Impact Evaluation of the Monkey Bay Health Care Project

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Acronyms

ART	Antiretroviral Therapy
CBDA	Community Based Distribution Agent
CHAM	Christian Health Association of Malawi
DAC	District AIDS Coordinator
DHO	District Health Officer
EHP	Essential Health Package
EHPR	Emergency Human Resources Plan
EPI	Extended Program on Immunization
FGD	Focus Group Discussion
GoM	Government of Malawi
HSA	Health Surveillance Assistant
HMIS	Health Management Information System
HTC	HIV Testing and Counseling
ICEIDA	Icelandic International Development Agency
IMCI	Integrated Management of Childhood Illnesses
KMC	Kangaroo Mother Care
MBCH	Monkey Bay Community Hospital
MDGs	Millennium Development Goals
MSCS	Most Significant Change Stories
NRU	Nutrition Rehabilitation Unit
OECD	Organization for Economic Cooperation & Development
PoW	Program of Work
STI	Sexually Transmitted Infection
SWAp	Sector Wide Approach
TBA	Traditional Birth Attendant
VCT	Voluntary Counseling and Testing

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Executive summary

INTRODUCTION

This report presents findings of an impact evaluation of the Monkey Bay Community Hospital (MBCH) Project implemented in Mangochi District through a partnership between the Government of Iceland represented by Icelandic International Development Agency (ICEIDA) and the Government of Malawi (GoM) represented by the Ministry of Health. The overall objective of the MBCH Project was to support the government of Malawi in its efforts to achieve Millennium Development Goals and its national development goal of economic growth as laid down in the Malawi Growth and Development Strategy though improved essential health service delivery in the Monkey Bay Health Zone. This evaluation specifically sought to assess:

i. The impact of the project, that is how the Monkey Bay Health Center project contributed to better health of the population in the health zone
ii. Sustainability of the project, that is the capacity of Mangochi DHO and the Ministry of Health to take over responsibilities and how the Monkey Bay Community Hospital and the other two health centers (Chilonga and Nankhumba) are performing in comparison to the final period when they were getting support from ICEIDA
iii. Relevance of the project with a focus on whether the intervention was appropriate in the context of Malawi health system
iv. The effects and outcomes of the project that were not expected
v. Whether health service delivery in the Monkey Bay health zone compares with the other health zones
vi. The condition of physical structures built with support from ICEIDA.

METHODOLOGY

A method-mix-approach was used in undertaking the evaluation. Desk review, analysis of secondary data, quasi health facility assessment and qualitative evaluation techniques were used. A physical infrastructure assessment was also undertaken on the structures that were constructed with support from ICEIDA. To ensure all the evaluation objectives were addressed, the evaluation process took place in Lilongwe, Mangochi Boma, Namwera Health Zone and Monkey Bay Health Zone. Telephone interviews were also conducted with purposively sampled respondents in Iceland. Namwera Health Zone was selected as a control whose data and health services were compared with the intervention zone – Monkey Bay. In line with the evaluation Terms of Reference, two evaluation visits were conducted. The first visit was in March 2015 and the second visit was in September 2015.

Non-probability sampling methods were used in selecting respondents. A total of 403 contacts were made with respondents who participated in focus group discussions, key informant interviews, in-depth interviews, Most Significant Change Stories, health facility and physical infrastructure assessments.

There are however two limitations to the study. First, given the long duration over which the evaluation was to be conducted, a few of the targeted respondents could not be reached and interviewed. Though the information gathered is perceived to have been comprehensive and reliable, these participants potentially had some views about the project that were missed. Second, not all the data that was required from the District Information Management System was obtained. As such some comparisons are not done in the most comprehensive way this author could have wanted.

FINDINGS

Impact of the Project – How the project has improved/failed the wellbeing of the population in the zone?

Impact: A comparison of access to health services prior 2000 - before the improvement and upgrading of infrastructure and provision of supplies and equipment by ICEIDA in Monkey Bay Health Zone - indicates that access to health services has improved remarkably in the zone. This is clearly indicated in the HMIS data particularly after comparing figures before and after support from ICEIDA. In 2000, the Monkey Bay Health Zone community did not have access to free surgical services unless they traveled to the District Hospital or other government owned hospitals. Between 2008 and 2014 a total of 4,368 surgical procedures had been undertaken at Monkey Bay Community Hospital. These procedures could not have been done anywhere outside a hospital facility like the District Hospital. Accordingly, a significant number of lives were saved or productive life years were achieved. The number of patients admitted at Monkey Bay in 2014 for example was 2.3 times higher than those admitted in 2006: representing a 132% increase. Similarly the provision of ambulances to the zone, training of health workers, improvement/construction of staff housing among other activities, resulted in provision of better health services, a rise in demand of services and a reduction of workload at the District Hospital: some situations that contrast sharply with the situation before 2000.

Sadly with the exit of ICEIDA in 2011, the government has, for various reasons, not created a cost center for the zone or added more funding to the district. As such demand for services has remained high but the quality of services delivered has started deteriorating with a number of compromises being made along the way. Reports of mothers dying during delivery are reportedly becoming more common than when ICEIDA was supporting the zone. Deliveries by skilled attendants have started dropping as the standards of service delivery also fall. That said, demand for health services remain higher than before the first phase of the project and even higher than the final phase of the project. The situation is expected to remain the same unless further and additional unannounced budgetary cuts take place.

Externalities: Through some unplanned or unexpected ways, the project is noted to have created economic opportunities for some members of communities in the zone. In Monkey Bay for example, there are a lot of people operating at the entrance of the hospital that are now earning a living through selling different groceries to patients, guardians of patients and hospital staff. Similarly, some men are using their bicycles carrying people to and from the hospital for a fee and earning a living out of that. A pharmacy has been opened in Monkey Bay that is employing four fulltime personnel and their main source of customers are patients from the hospital particularly when there are some drug stock outs.

Sustainability – How has the project progressed since the exit of ICEIDA?

The project has progressed fairly well since the exit of ICEIDA despite some serious funding challenges. Monkey Bay Community Hospital, for example, still provides commendable health services that are incomparable to the situation prior to the initial phase of the project. It has even progressed to operating as a fully-fledged community hospital. It is only a kitchen that is missing for the facility to technically have a full accreditation as a community hospital. Some challenges have however been faced mainly because of financial problems with compromises made along the way so that service health provision continues. Monkey Bay Community Hospital still does not have a paediatric ward but a female ward is now used as a paediatric and separation ward to allow continued service provision. Nankhumba and Chilonga were also observed to be still very operational with a very big proportion of patients observed during the evaluation period and HMIS data reflecting a big demand for services as earlier noted. Some reports of shortages of drugs and other supplies were however reported. The situation in the zone was reported to be deteriorating comparing with the time when ICEIDA was supporting the zone. Some general maintenance of some equipment such as generators, mortuaries, incubators etc were noted to be taking place but at times it takes very long before maintenance work is done. Again, this was attributed to the limited resources that the district has in running facilities in the zone: a situation that is not peculiar to Mangochi District only, but the health sector (or other districts) as well.

Health staff's performance in clinical management of patients was observed to be still professional and just as good as during the final reporting period in 2012. Capacity in clinical management of different health conditions like complicated pregnancies and deliveries etc, as observed during the 2012 evaluation, was still professional and in line with national norms. Qualified personnel were still manning facilities in the zone. Despite some challenges faced particularly with supplies or maintenance of equipment and infrastructure, some commendable dedication to providing health services was also observed as reflected by alternative solutions sought in face of the different challenges in the delivery of health services. Despite continued professional performance by health workers, data on service utilization in some cases however indicated some decline. A

review of OPD attendees' data for example, showed a threefold increase in OPD patients between 2003 and 2010 but a decline of about 46% in 2011. Though there are some speculations that this could be something to do with the changes of data management systems (it is believed some incompatibilities between the different data sets have a bearing on the anomalies), the challenges that are being faced in the deliveries of health services due to financial constraints cannot be ruled out.

Relevance of the project – Was the project justified and was an appropriate approach used?

Given limited access to essential health services, the MBCH project sought to improve that and a number of initiatives were to be undertaken. As noted above, most of the initiatives progressed well and access to essential health services in the zone has improved considerably. Judging from a sustainable development perspective, the approach adopted in implementing the MBCH project is a highly commendable and relevant approach in development work as it (1) channeled resources where they were needed most through consultative processes (through studies and meetings); (2) was participatory as key stakeholders (even community stakeholders) were consulted right from the inception of the project to the end; (3) left government and its constituent bodies to lead in the development process and (4) had an exit plan that clearly indicated that the government was to take over the running of the facilities well before the project had been completed. That said, it remains a fact that there are different approaches/interventions that are used in development work. It however remains unclear if there are any better approach that could have been used as one need to also assess the costs and benefits of the approach. The approach that was used by ICEIDA is not deemed to have been inappropriate.

