet emerging health needs.

A summary of the respondent's assessment of the impact of interventions on health status is shown in the Table 1.1.

Table 1.1: Impact of AMREF's interventions on health status

Health status	Positive (+ve)			Negative (-ve)		Overall improvement ((+ve)-(-ve))
	Considerable significant improvement (n)	Somewhat improved (n)	No change (n)	Somewhat worse (n)	Considerably worse (n)	
Child mortality	49	47	1	-	-	96

Maternal mortality	39	41	8	8	1	71
Crude death rates	38	44	14	--	1	81
Eye infections	64	30	2	1	--	93
Water-related diarrhoeal morbidity	52	39	1	5	--	86

In terms of technical know-how of the local community in managing diseases and water-related activities, 90% of the beneficiaries acknowledged that the technical skills of the local community in managing diseases and water-related activities had improved. Personal hygiene had greatly improved to the extent that the community rarely encountered cases of trachoma. They acknowledged that AMREF was the organisation that had significantly contributed to the improved technical skills of the local community. The most significant skill acquired by the community was treatment of water for drinking. Others were use of insecticide-treated mosquito nets, repair and maintenance of water facilities, prevention and control of eye problems, environmental sanitation, basic hygiene, condom use, protection of water sources, conservation of the environment and basic first aid skills. It was also established that communities and especially project committee members' management skills had been greatly enhanced.

In terms of partnering with the local community, 92% of the beneficiaries acknowledged that the community had become increasingly positive towards cost-sharing. It had gradually embraced the concept of partnering either financially or non-financially through labour. This strategy was undertaken by AMREF following the collapse of the first borehole rehabilitation project in the mid-1990s. They acknowledged AMREF as the organisation that had significantly contributed towards cultivating the positive attitude of the local community towards cost-sharing. It was noted that cost-sharing strategies common among the local community were either financial where the community contributed 25% of the amount required to rehabilitate a borehole or through provision of materials and labour. Community partnering was more pronounced in the water and sanitation projects. Among the beneficiaries who expressed positive attitude towards cost

sharing, majority identified non-financial partnering, financial partnering and management partnering as the most common modes of partnering. Non-financial partnering was the most prominent (62% of respondents).

An attempt was made to assess the involvement of communities in the project implementation cycle. This was done under the assumption that in order to enhance project sustainability, the beneficiaries should be involved in every stage of the project implementation process. Evidence showed that more than 70% confirmed that the local community was adequately involved in identifying their priority needs, project implementation and other aspects of decision-making. In terms of sustainability, 84% of the beneficiaries acknowledged that the projects would continue even after AMREF exits the area. This observation was mainly augmented by the improved attitude towards cost-sharing. The community was beginning to appreciate the benefits accrued through the long-term engagement with AMREF.

The findings further revealed the following:

- Because of the long presence of AMREF in Magadi, beneficiaries were found to be less likely to perceive the likelihood of disruption in project continuity after the exit of AMREF in the area.
- The local community members who had a positive attitude towards cost-sharing also envisioned the continuity of the projects after the exit of AMREF.
- Local community members who were actively involved in identifying their priority needs were likely to perceive uninterrupted continuity of the projects after the exit of AMREF.
- The local community members actively involved in the project implementation process were likely to perceive the continuity of the projects after the after the exit of AMREF.
- The local community members actively involved in the decision making process were likely to perceive the continuity of the projects after the exit of AMREF.

Among the beneficiaries who perceived smooth project continuity, the majority cited training on project ownership, community savings through user charges, knowledge on repair and maintenance of water facilities and management skills of the community members as the strategies used to enhance project sustainability. This meant that although intervener-beneficiary dependence had developed in Kajiado, the projects were sustainable even if AMREF were to exit. It was, however, not clear how long that sustainability could be maintained entirely with local resources, without minimum external catalytic involvement.

5.5 Synthesis of the findings

5.5.1 Awareness of the organisations involved in the health interventions in the area

AMREF's presence and prominence in the area is highly appreciated by the local population in Kajiado district. The community is sufficiently knowledgeable about the activities of AMREF and identified water provision, health education and training, control of eye problems, shallow wells installation, borehole rehabilitation, provision of ITNs, provision of latrines, construction of classrooms, sexual and reproductive health as major activities of the Foundation.

5.5.2 Long-term achievements by AMREF

The beneficiaries were knowledgeable about the achievements accomplished by AMREF. These included increased access to clean and safe water, reduced distance to the water source, low malarial morbidity, reduced eye problems, low diarrhoeal morbidity, improved sanitation through latrine use and improved health care services. These achievements were related to the activities mentioned by the beneficiaries. However, due to the lack of baseline data, these achievements could not be rigorously quantified and compelling attribution was impaired.