How service provision in the zone compares with other zones

Currently, the assumption that Monkey Bay Health Zone provides the best health services in the district seems not to hold. A comparison of service provision in Namwera and Mangoch Health Zones compared favorably across different indicators with some indicators better in Namwera and Mangochi than in Monkey Bay Health Zone. Renovation and upgrading of facilities by ICEIDA undeniably created demand for health services in the zone which, because of limited funding, cannot be met now. Whilst the zone has some of the best facilities and equipment in the district, service provision has been going down since the exit of ICEIDA because of no additional funding from the government as was expected. Providing a budget that caters for the renovated services is most likely going to put the zone on the best zone in providing health services spot again. Noting that Monkey Bay Health Zone no longer provides the best services should however be treated with caution as the comparisons could be subjective. The assessment compares a zone that was exposed to ICEIDA support against other zones that never got external assistance at a time when there are

challenges by the DHO to provide services. Accordingly, it is likely comparisons with the days of ICEIDA support will see MBCH being rated low.

Condition of Physical Structures Built with Support From ICEIDA

Based on the Physical Structures assessment, all the physical structures built with support from ICEIDA are intact and functional. Some minor maintenance issues like some broken down toilets, window pens, lights were however observed but these had not rendered any of the structures non-functional.

Lessons Learnt

One of the biggest lessons derived from this project is much as commitments and contracts can be entered into with governments, the prevailing political and economic situation in the country has a bearing on the fulfillment of the contracts/commitments. Interviews with senior government officials within the MoH indicate keen interest in providing additional funding to Mangochi DHO but they argue that the financial situation the government is in seem not to allow such flexibility. Such scenarios however require continued lobbying of the government to fulfill its commitments, assuming such additional funding is possible, given the current state of public finances in the country.

1.0 Introduction

This report presents findings of an impact evaluation of the Monkey Bay Health Center project or the Monkey Bay Community Hospital (MBCH) project implemented in Mangochi District. The Monkey Bay Health Center Project is a partnership project between the Government of Iceland represented by Icelandic International Development Agency (ICEIDA) and the Government of Malawi (GoM) represented by the Ministry of Health. ICEIDA has been supporting health service delivery in Monkey Bay Health Zone since 2000. The support came in three distinct phases: the first phase from 2000 – 2003 was characterized by the improvement of physical structures of the Monkey Bay Health Center as well as health zone logistics and communication between the health facilities and the district; the second phase from 2004 – 2007 was characterized by improving the quality of health services at Monkey Bay Community hospital and health centers in the area, outreach activities and training of Traditional Birth Attendants (TBAs), Community Based Distribution Agents (CBDAs) and Heath Surveillance Assistants (HSAs); and the final phase from 2008 to 2011 was characterized by continued support and gradual withdrawal from the zone by ICEIDA. A final report submitted in 2012 presented the situation on the ground upon ICEIDA's exit in 2011. Basing on the Terms of Reference for this assignment, this impact evaluation compares findings of the Final Report of the 2008 – 2011 phase (during the last years of ICEIDA's support and gradual exiting from Monkey Bay health zone) with the situation from 2012 to March 2015 when Mangochi District Health Office (DHO) had taken overall control of all the facilities and services that were supported by ICEIDA.

Overall, this evaluation assessed:

i. The impact of the project, that is how the Monkey Bay Health Center project contributed to better health of the population in the health zone
ii. Sustainability of the project, that is the capacity of Mangochi DHO and the Ministry of Health to take over responsibilities and how the Monkey Bay Community Hospital and the other 2 health centers (Chilonga and Nankhumba) are performing in comparison to the final period when they were getting support from ICEIDA
iii. Relevance of the project with a focus on whether the intervention was appropriate in the context of Malawi health system
iv. The effects and outcomes of the project that were not expected
v. Whether health service delivery in the Monkey Bay health zone compares with the other health zones
vi. The condition of physical structures built with support from ICEIDA.

1.1 Definition of Terms

The OECD DAC evaluation criterion was used in assessing impact, effectiveness, sustainability, efficiency and relevance of the project. Guided by the OECD DAC[1]evaluation criteria the aforementioned terms were defined as follows:

- *Impact* – assessed the positive and negative changes brought by ICEIDA's development intervention, directly or indirectly, intended or unintended. This involved the impact and effects resulting from the interventions on the local social, economic, environmental and other development indicators.
- *Effectiveness* – measured the extent to which aid activities attained intended objectives.
- *Efficiency* – measured the output – qualitative and quantitative – in relation to the inputs. It is an economic term that assessed whether least costly resources were used to achieve desired results.
- *Sustainability* – measured whether the benefits of the activities initiated in Monkey Bay Community Hospital project continued after ICEIDA stopped supporting the project since 2012.
- *Relevance* – assessed the extent to which aid activities suited priorities and policies of the target group in Malawi and the Iceland's bilateral agenda.

The terms "Monkey Bay Health Center Project" and the "Monkey Bay Community Hospital (MBCH) Project" refer to the same project and the terms are used interchangeably in this report just like in the other previous project documents.

1.2 Programme Profile

1.2.1 Demographic and Socio-economic Situation in Malawi

Malawi is a land locked country in southern Africa bordering with Zambia in the west, Mozambique in the east, south and south-west and Zambia in the north. The country is divided into three regions namely the northern, southern and central regions and further subdivided into 28 districts. In 2008 Malawi had a population of 13.1 million people. The population is projected to increase to about 15.8 million by mid 2015[2]. Nearly half the population is aged below 15 years and total dependency ratio is projected to be around 96.3 by mid 2015. Malawi is one of the most densely populated countries in Africa with 139 people per square kilometer in 2008. The southern region has the highest population density with 189 people per square kilometer meter. Malawi has a high

[1] DAC Principles for the Evaluation of Development Assistance, OECD (1991), Glossary of Terms Used in Evaluation "*Methods and Procedures in Aid Evaluation*" (OECD 1986).

[2] National Statistical Office Population Projections, 2008

population growth rate estimated at about 2.3%. This population growth rate is attributed to a high total fertility rate that is around 5.7. About 85% of the population is rural based earning a living out of peasant farming. Agriculture is the backbone of the economy accounting for about 35% of the GDP and 80% of exports (mainly from tobacco)[3]. Malawi's Gross Domestic Product per capita was around $224 in 2013. About 50.1% of the population lived below the poverty datum line in 2010[4].

There are power imbalances between men and women in Malawi in general. A review of different women empowerment indicators shows that in general, men make the most decisions, earn more and even make decisions on how earnings are spend. [5]

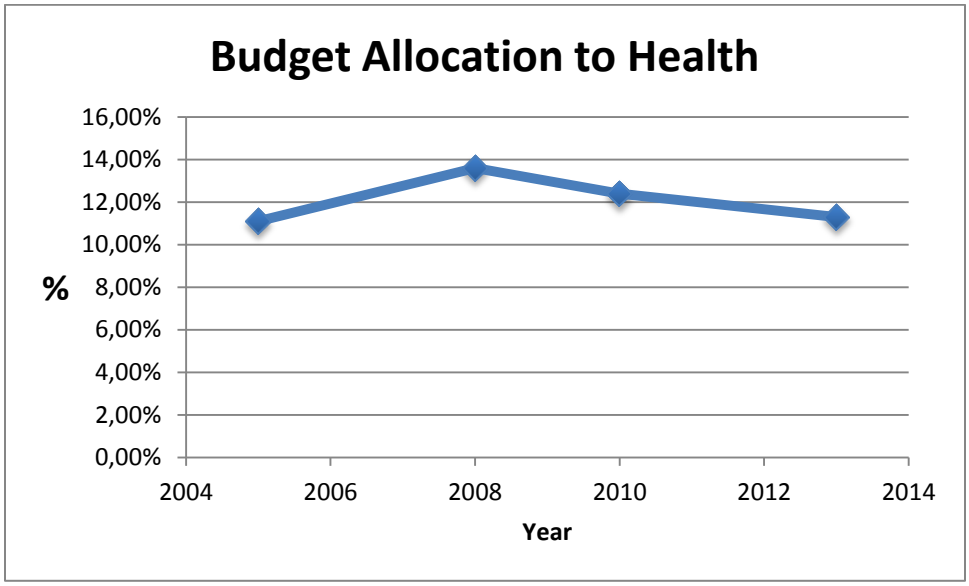
1.2.2 Health Delivery and Financing in Malawi

Health services in Malawi are provided by the government (which provides about 62%), the Christian Health Association of Malawi (CHAM, which provides about 37%) and the private sector (which provides about 1%). Service provision is at three levels: (1) at primary level by health centers, health posts, dispensaries and rural or community hospitals; (2) at the secondary level that comprises district and CHAM hospitals and (3) at tertiary level constituting central hospitals.

Considerable increase in health spending has been reported in Malawi since 2001. In 2004/5 the government's spending on health increased from an estimated US$ 46.3 million to US$134 million in 2009/10. Total health spending rose from $US5.3 per capita in 2004/5, peaked to $US16.3 per capita in 2008/09 and declined slightly to an estimated $US14.5 per capita in 2009/10. Funding support from Health Development Partners equally increased from US$21.3 million to US$64.3 between 2004/5 and 2009/10 respectively.[6] Table 1 presents trends in health funding for the period 2005 to 2013. Health funding in Malawi is generally inadequate. It even remains below the recommended 15% of the national budget as stipulated in the Abuja Declaration of 2001. Funding support from Health Development Partners remains a much sought after contribution by the Malawian government. Health Development Partners have been contributing close to 40% of the national budget. Some partners have however frozen their budget support to the government since 2013 following a corruption scandal commonly referred to as "cashgate" where billons of Malawi Kwacha were swindled from the government.

[3] World Bank, 2013
[4] Millennium Development Goals Database/UN Statistics Division
[5] Malawi Demographic Health Survey, 2010
[6] Malawi Health Strategic Sector Health Plan 2011 - 2016

Figure 1 Budget Funding Trends in Malawi



Source: Developed from Ministry of Finance, Economic Planning & Development budget reports; Malawi Health Sector Strategic Plan 2011 -16

1.2.3 Staffing and Health Infrastructure

Shortage of health workers remains an acute and complex problem in Malawi. There have been concerted efforts to improve the situation by increasing the number of people undergoing training within the medical field. Despite the injection of $53 million during the six-year implementation period (2004 – 2010) of the Emergency Human Resources Plan (EHRP), only four cadres (namely clinical officers, environmental health officers, radiology and laboratory technicians) out of the eleven health cadres (including doctors, nurses, pharmacists etc) met or surpassed the EHRP targets. With respect to nurses for example, annual output increased by only 22% during the EHRP period[5]. High staff turnover has been noted as one main challenge to staffing in the country. An assessment of systems that constrained the implementation of the Essential Health Package (EHP) in Malawi by Mueller et al in 2010 revealed that widespread shortage of staff due to vacancies and absenteeism due to frequent trainings and meetings was one of the key constraints to successful implementation of the EHP. During the study period, only 48% of expected man-days of clinical staff were available; training and meetings represented 57% of all absences in health centers.

Apart from human resource problems, inadequate health facility infrastructure remains another big challenge in Malawi. Around 2000 most health facilities were noted to be too old, inadequate for patient load, dilapidated, and in desperate need for repair or maintenance. In 2002 less than 46% of the rural population had access to health facilities within a 5km to 8km radius[7]. This proportion was however at 84% in urban areas[8] around the same year. Many health facilities lacked water and electricity. An assessment done in 2003 revealed that most health facilities needed rehabilitation to be able to provide EHP[6]. Consequently, a joint Program of Work (PoW) that operationalized the implementation of priority areas of the EHP by the Ministry of Health (MoH), development partners and other non- governmental organizations (NGOs) was designed to run for the period 2004 to 2010. Among the priority areas was to improve access to EHP services through rehabilitation, upgrading and construction of new health facilities and training institutions. The other issues that were noted to be of importance under the PoW included (1) human resource development, (2) strengthening national procurement, distribution and stock management systems for medical and non medical consumables, (3) provision of essential medical and non medical equipment for health facilities, (4) providing adequate financial material and human resources to support routine operations for delivering EHP and non EHP services within MoH and CHAM health institution and (5), strengthening of institutional processes aimed at enhancing operations through implementation of the Sector Wide Approach (SWAp) and decentralization of the health sector.

Despite the serious challenges that still exist within the health sector, some commendable improvements are noted if one compares the situation in 2004 and 2014. The MHSSP notes improvements in the delivery of drugs and supplies, infrastructure, and even human resources though noting that the gap has not improved that much because of new vacancies created by the upgrading or construction of health facilities across the country. There has also been a decline in health funding from around 2008 to date.

1.2.4 ICEIDA's Response to the Health Needs in Malawi

In recognition of the health challenges facing Malawi, the Government of Iceland through ICEIDA and the GoM, through the MoH, signed a Plan of Operation in 2000 that specifically focused on the implementation of the *Monkey Bay Health Care Project 2000-2003* in Monkey Bay Health Zone in Mangochi District. The main emphasis of the project was improving physical structures of a health centre in Monkey Bay. This

[7] Ministry of Health Report, 2004 cited by Justin 2011 "Evaluation of Sector Wide Approach in Public Health Infrastructure Development in Malawi".
[8] WHO, Malawi Country Profile, 2005

involved construction of a new health facility that gradually became the Monkey Bay Community Hospital (MBCH). Health zone area logistics and communication were also part of the implementation plan.

In June 2004, ICEIDA and the Government of Malawi, again through the MoH, agreed to extend their collaboration with special emphasis on the quality of health services given in the new hospital premises in Monkey Bay as well as in the health centers in the area, including outreach activities, and training of HSAs and TBAs. The extension of the collaboration intended to build on gained experience and consolidate what had been achieved. Training of human resources was an integral part of the project activities, and included short courses/seminars/training sessions for several categories of health personnel, professionals and volunteers as well as community members. Infrastructure development was continued and with rapidly growing demand on the increasingly diversified services of MBCH, it became evident that the hospital premises needed to be further expanded. On the basis of a site map identifying future buildings for the gradual expansion of service options in MBCH, ICEIDA and the MoH agreed to construct new facilities for the laboratory and VCT/ART services as well as a surgical theatre. The building for the VCT/ART was formally taken into use in July 2007 and the laboratory in September 2007. The surgical theatre was built and equipped in October 2007 and became operational on July 1, 2008 when the first caesarian section was performed. In addition to the construction of facilities, ICEIDA provided the MBCH with medical equipment and supplies as well as stepped in with funds because of chronic severe shortage of drugs.

Since shortage of qualified staff was one of the major challenges during the project implementation, ICEIDA addressed this problem by supporting staff through non-financial incentives, such as supporting positive work environment (e.g. resources to implement health policies and better facilities at work), career and professional development (e.g. access to/support for training and education), and access to new/renovated staff houses. In total, 19 staff houses have been constructed and renovated in Monkey Bay since the year 2000.

In 2006, the GoM initiated the renovation of Nankumba Health Centre with financial support from ICEIDA and the new facility was inaugurated in March 2007. It included a new building for preventive health work for pregnant women and children, new OPD, and a VCT facility, and old buildings were rehabilitated. Later, ICEIDA funded the construction of three new staff houses, and the renovation of two old ones, taken into use in March-April 2008. In 2008 ICEIDA installed a new water point powered with solar pump at the Malembo health clinic in the zone.

In order to improve community health related services in the area, an effective operation of outreach clinics was needed. ICEIDA purchased two ambulances and seven motorcycles for this purpose. These greatly increased the capacity of the health services to reach out to the target group in the health zone area. To alleviate the financial difficulties that were faced in health facilities, ICEIDA temporarily assumed the responsibility of financing recurrent costs of vehicles since June 2003 while the Mangochi DHMT attempted to gradually integrate these costs in their district health budget. ICEIDA's support phased out in 2011.

1.2.5 Development Objective

The overall objective of the Monkey Bay Health Project was to support the Government of Malawi in its national efforts to achieve the Millennium Development Goals (MDGs) and its national development goal of economic growth as laid down in the MGDS through improved essential health care service delivery in the project area and adjacent health zones. For the MBCH project, the main purpose was therefore to strengthen the capacity of MBCH in providing quality and sustainable health care services especially to the poor and underprivileged.

1.2.5.1Specific Objectives

Specific objectives of the project were to:

- Improve and upgrade infrastructure and equipment of the MBCH to progress towards the standards defined by the GoM for community hospitals in order to operate as first line referral for health centers within the zone. (Refer to Annex … for a definition of a community hospital)
- Increase the operational capacity of clinics, outreach activities and work of HSAs and TBAs in the zone with logistical support, training and infrastructure based on identified needs.
- Provide training to health and administrative personnel in the MBCH zone based on identified needs
- Improve utilization of health management information systems to strengthen delivery of the essential health package in the zone
- Facilitate collaborative approaches among stakeholders delivering essential health package in the Monkey Bay Health zone and with the Mangochi District Health Management Team

1.2.6 Expected Results

The following results were expected upon implementation of the project:

- Monkey Bay Community Hospital provides services as a first line referral hospital and provides required service standards defined by the GoM through installation of new infrastructure and equipment. (During the project period the following was considered according to prioritization and financial strength: Maternity and delivery ward, kitchen, paediatric ward and male/female ward, OPD structure and the provision of NRU and basic X-ray facility explored).
- Increased clinical and operational capacity of community clinics within the MBCH zone for delivery of improved health care services including the provision of components of IMCI, EPI, VCT, STI and Safe Motherhood.
- Renovated structures at Chilonga Health Clinic making it fit for a maternity and provision of other basic services.
- Training of staff at MBCH and in outreach activities follows a clear policy based on needs assessment for staff groups and focused on on-site training when applicable.
- Regular and increased use of statistics generated by the health services based on established guidelines.
- Regular consultation and collaboration between stakeholders in the delivery of health care services within the MBCH zone and with the Mangochi District Hospital.

1.2.7 Progress by 2011

Basing on the Final Report findings, the situation at the end of the project was as follows:

- Monkey Bay Community Hospital was not a fully-fledged community hospital by 2011 because it still did not have a pediatric and isolation wards, kitchen, X-ray department and a Nutritional Rehabilitation Unit in line with the national standards for a community hospital. Worth mentioning also is by the time of compiling the Final Report:
    - A new maternity ward and a laundry house had been constructed
    - A family planning and under 5 unit had just been constructed
    - Renovation of the outpatient department was in progress then
    - None of the planned eight staff houses had been constructed
    - The hospital had a generator which was however not operational for four months prior the final reporting because of air lock following some issues linked to a spate of fuel shortages then.
    - A small operational fund for continuous maintenance of the structure was needed.
- The once Chilonga Dispensary had been renovated to a health clinic with a new maternity wing built (had 5 beds and 2 delivery beds) and operating on solar power, new staff that included a Medical Assistant and nurse midwife had been recruited, 3 staff houses had been renovated and two more were under construction. Nankumba Health Center on the other hand, the OPD and waiting

area had been renovated. It had a functional under-5 clinic, pharmacy and maternity wing.