5.5.3 Health outcomes of the local community

The findings showed that the health status of the community had improved significantly. Despite the improved health status in Kajiado district, access to health care services still remained a major challenge among the predominantly pastoral Maasai. First, this improvement could not be sufficiently measured because of lack of quantitative baseline data. It is therefore important for project implementers to anticipate in advance possible

impacts of their activities and determine criteria for their verification. This could assist in establishing a baseline to provide a comparative scale to quantify the changes realised. It was also evident that due to lack of prior understanding of the expected impacts, major achievements by AMREF had gone unreported.

Second in Magadi, the Entasopia Health Centre served patients coming from as far as Shompole due to prohibitive charges by the health centre run by Magadi Soda Company. In the case of Oldonyonyokie, the health centre did not offer maternity services. The focus group discussion acknowledged that the majority of the mothers still delivered at home because the only option, the private facility in Magadi Soda, was unaffordable. In Entasopia Health Centre, the problem of home delivery was also rampant given that only two mothers delivered at the facility in a month⁸.

Third, although AMREF has trained traditional birth attendants (TBAs) and community health workers to provide safe delivery at home as well as post natal referral services and to facilitate referral of patients to the health facilities, their outcomes may be dampened if outreach programmes are not enhanced. This was evident from the views of key informants at Entasopia who noted that since the withdrawal of outreach activities at the health centre, immunisation coverage had dropped. It was also reported that Entasopia health centre did not offer ARV services. Finally, since Magadi Soda Company is the nearest referral health centre, HIV/AIDS patients were less likely to access any significant services due to the limitations of transport and distance.

5.5.4 Capacity building of the local community

This was one of the strategies successfully used by AMREF during the project implementation process to enhance project sustainability. The findings showed that AMREF was unique in this area such that the beneficiaries associated the organisation with the training. AMREF was acknowledged as the organisation that had contributed most significantly to the improved technical skills of the local community. These included treatment of drinking water, use of insecticide treated nets, repair and maintenance of water facilities, prevention and control of eye problems, environmental

⁸ It was noted that, at the post natal clinic, more than 20 new babies were registered every month.

sanitation, basic hygiene, condom use, protection of water sources, conservation of the environment and basic first aid skills.

5.5.5 Community partnering of the local community

This is another strategy used by AMREF to enhance the sustainability of its projects. Non-financial partnering involved community members contributing labour and building materials e.g. sand. The community members also dug the wells themselves while AMREF installed pumps for them. This form of partnering has contributed towards project sustainability especially those dealing with water and sanitation. Financial partnering involved community contributing 25% of the total cost required to rehabilitate a borehole while AMREF contributed 75%. Another form of partnering was management partnering. This was evident in the Entasopia health centre where the health facility was managed on a tri-partnership basis. The government through the Ministry of health seconded staff to the facility with AMREF and the community also employing some staff. This partnership too had created a sense of ownership.

5.5.6 Sustainability of AMREF's project

Beneficiaries perceived that the projects initiated by AMREF would continue even after its exit. A number of reasons were given to support this view. These included training on project ownership, community savings through user charges, knowledge on repair and maintenance of water facilities and management skills of the committee members. In Isinya, where AMREF exited four years ago, 80% of the shallow wells were still functional. The other 20% had dried up mainly in the Kiret location. This was due to an influx of immigrant communities who were drilling boreholes in the area making the shallow wells dry; although general negligence in the maintenance of the wells also worsened this situation. In general, however, the majority of the functional wells had been sustained due to the presence of trained artisans within the community to conduct repair and maintenance services. Still on the water and sanitation projects, the beneficiaries paid fees agreed upon by the community to access water for both domestic and livestock use. The money so collected was banked by water management committees who used the funds for repair and maintenance, thus assisting in enhancing the sustainability of these projects. In the borehole rehabilitation project, several individual

boreholes formed a cluster where a management committee member from each borehole cluster was represented in an umbrella body mandated to oversee the activities of individual boreholes and also to solve any disputes. This model would ensure future continuity of these projects. The government, through the Athi Water Company, borrowed a section of the borehole model by AMREF and made the programme manager for water and sanitation in AMREF a member of the Athi Water Board.

The findings also revealed that the beneficiaries in Magadi division tend to anticipate the possibility of project failure after the exit of AMREF, perhaps because of a sense of dependency. There is therefore a clear need for focused education among beneficiary communities to make them understand that AMREF projects are ultimately owned by the local community.