- Clinical management had reportedly improved following the improvement of infrastructure and availability of skilled personnel in the three health facilities. The surgical theatre at Monkey Bay Community Hospital was operational. Clinical guidelines (on IMCI, TB, VCT/ART, STI and safe motherhood) were available and in use despite some challenges adhering to some protocols due to unavailability of drugs and tools. Delivery by skilled health workers was more than 80% in the health zone.
- With respect to conducting outreach clinics that are integrated with EHP services, there was no information on the number of integrated outreach clinics then. Eight outreach posts were however in existence: one having a physical structure built with support from ICEIDA. Furthermore, there was very little activity reported from the community volunteers (Traditional Birth Attendants, Community Based Distribution Agents) as no supervision was taking place.
- With respect to use if statistics generated by the health services, there were some concerns with the quality of data and data was occasionally within the MBCH during Wednesday meetings.
- Coming to consultations and collaborations with the Mangochi District Hospital, the final report notes some good relations between the MBCH and Mangochi DHO. MBCH staff reportedly felt at times "forgotten" by the DHMT in the disbursement of funds. The Mangochi DHO on the other hand reportedly felt the DHMT could not do more for MBCH with limited resources at the district's disposal.

This report therefore presents findings on the current health service delivery situation in within Monkey Bay Health Zone, as guided by the Terms of Reference.

2.0 Evaluation Methodology

A method-mix-approach was used in undertaking the evaluation. Desk review, analysis of secondary data, quasi health facility assessment and qualitative evaluation techniques were used. A physical infrastructure assessment was also undertaken on the structures that were constructed with support from ICEIDA. To ensure all the evaluation objectives were addressed, the evaluation process took place in Lilongwe, Mangochi Boma, Namwera Health Zone and Monkey Bay Health Zone. Telephone interviews were also undertaken with purposively sampled respondents in Iceland. Namwera Health Zone was selected as a control whose data and health services were compared with the intervention zone – Monkey Bay. This control zone was selected because it has somewhat similar health delivery services to those of Monkey Bay Zone (a Community Hospital and other health centers). There is also a more than100km distance between Monkey Bay and Namwera zone with the two zones separated by Mangochi Health Zone. In line with the evaluation Terms of Reference, two evaluation visits were conducted. The first visit was in March 2015 and the second visit was in September 2015.

2.1 Desk review

Given the long time frame of the project, the following project documents were reviewed and they provided a historical background to the project.

1. Feasibility Study by Dr Gunnlaugson
2. 2002 to 2003 Project Document
3. 2004 to 2007 Project Document
4. 2007 external evaluation

Other documents reviewed to provide an insight on the situation during ICEIDA's support to the project including the beginning of the handover process to Mangochi DHO included:

1. 2008 – 2011 Project Document
2. 2009 Baseline Study by Dr Gunnlaugsson
3. 2011 Proposal paper by Dr Arnadottir
4. 2011 Final Report by Dr Gunnlaugsson.

Other documents reviewed included accessed quarterly, biannual and annual reports from Mangochi DHO, MBCH, ICEIDA for the period 2008 to date.

2.2 Analysis of Secondary Data

To comprehensively evaluate trends for different key selected indicators as noted during the baseline survey and as presented in the project Log Frame, collection and analysis of secondary data for Monkey Bay Zone and Namwera Zone were undertaken. This secondary data mainly came from the Health Management Information System (HMIS), district reports, project documents among others.

2.3 Quasi Health Facility Assessment

In order to effectively assess/evaluate the level of performance of health staff, state of infrastructure and logistical support, availability of drugs, equipment and supplies etc a quasi health facility assessment targeting the aforementioned areas was undertaken. Facilities that were assessed include Monkey Bay Community Hospital, Chilonga Health Center, Nankhumba Health Center in Monkey Bay Health Zone. In Namwera Health Zone Mulimbwanji Community Hospital, Namwera Health Centre and Nkumba Health Center were assessed.

2.4 Physical Infrastructure Assessment

A civil engineer was part of the evaluation team tasked with assessing the physical condition of structures constructed with support from ICEIDA. The assessment focused on the structural stability, functionality and overall maintenance of the different structures. Assessment of physical infrastructure was only conducted during the first evaluation visit in March 2015. Annex 1 presents a detailed report for this assessment.

2.5 Focus Group Discussions

Focus Group Discussions (FGDs) were conducted with health service recipients/expected beneficiaries in the MBCH, Nankumba, Chilonga, Mulimbwanji, Namwera and Nkhumba health facility catchment areas. Targeted FGD participants were women of childbearing age, adolescence and men aged below 55. A total of 27 FGDs were conducted. Each FGD comprised 8 to 12 participants. Participatory facilitation methods like participatory rural appraisals (PRA), stepping stones, study circles, participatory resource mapping were used. Interview guides were used in guiding these discussions. In appreciation of the fact that health needs vary by sex and age groups, FGDs were organized by sex and age group. In other words there were FGDs for males only and females only, adolescence only and adults only.

2.6 Key informant and In-depth Interviews

Key informant interviews were conducted with ICEIDA staff in Lilongwe, Mangochi and Iceland (both current and those that were formally holding key positions in the project), MoH staff in Lilongwe notably current and former Permanent Secretaries. At district level a representative from the District Commissioner's Office, former and current Mangochi DHOs, health facility in-charges, health workers, health program coordinators (including former MBCH project coordinator) were also interviewed. Key informant interviews were conducted at community level with community leaders, village health committee leaders in Namwera and Monkey Bay health zones.

2.7 Most Significant Change Stories (MSCS)

In order to comprehensively explore changes that might have happened or failed to happen since the introduction of the MBCH project and issues arising after the withdrawal of ICEIDA in 2011, MSCS were used at community level. These were undertaken in both the intervention zone and the control/comparison health zone.

2.8 Hiring and Training of Evaluation Assistants

Five Research Assistants with experience in undertaking evaluations assisted in the evaluation exercise. Three of them had medical background (one clinical officer and 2 nurse midwives), one with a social science background and a civil engineer. Before the research assistants started data collection, they underwent a 2-day training that oriented them to:

- The MBCH Project
- Data collection tools and sources
- Targeted respondents – who to be interviewed
- Writing a summary report after an interview
- Practical sessions
- Ethical research conduct
- Etc

2.9 Sampling and sample size

Non-probability sampling methods like head hunting, referrals, snowballing were used in sampling participants, as most of the data was qualitative or health facility based. These sampling techniques were used in the MBCH Health Zone and Namwera Health Zone. Theoretical saturation determined the sample size for this evaluation. A total of 313 contacts with participants at different levels were undertaken during the evaluation process.

2.10 Limitations to the Evaluation

Below are some limitations of the evaluation

1. Secondary data from HMIS was one of the major sources of this evaluation. Sadly, not all the data that was required from the HMIS could be obtained and therefore some comparisons are not done in the most comprehensive of ways as could be been wanted.
2. This evaluation anticipated interviewing most of the staff that worked on this project in Malawi and Iceland. A few of these targeted participants, particularly former DHOs, could however not be reached. Though it is felt the information gathered was comprehensive and reliable, these participants potentially had some views about the project that were missed.

3. The comparison between Namwera Health Zone and Monkey Bay Health Zone was, among other activities, also dependent on respondents' views. Since different people have different experiences, the results could be subjective. Furthermore, respondents in Monkey Bay Health Zone had earlier on been exposed to good service delivery when ICEIDA was supporting the zone whereas there was no such exposure in Namwera Health Zone. Views from respondents in Monkey Bay were in comparison to the situation when ICEIDA was supporting the zone and during the evaluation. Given the challenges that the government is facing in sustaining service delivery, it is possible that Monkey Bay Health Zone respondents rated service delivery much lower because of their previous experience: a situation which does not apply with respondents in Namwera Health Zone.

3.0 Evaluation Findings

This section presents the evaluation findings based on literature review, analysis of secondary data, rapid health facility assessment and the qualitative interviews undertaken during the course of the assignment.

3.1 Impact of the Project to the Health of the People

"How did the project contribute (or fail) to better health of the population in the zone?"

Using the OECD DAC evaluation criteria in assessing impact, this evaluation assessed the positive and negative changes produced by the Monkey Bay Community Health project within the zone and the district at large. It also evaluated the intended and unintended impact of the project in the zone. Particular attention was paid to the impact of (1) upgrading/construction/renovation/provision of supplies at MBCH, Nankumba and Chilonga health facilities, (2) training and providing staff housing, (3) procurement of ambulances and motor bikes, (4) integration of MBCH to the DHO's operation program to the health of the population in Monkey Bay. In essence, the key question this section responds to, as noted in the Terms of Reference, is *"How the project contributed (or failed) to better health of the population in the zone?"*

3.1.1 Impact of the renovation and upgrading of facilities

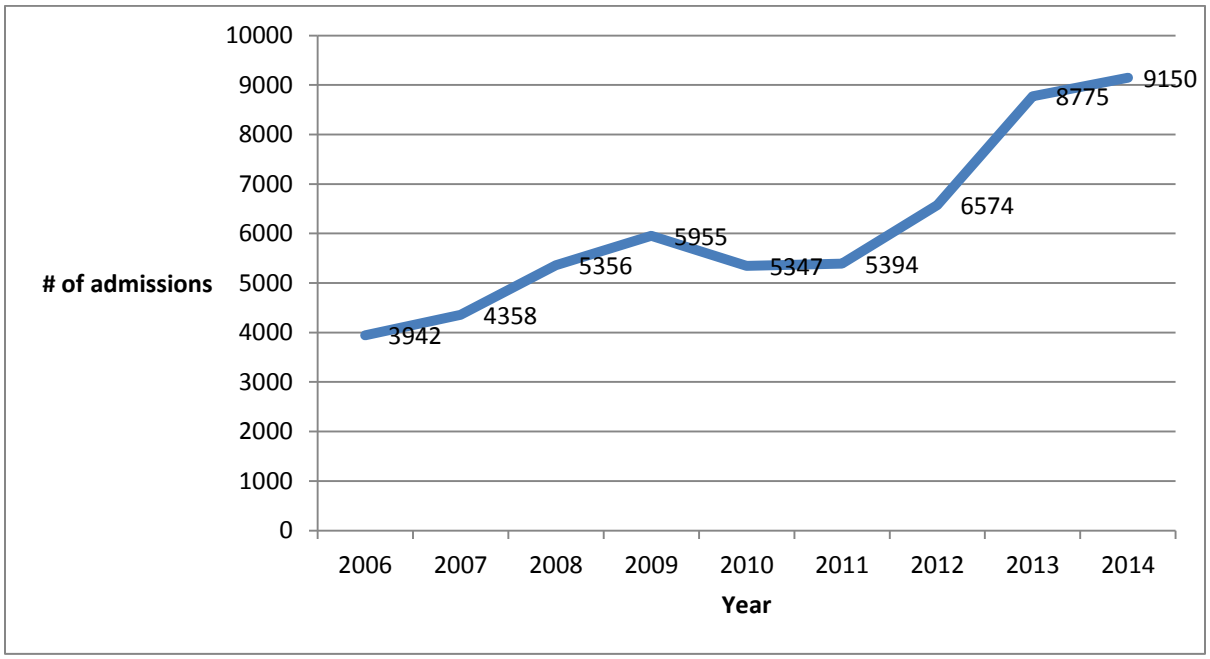
Before ICEIDA committed to support health delivery services in Monkey Bay Health Zone, health care was reportedly rudimentary and services were lacking[9]. Prior 2000, the current Monkey Bay Community Hospital "was a small worn down facility with limited services and few staff"[10]. Chilonga Health Centre was a dispensary that was no longer functional. Nankumba Health center was also very small with old buildings, few staff and offering fewer services. There were four privately run health facilities in the zone implying access to health services was upon making a payment. The need to upgrade government run health facilities in the zone so that a bigger proportion of the population in the zone has access to health services was realized.

By improving and upgrading infrastructure and providing supplies and equipment at Monkey Bay Community Hospital, Chilonga and Nankumba Health Centers an improved easy and closer access to quality health services was reportedly achieved in the zone. These interventions brought a marked difference in health service delivery in the zone if one compares the situation before 2000 (when Monkey Bay Hospital was then a hospital, Chilonga Health Center was a dispensary and Nankumba Health Center was small with old buildings) to the situation in 2015. The impact of this has been

[9] Project Document 2009 - 2011
[10] Baseline Report 2009

increased demand for health services within the zone and reducing of workload at the District Hospital. Figure 2 presents the increasing number of patients that had been admitted at MBCH reflecting an increase in demand. The number of patients admitted in 2014 was 2.3 times higher (marking a 132% increase) than those admitted in 2006 despite some drop in admissions between 2010 and 2011. The drop in 2010/11 will be discussed later.

Figure 2 Total Admissions at MBCH 2006 - 2014



Source: HMIS Data Mangochi District

With more patients seeking health services within the Monkey Bay Zone, essentially meant offloading the workload at the District Hospital. The Monkey Bay Community Health project is therefore a project that, as one key informant noted, "*brought health services closer to the Monkey Bay community and greatly reduced the workload at the district hospital as most of the cases that used to be or could have been referred to the district hospital are now referred to MBCH*". The implication of reduced workload at the District Hospital often is channeling of resources to, as expected, secondary service provision that in the long term translates to efficient use of resources at district level.

A review of the number of cases that have received surgical services at Monkey Bay Hospital gives another classic example on how much work has been offloaded Mangochi District Hospital and the number community members that are benefiting from the service, assuming most of the cases are from Monkey Bay. Between 2008 and 2014 a total of 4,368 surgical procedures have been undertaken at Monkey Bay Community Hospital[11]. Figure 3a&b below presents the type of surgical procedures.

[11] Mangochi HMIS data

These are not very complex procedures and with them being undertaken at Monkey Bay Community Hospital relieved the District Hospital of time and resources to other complex medical activities. Commenting on the impact of the hospital to the community, one respondent summed up:

> *"Monkey Bay Zone started witnessing a big proportion of people who earlier on had to travel long distances[12] to the District Hospital to get surgical services, laboratory tests, x-rays or to be admitted getting these services close to their places of residence facing little or no transport costs. People in the zone can now access first class, quality health services that are similar, and in some cases, even better than what is provided by the DHO and other hospitals in the district"* [Key Informant Interview, MBCH].

Surgical services, as presented in Figures 3a&b could only be accessed at the District Hospital or other hospitals in other zones by all patients who needed them in Monkey Bay health zone before 2011. All the admitted patients and those who got surgical services, as one health officer observed, *"....could have travelled the long distance to Mangochi DHO or sought medical assistance from traditional healers/faith healers or simply given up and died at their homes"*.

Figure 3a Number of Surgical Procedures by Type and Fiscal Year at MBCH 2008 - 2014

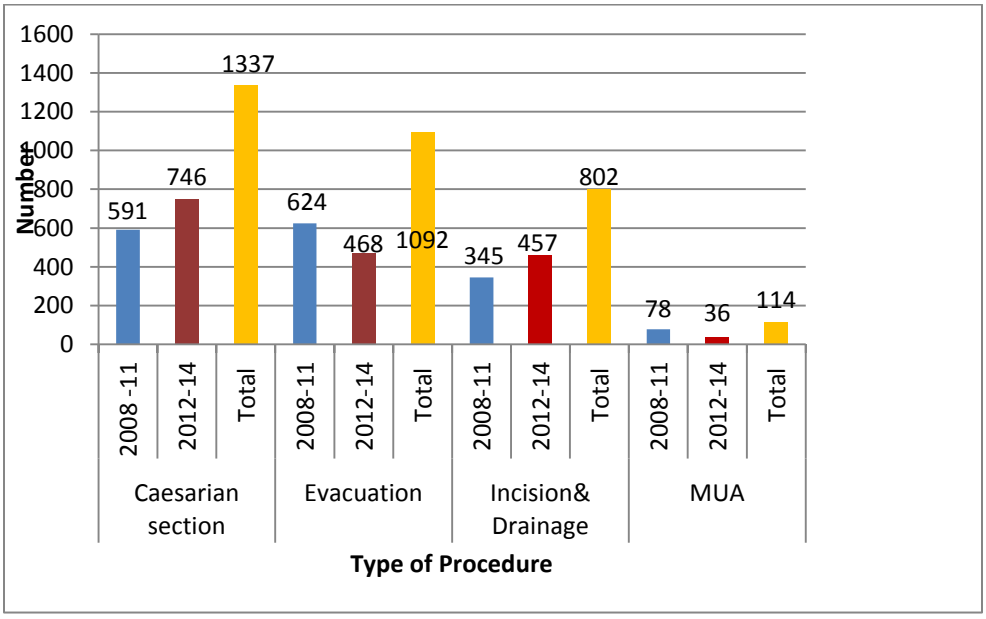
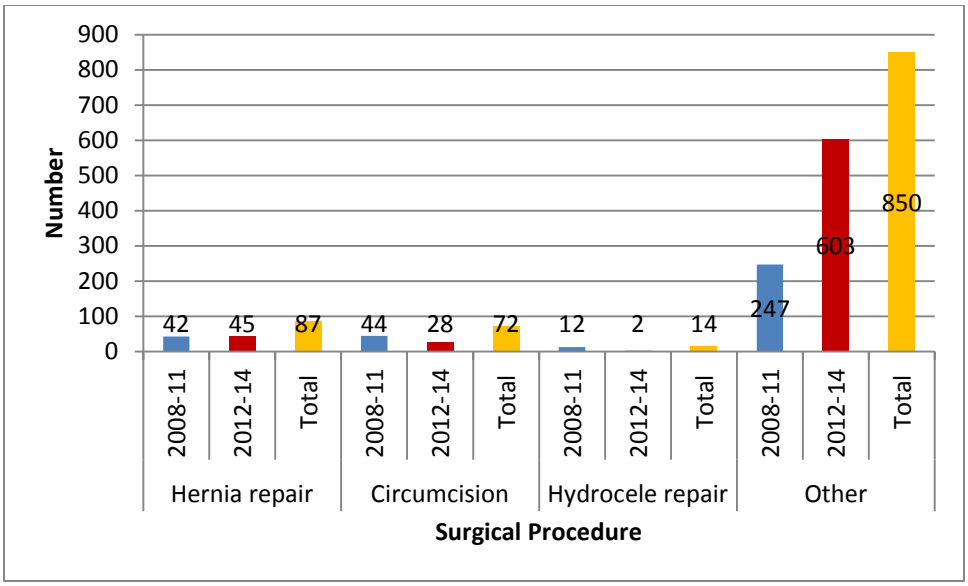