5.5.7 Sage assessment

Some individuals who had long association with AMREF's activities in Kajiado also gave their objective assessment and reflections on the achievements of the various interventions. The objective was to validate the findings and conclusions derived from the review of documents as well as information obtained from stakeholders. They generally agreed that the various interventions contributed immensely to health development, enhanced livelihoods, stimulated the belief in the value of community health workers and they were popular among the recipients. However, there is a popular feeling among the 'sages' that initial programming of AMREF interventions was not predicated on a long-range perspective of the health development of the area. It involved "hit-and-run" exercises "giving a pill for every pain" and were simply promoting "community-basedness" with CHWs as a foundation for broader rural development. Consequent interventions tended to be more focused but also created a foundation for long-term rural development.

6.0 CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

This study set off with the objective of assessing the impact of AMREF's interventions on the general well-being of the target community on the basis of information available in the organisation's own records. Given the handicaps of inadequate information, several complementary methodologies were employed to overcome this limitation. A detailed overview of AMREF's historical background was undertaken followed by a comprehensive review of individual projects synthesising this information into a matrix comprising objectives, activities, outputs, outcomes and impact. The generated data was supplemented by secondary data from government and other sources. The study finally assessed beneficiary perceptions to verify AMREF's impact.

The findings amply indicate that AMREF had indeed made a positive impact on the local community in Kajiado district. It was, however, important to note that the activities of AMREF were localised to specific areas of the district. The Ministry of Arid and Semi-arid Lands in Kajiado Central noted that AMREF had concentrated its water and sanitation activities in Loitokitok and Kajiado Central. The Mother and Child Health Programme and the Safe Motherhood Programme were located in Magadi. Although the Trachoma Control Project had been in Magadi since the early 1980s, during the mobile clinic rounds, it was subsequently scaled up to cover the entire district. The area covered by Kajiado district is fairly expansive, thus AMREF efforts would account for only modest coverage of the district⁹. The findings also showed capacity building and community partnering to be critical pillars for project sustainability. AMREF should continue to strengthen these strategies during the project implementation process. It is, however, important to note that AMREF had achieved much in the community that may not have been adequately reported. The project staff should therefore be trained on how to design more sensitive instruments for base-line surveys to facilitate tracking critical changes in the general well-being of the target beneficiary communities, beyond

⁹ Due to the expansive nature of the district, it was recently divided into three new districts, but the present study had referred to the larger Kajiado district.

indicators of health status. This will assist to make project documents more useful for monitoring and evaluation.

The different methodological processes employed in the present study were characterised by limitations, not any different to those experienced in other similar studies. For example, the secondary data clearly showed positive general outcomes in health status of the target community. However, attribution to AMREF, even when beneficiaries felt so, could not be objectively verified. This resulted from inadequacy of specific data collected for that purpose. The data derived from the matrix of AMREF's projects failed to lend itself to assessment of impact due to major limitations and gaps. The data was not designed to capture impact nor perceptions of impact by beneficiaries but rather tailored to capture narrow technical information about the project processes, thereby making it difficult to attribute any observed change to project performance. Lack of consistency on the type of data collected, on the same projects at different points in time was also evident. This was more pronounced to those projects evolving either in phases or in cases where donor funding was being availed on an annual or bi-annual basis. The matrix data also showed great focus on immediate outputs rather than longer term outcomes of the interventions. Failure to fully anticipate and capture subtle internal socio-economic transformations among target population, especially as a result of in-migration by surrounding agricultural communities was noted. Financial data also presented a serious limitation for the current study because it was not available to facilitate assessment of project efficiency. There is clearly the need for greater transparency if assessments of value for money are considered important.

Given the above challenges, the most useful method for impact assessment was through beneficiary perceptions. The beneficiaries and key informants felt very positive about AMREF. However, the study was not adequately comprehensive because of time and resource constraints.

6.2 Recommendations

The findings and conclusions of this study lead to the following recommendations:

- Future project design should incorporate monitoring and evaluation of impacts on livelihoods and general well-being
- To facilitate the measurement of impact, a comprehensive baseline survey should be conducted before project implementation
- Potential beneficiaries should be included as participants in the design stage of the projects and also during all stages of implementation, monitoring and evaluation
- Project expenditure should be documented to reflect the financial linkage between objectives, outputs, outcomes and impact.

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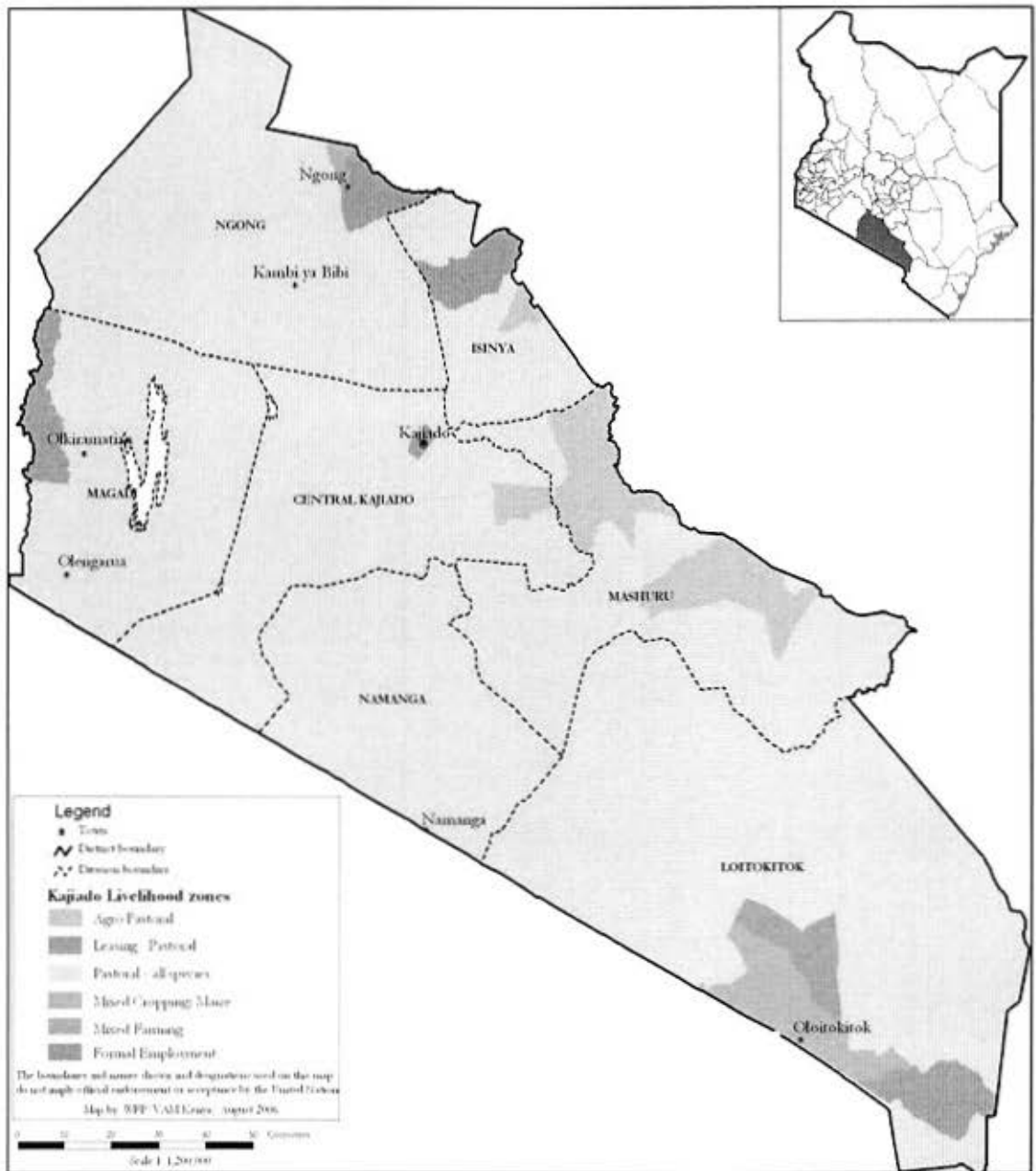
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ANNEXES