Figure 3b Number of Surgical Procedures by Type and Fiscal Year at MBCH 2008 - 2014

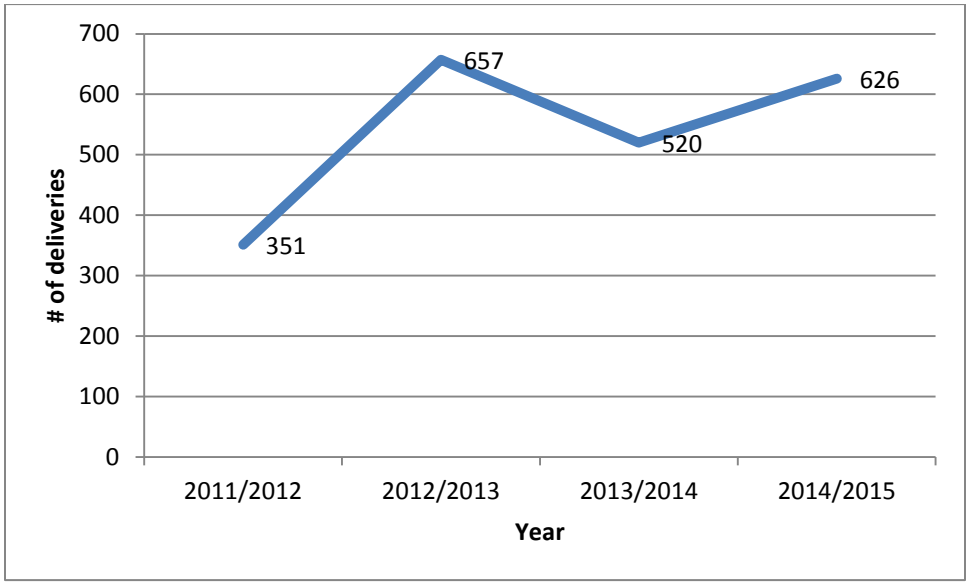
[12] It is approximately 60km from Monkey Bay town to Mangochi District Hospital; 50km from Nankumba to Mangochi and 65km from Chilonga to Mangochi. It is approximately 30km from Nankumba to MBCH and 40km from Chilonga to MBCH.



Source: HMIS Data, Mangochi District

Similar observations were noted with the upgrading and renovation of Chilonga and Nankhumba Health Centers. Figure 4 below presents the number of deliveries that have been conducted at Chilonga Health Center since ICEIDA stopped supporting the program. A 78% increase in the number of deliveries has been recorded between 2011 and 2015.

Figure 4 Number of Deliveries at Chilonga Health Center 2011 - 2015



Source: HMIS Data Mangochi District

Suffice noting that the upgrading of the health facilities in Monkey Bay did not only result in improved access to health facilities. The improved, welcoming and skilled-

manpower-manned facilities reportedly seduced demand for health services. The Most Significant Change Story below indicates the positive effect of improving/upgrading health facilities on demand or uptake of health services, particularly HTC services.

Background

HIV and AIDS has been one of the most devastating diseases in Malawi. An Estimated 1 million people are living with HIV in the country. The proportion that knows its HIV status remains low. Most people have often avoided getting tested for HIV because there is a lot of stigma and discrimination associated with the infection. In some situations access to quality HIV testing centers has been a deterring factor.

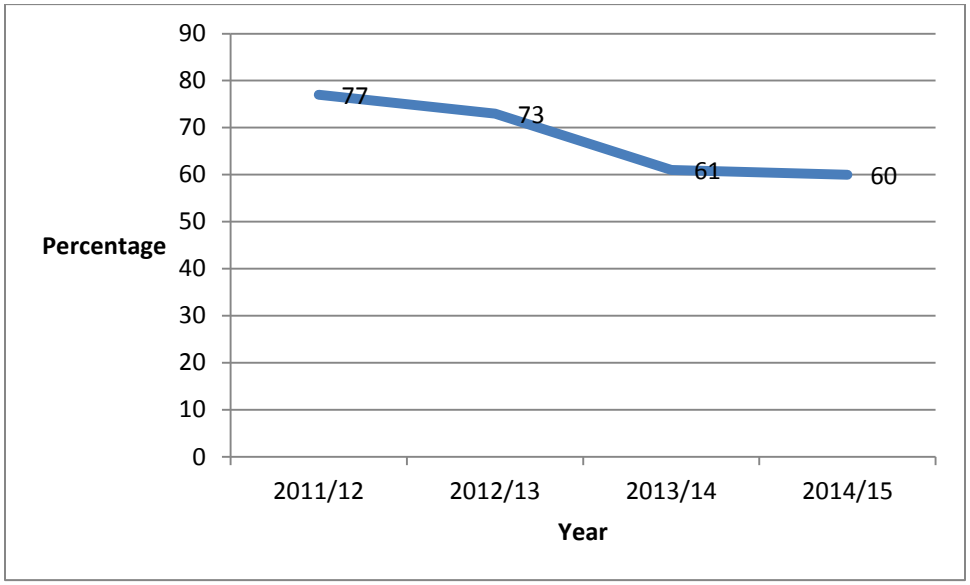
MSCS

My name is Tatha (not real name) and I am aged 45-years old. I am a mother of 4 who lives by the lakeshore in Monkey Bay. I was married to a police officer who died in 2006 after a very long illness. When my husband died, he was reported to have died of TB. Despite the long illness and suspicion that he might be HIV positive, we never went for HIV testing. The main reason was we were afraid of being told we had the virus. We thought it was better to die not knowing than getting to know that you have HIV but not get any medical assistance. Soon after my husband's death, I also started to deteriorate. I lost weight. I had consistent diarrhea. I was advised by relatives to go for an HIV test at MBCH but refused. I felt going there was a waste of money and I was worried my results would end up known in the village. Since we were told my husband had died of TB, one day in 2008 I decided to go for a TB test at the then newly opened MBCH laboratory. I was tested but the results were negative. The "doctor" who tested me for TB saw that I had lost a lot of weight and advised I go for an HIV test. I accepted. The way I was treated during the TB test was friendly and professional. I was told the HIV results would be confidential and I was going to be counseled before getting the test so as to make an appropriate decision. I was even told that should I choose not to get tested during the counseling I could stop the whole process. I felt empowered. I had never in my whole life imagined of getting to a health facility and get such level of respect. Tests were done in private and there was thorough counseling before I got tested and before I got the HIV results. The results came positive. I felt relieved; not afraid. The counselor who talked to me did an excellent job. She taught me about living positively, healthy diet, joining or forming support groups. The burden and the fear I had of HIV was all gone. I realized there were many people that had the same misconception of HIV testing like me. That day I decided to tell my family and friends about my HIV status. I was put on ART waiting list and within some months I started treatment. I am happy I have seen my children grow. Now people cannot tell that I have HIV because I am on medication. Had it not been the good services I got from MBCH when I went for the TB test, I could have (died) followed my husband way back.

Interviews with different participants at community level also noted that when ICEIDA was supporting the zone provision of quality services, particularly maternal health services, had persuaded many women to shun delivering at home or at TBAs in line with the banning of delivery at TBAs. Suffice noting though that the situation was however noted to be changing since ICEIDA left. An unintended or unexpected outcome had emerged. The demand for health services had remained high but financial support

from the government through the DHO remained the same: a situation that has been observed to lead to inconsistent quality service provision. "*We now have a situation where today you go and get all the medication you want, the next time you go you are told there are no drugs, go and buy at the pharmacy,*" summed up one Monkey Bay Community Hospital patient in Cape Maclear. The impact of this status quo has been continued demand for services in other sectors, particularly those where situations will be critical, as shown by the increasing number of admissions in Figure 2 but also some decline in service utilization in some sectors or some incoherent trends synonymous with inconsistent supply of services in other areas. A review of HMIS data on deliveries by skilled personnel showed a decline in all the health facilities in the zone except Chilonga Health Center. Figure 5 presents trends in proportions of deliveries by skilled personnel for the period 2011 to 2015. Comparing the current trends with the situation when ICEIDA was providing assistance could have been most ideal but data before 2011 could not be sourced.

Figure 5 Trends in Proportions of Deliveries by Skilled Personnel in Monkey Bay Health Zone- 2011 to 2015

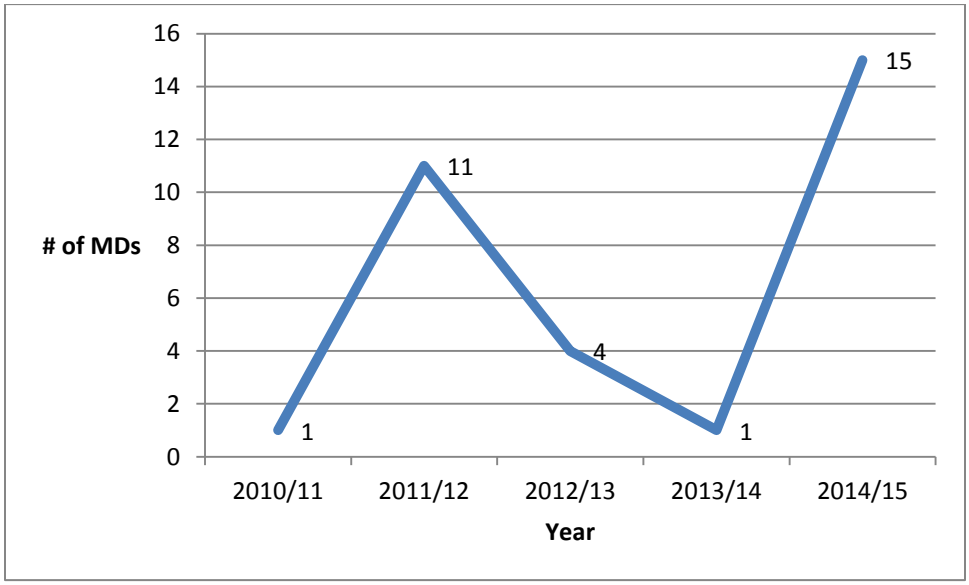


Source: HMIS Data, Mangochi District

A review of maternal death data in the zone from 2011 to 2015, as presented in Figure 6, reflects some incoherent trends that, as one respondent noted, "*… are synonymous with inconsistent availability of critical services due to financial constraints. Deaths rise and suddenly fall then rise again and that will be the situation until we are assured of consistent cash flow. Just a small delay in one thing can cost a mother's life*". This author however has little confidence in this data as different figures were given at different levels of following up. Just to give an example, data received from the Mangochi HMIS department as presented in Figure 6 indicates 15 maternal deaths in 2014/15. Whilst

following up with MBCH what had been the cause of the surge in maternal deaths in the zone, a report that two maternal deaths (instead of 15) had occurred in the zone during the 2014/15 period were made. It however emerged that HMIS's data included community maternal deaths whereas data from MBCH was for facility deaths only. A detailed account on the immediate causes of these maternal deaths could not be clearly established as HMIS referred the consultant to MBCH for the 15 deaths whilst MBCH could only account for two deaths (which were all facility deaths). Follow ups with senior district personnel on these maternal death trends revealed that much as one cannot rule out poor funding to be having a bearing, it was difficult to explain the rise and falls of the deaths as they include both community and facility deaths. It was noted that there has been some improvement in reporting of maternal deaths at community level and the noted rise could be because of improved reporting (at community level) not that there has been an increase in maternal death trends. Some argued that these maternal deaths might be higher given that some deaths might not be reported/captured by the HMIS unit.

Figure 6 Number of Maternal Deaths in Monkey Bay Health Zone - 2011 to 2015



Source: Mangochi HMIS Data
MD = Maternal Death

3.1.2 The Impact of Providing Transport Services

There was no data that that could be used during this evaluation to assess or quantify the number of people that benefited from the health services in the Monkey Bay zone through the provision of transport services. What became evident from the qualitative

interviews with key informants and community members was the demand for services at the different health facilities was fostered by the provision of transport services. Two ambulances and 7 motorbikes were purchased that assisted in the implementation of the project before ICEIDA exited the zone. Most interviewees spoke so highly of the ambulances that were *"…always in the villages taking and dropping sick people including bringing corpses of those who would have died at the health facilities"*. Such activities fostered uptake of health services particularly at the health centers. The situation was reportedly very different after ICEIDA stopped supporting the project. Respondents within the communities and at Mangochi DHO concurred that ambulances were no longer as visible in the communities as during ICEIDA's days. MBCH and Mangochi DHO personnel cited fuel and maintenance costs as the major factors behind this. Some key respondents however speculated that shortage of transport services could, among other factors, be a driving force to the noticed decline in skilled birth attendants, some drops in hospital admissions etc. They further noted that these challenges, if they remain unattended to, might lead to reduced uptake of health services, particularly by people living in hard to reach areas, and *"a rise in morbidity (sicknesses) and mortality in the long run"*.

An observation by the evaluation team reflects the inconsistencies in services provision that are now characteristic of the district. During the first visit to the zone in March 2015, the DHO had allocated one of the ambulances to Chilonga district. Participants interviewed then were extremely excited about the development. Below is what one of the patients had to say about the ambulance system:

> *"The ambulance that the DHO stationed at Chilonga benefits us as well. In some cases, patients referred to MBCH or Mangochi are all carried in the same ambulance. The period patients wait is now shorter than when we were relying on ambulances from the DHO or MBCA"*. [Female FGD Participant, Nankhumba].

When the evaluation team made a second visit in September 2015, the ambulance had been taken back to the Mangochi. It was understood that there was a serious shortage of vehicles at the DHO thus the development. Concerns over delayed transfers to MBCH or Mangochi DHO of patients in serious conditions were resurfacing.

3.1.3 Impact of the Project on Mortality

This evaluation went on to explore the impact of the reported huge uptake of health services to mortality in Monkey Bay health zone. There are no large-scale studies that have been conducted in the zone or in the district that capture mortality trends. This evaluation was also not designed to effectively assess impact of the project on mortality trends. Attempts to use HMIS data (particularly reported maternal deaths and

neonatal deaths) only worked for the period 2011 to 2015 because some of the data prior 2011 was not easily traced. The HMIS in-charge suspected that some data might not have been captured when they migrated from DHIS 1 to DHIS 2 in 2011/2012. Qualitative explorations with traditional authorities, some MBCH and Mangochi DHO personnel who have been in the district for more than 5 years were therefore undertaken.

Interviews with long serving staff at Monkey Bay Community Hospital revealed that maternal and neonatal deaths had become *"a very rare occurrence when ICEIDA was supporting the zone"*. The situation was reportedly not that impressive since the exiting of ICEIDA. Sporadic deaths of mothers dying whilst giving birth were, as earlier noted, reported. The same reports were noted for neonates. That said, it should be stated that although the situation was reportedly not as rosy as it was when ICEIDA was supporting the project, it had not gone terribly bad. A quote from one of the TA in Namwera summed up the general feeling by most respondents.

> *Since the coming of ICEIDA we do not experience a lot of deaths. In the early 2000s, we were going from one funeral to the other. There were many deaths of young women and men, women giving birth and babies. The upgrading of the facility has brought a lot of changes. It is now very rare to have women dying during delivery. We tell them to go and deliver at the facility where trained people attend them. Children are getting medicines (vaccinations) on time and deaths are prevented. The community is taught on the importance of vaccinating children, including general cleanliness and deaths from diarrhea are reducing. Even the many deaths from AIDS are getting less: people can now get treatment (ART) from our clinic. Yes, things are no longer the same like when we had ICEIDA support but they have not deteriorated to the situation before we had this clinic renovated"*

It should be noted that similar sentiments were raised even by interviewees in Namwera zone (control zone). Respondents spoke highly of quality services they get from Mulibwanji Hospital though at a fee, and other facilities in the zone which they felt had averted many deaths. A decline in deaths from HIV and AIDS due to access to ART (especially among sexually active people) and childhood illnesses due to improved access to maternal and child health services were also cited in many interviews in Namwera. One is therefore bound to ask if this implies the support rendered by ICEIDA was not worthwhile. This consultant concludes that such a conclusion is made without a full understanding and appreciation of the health delivery system in Monkey Bay before ICEIDA came into play. As earlier presented, health service delivery was not as impressive or comparable to other zones in the district before ICEIDA started providing

support. Had the situation remained the same, a lot of deaths could have been getting recorded in the zone. One interviewee concluded:

> *"ICEIDA lifted Monkey Bay health zone from one of the most neglected zones to one of the most admired ones. When it was getting support from ICEIDA it was actually the best. However since the handing over to the district, it is now facing similar challenges to those faced by other districts. It however still stands with some of the best infrastructure in the district"* [Key Informant Interview Mangchi].

3.1.4 Impact of resources channeled to health facility personnel

An assessment of the impact of staff training, construction of staff houses on staff motivation and staff retention was also undertaken. A total of 37 staff members (13 during the course of ICEIDA's support and 24 after ICEIDA' support) were trained. Training was in 1 to 3 year medical and administration courses or 1 week to 3-month short courses. Detailed information on staff training is presented in section 3.2.12 below. A well acknowledged fact about the trainings, which will be discussed in detail under the relevance section, was the trainings were provided in the most needed areas. Earlier on the report noted a surge in the number of people demanding health services at different facilities in Monkey Bay zone over the years. One of the underlying factors noted at community level was the professionalism and expertise demonstrated by personnel in health provision. A Most Significant Change Story by a community member on how professional conduct and expert knowledge in delivering health services also lure patients to health facilities illustrates the impact of training or availability of trained staff in health facilities.