I. Map of the study area



2. National Health Objectives

Plan Period	National Health Overall Objective	Specific Objectives
1970-1974		<ol style="list-style-type: none"> 1. Construction of urgently needed new facilities to the extent they can be staffed 2. A substantial programme of renovating and up-grading existing facilities 3. Major investments in training at all levels of medical staffs 4. More emphasis on preventive and promotive programmes 5. The central government to take over county council health services 6. Substantially increased assistance to church health services
1979-1983		<ol style="list-style-type: none"> 1. Provision of curative health 2. Provision of preventive medicine and promotive health 3. Provide rural health services 4. Health training 5. Provide medical supplies 6. Provide medical research
1984-1988		<ol style="list-style-type: none"> 1. Increase coverage and accessibility of health services in rural areas 2. Preventable and promotive health programmes 3. Further consolidate urban, rural, curative and preventive/promotive services e.g. training and education of health staff 4. Increase emphasis on maternal/child health and family planning services in order to reduce morbidity, mortality and fertility 5. Strengthen ministry of health management capabilities with emphasis at the district level 6. Increase administrative co-ordination 7. Increase alternative financing mechanism through: <ol style="list-style-type: none"> a) Maintenance of health facilities through harambee efforts b) Community-based health care c) Selective charges for hospital out-patient and in-patient medical services
1989-1993	Achievement of Health for All by the Year	<ol style="list-style-type: none"> 1. Cost-effectiveness: promotion of health awareness to lead individuals and communities to take greater responsibility for their own health 2. Greater role to be played by private sector, self help groups and NGOs to achieve the above

	2000	<p>objective</p> <p>3. The achievement of social, physical and mental health must rely on the integration of basic services such as education, training, water and sanitation, distribution of basic food stuffs and the feeling of mental, social and spiritual well-being for which other agencies are largely responsible</p>
1994-1996	Achievement of Health for All by the Year 2000	<p>1. Increasing coverage and accessibility of health services with active community participation e.g. cost-sharing introduced in 1989</p> <p>2. Consolidating maternal child health and family planning services in order to reduce morbidity, mortality and fertility</p> <p>3. Increasing inter-sectoral collaboration with other ministries involved in the improvement of health status</p> <p>4. Encouraging Non-governmental organisations to take a greater role in the delivery and financing of health care services</p>
1997-2001	Alleviate the constraints currently faced by the health sector including under-funding.	<p>1. To deliver a basic package of quality health services to a growing work-force and their dependants</p> <p>2. To finance and manage the services in a way that guarantees their availability, accessibility and affordability to the most in need of them</p>
2002-2008	Enhance equity, quality, accessibility and affordability of health care	<p>1. Review the existing cost-sharing guidelines</p> <p>2. Increase funding for rural health care facilities</p> <p>3. Expand EPI</p> <p>4. Strengthen reproductive health education</p> <p>5. Implement Malaria control action plan</p> <p>6. Enhance the Management skills of DHMBs, DHMTs and HFCs</p> <p>7. Operationalise KEMSA</p> <p>8. Implement, integrate disease surveillance concept throughout the health system</p> <p>9. Redesign and diversify IEC materials</p>

Sources: Republic of Kenya. National Development Plan 1970-1974, 1979-1983, 1984-1988, 1989-1993, 1994-1996, 1997-2001, 2002-2008. Government Printer, Nairobi.

3. National Water and Sanitation Objectives

Period	National Health Overall Objective	National Specific Objectives
1994-1996		<ol style="list-style-type: none"> 1. To provide clean and portable water at a source less than 5km in high potential areas and less than 5km in low potential areas by the year 2000 2. The government, NGOs and donor agencies will support community efforts to plan, develop, operate, maintain and manage community water supply systems 3. Efforts will be made in the promotion of low cost appropriate technology, especially in the building and water sector 4. With the introduction of cost-sharing, all water based schemes will be handed over to their respective communities in management. In this respect, its hoped that women will be active participants
1997-2001		<ol style="list-style-type: none"> 1. To apply alternative management options and technologies in this area with a view of ensuring sustainable water projects and the development of water resources by the various stake holders 2. Need for adequate water supplies for domestic, agricultural and industrial uses, there is need for properly organized and efficient system of sanitation 3. Need for an integrated approach to water resources management and planning for the benefit of the economy as a whole
2002-2008	Establishment of an effective and efficient water sanitation system.	<ol style="list-style-type: none"> 1. Review the water act 2. Develop a social and sustainable financing mechanism 3. Implement sessional paper on water development and management. 4. Capacity building in water and sanitation sub-sector

Sources: Republic of Kenya. National Development Plan 1994-1996, 1997-2001, 2002-2008. Government Printer, Nairobi

4. Provisions of the Water Act 2002

1. State ownership of all surface and groundwater resources. Exploitation of such resources requires authority granted through issuance of a water permit
2. Stakeholder involvement in management of water resources
3. Management of water resources will revolve on catchments basis
4. Equitable allocation of water for all Kenyans
5. Recognition of the economic value of water
6. Social objectives including supplying the poor with water be achieved by other means including government subsidy
7. Accelerating supply and distribution of water in rural areas through special funding
8. Ring-fencing of water service operations
9. Development of water sector strategies for management and development of the sector
10. Protection of the quality of water resources
11. Cost recovery as a means of sustainable service provision