I am Mrs Banda. I am aged 41 and a mother of 7 children. I was born at a TBA and so were all my 9 siblings. When I got married, I delivered my first 5 children at a TBA. It was all I knew. The TBA who assisted in delivering my children was even my aunt. I felt safe when she assisted my deliveries. When I was pregnant with my sixth child in 2011, my neighbor went to deliver at Chilonga. She was full of praises with the way she was treated by the nurses there. She told me the services offered at the facility were not at all comparable to the ones offered by my aunt. My aunt is a very popular TBA. People come from villages that are10km away for her assistance. I challenged myself to give the Chilonga facility a try. I was shocked. When you go to a TBA you are given herbs that are said to assist in fast delivery. They are bitter herbs. Some women vomit after taking them. When the baby is taking long to come, they press on your tummy to push the baby. It is a struggle. It was a very different situation at Chilonga. When I was in labour, the nurse there took me to a very clean bed. I was there the whole night. She would come after some time to check on me and nicely tell me that I was not ready to deliver and go. At first I was scared that she was going to go and I would be alone when the baby is about to come but I was wrong. The whole night she kept checking on me. Towards the morning she came checked on me and said, "You are ready, your

baby should be out in the next 20 minutes. You should start pushing". I don't think we even got to 20 minutes. It was the shortest pushing I had ever done. When at the TBA it is a whole night of pushing and stopping, and at times the TBA even sits on your tummy for the baby to go done. I am here with my 7th pregnancy and I see there is still some very friendly staff here. I just feel safe, safer than at my aunt's place. I know she is a good TBA because she has delivered 5 of my children but I think the nurses here are better than her. I even told my husband and he agrees with me. He came here once and he was also impressed with the staff.

On the part of staff, it was observed that training and provision of better housing was a motivating factor and, to some extent, contributed to retaining of staff in the ICEIDA supported remote facilities in Monkey Bay. Furthermore, it built confidence of health providers in execution of duties. One health worker told the research team:

"I am the nurse I am today because of the training I received with support from ICEIDA. It has made me a respected professional within my peers and I know even before my patients as well. There is nothing that satisfies a medical person like coming to a health facility and you know you are here to help sick people and you do exactly that. Or you realize this case needs referral and you refer. I enjoy it and the skills I have now give me peaceful nights.... Peaceful nights in a beautiful and well constructed house. People ask me what I am doing in Monkey Bay but the moment they visit me and see the house I have, they understand me. I have it all here".

Suffice noting though that whilst housing was noted to contribute to staff retention, it was not the experience across the board. It is staff that had just finished training, single and often aged below 30 that appeared to retain employment at some distant/remote facilities in Monkey Bay. Staff members who were observed to have stayed for more than a year were noted to be old (>35 years old) and living with their spouses/widowed and without any young children (child <7 years old). Despite some very decent houses that are at MBCH for example, it was reportedly still difficult to have a doctor stationed at the hospital because the ones that had been sent to work there did not like living in Monkey Bay. Lack of employment opportunities for working couples and good schools for children were noted as some of the major push factors by some interviewees that have been posted to Monkey Bay. This situation presents a typical externality. It was anticipated providing decent accommodation would be a great motivating factor for skilled personnel to come and work at MBHC. Much as this has worked, it has not been the case with specialized staff like doctors, pharmacists etc. One former Monkey Bay health worker informed the evaluation team that:

> *"…much as one might want to live and work in Monkey Bay, the town is not very family friendly particularly for those couples that are all professionals and one is trained in an area not on demand for employers in Monkey Bay. It gets worse*

when you have children that are of school going age, especially young ones that cannot go to boarding schools. My wife is an IT expert and she could not work for anyone in Monkey Bay. We could not get good schools for our child and the only option was leaving".

The implication of Monkey Bay Community Hospital failing to have a resident doctor has been failure to undertake complicated procedures that require expertise of a doctor. This was reportedly common with complicated surgical procedures such as CT scans, strangulated hernias, bowel obstructions, prostactetomy, chest surgeries, etc. Such cases were however referred to the district hospital. This therefore implies despite upgrading of the hospital, it has not provided services, particularly complicated procedures, to its full capacity because of the unavailability of doctors.

Within the zone, interviews with different traditional leaders and community members revealed that the project has bought some tremendous positive changes. A quote below presents the overall impression in the zone to date.

"People in this community used to walk 15 kilometers to access health services at Nankumba Health Center. Imagine a pregnant woman, some in labour, walking that long? Since the construction of the maternity wing and coming of trained personnel at Chilonga, this is now history. The situation has not changed very much even after ICEIDA left. We can now even support the government's stance on TBAs because we have a better option to go to. Its even long since we recorded a maternal death in this community". [Key Informant Interview, Chilonga].

It should nevertheless be noted that reports of health staff not being very professional and friendly were also reported. Some community members believed the personnel were overwhelmed. This study however did not encounter any cases where patients reported that they were not going to a health facility because they were not well received by facility staff. This might be because the situation is not that very serious or there are no other options for the community members.

3.1.5 Impact of the Integration of MBCH to DHO's Operation Program

Integration of MBCH into to the DHO's operation program has resulted in continued provision of health services after ICEIDA withdrew from the zone. It cannot be rejected that the situation is no longer as rosy as it was back then but provision of health services still continues despite some challenges. These challenges are not only peculiar to the Mangochi district but the country as a whole. The evaluation rather notes that there are strong elements of the two institutions complimenting each other in provision of better services in the whole district during difficult circumstances. During the first visit in March for example, MBCH did not have a functioning mortuary and X-ray machine. Patients

that died at MBCH and needed mortuary services were sent to Mangochi DHO. The same applied to patients that needed x-rays. During the second visit in September, the X-ray machine at Mangochi District Hospital was not functional and patients were referred to MBCH for x-rays. This situation demonstrates another externality. Upgrading Monkey Bay Health Center to a hospital was envisaged to mainly assist people in Monkey Bay zone. As noted above, services from the hospital are now extending to people in the whole district. Reports of patients from other nearby districts notably Dedza and Ntcheu district were also reported.

3.1.6 Overall Impression of the Impact of the Project on the Health of the Population

It is an undeniable fact that the MBCH project has resulted in some significant health changes in the Monkey Bay Health Zone. Some structures and equipment that the government could have struggled to put up are now found in the zone: a situation that has led to improved health service delivery, increased demand for health services and improved health of the population in the zone. It also remains true that effectiveness in health delivery has been compromised since the exit of ICEIDA from the zone because of failure by the government to commit more funding to the district as earlier promised. As presented above and also noted during the baseline survey, provision of health services still continues and will continue despite some considerable compromises. That said, it should be noted that the unfortunate effect of prolonged compromises in health delivery is the deterioration of structures, equipment etc which will, in the long run, lead to failure in providing health services and a surge in morbidity and mortality. This issue is going to be taken up again under the Conclusion and Lessons Learnt section.

3.1.7 Unintended Impact of the Project

Upgrading of the health facilities in the zone, as earlier noted, reportedly created a big demand for health services: a demand that in some instances has been hard to meet. At the Monkey Bay Community Hospital for example, there have been situations where the hospital gets so full that some patients end up sleeping on the floor. The evaluation team witnessed this during the second evaluation visit at the hospital where two patients in the male ward were sleeping on the floor because the male ward was full. A senior official at Monkey Bay Hospital attributed the higher than expected demand mainly to better services and infrastructure at the hospital and other ICEIDA supported facilities in the zone which are not comparable to other public health institutions in the district. He noted that some of the patients that are coming to the hospital are "… *not from the Monkey Bay zone only but from other zones in the district and in some cases from other districts such as Ntcheu and Dedza*". It however is an undeniable fact that demarcating the general ward into a male and female ward because the hospital does not have a peadeatric separation wing is a contributing factor, which was also

mentioned by staff at the hospital. At Chilonga and Namwera, a report of increased demand was also reported with staff noting the improved infrastructure, presence of skilled health providers as contributing factors.

A number of unintended/unexpected results were noted from implementing the project particularly in Monkey Bay town. Employment and business opportunities have been created courtesy of the MBCH project. Monkey Bay Community Hospital still does not have a kitchen. This issue is going to be discussed in detail later. Some enterprising individuals have taken advantage of the situation. As one walks towards the entrance of the hospital from the Monkey Bay town a number of structures commonly known as "*tuck shops*" (small grocery shops) have been put up (See Figure 7 below). Some mobile vendors also patronize the area. These vendors and tuck shops sell commodities that are needed by guardians of admitted patients or the patients themselves – whether admitted or not. They sell charcoal for cooking, vegetables, sweet potatoes, cooking oil, salt, sugar, soft drinks among other groceries. Staff members from the hospital also patronize these tuck shops. There are also some men that are coming with bicycles to carry people to and from the hospital. The evaluating team interviewed some of these "business people" and learnt that a number of them are now earning a living from selling goods or providing transport services from there. One interviewee who has been operating a shop by the hospital entrance for the past 4 years reported that he is able to buy food, send his kids to school, take care of his parents from what he earns from the tuck shop. He had just purchased a piece of land and was planning to build a big shop for groceries within Monkey Bay.

Figure 7 Tuck Shops and Bicycles Found Along the MBCH Entrance

A drug store has also been opened in MonkeyBay. It was opened around 2012. An interview with the owner revealed that he saw the business opportunity after realizing

that there was no drug store in Monkey Bay town and most people, including patients from Monkey Bay hospital, were travelling 62km to Mangochi town to buy drugs. He reported that he gets most of his customers from the hospital and his sales are highest when there are some drug shortages at the hospital.

3.2 Comparative Assessment Over time: Service Performance Before and After ICEIDA's Exit

Based on the ToR, the fundamental question this section answers in *How MBCH is performing now in comparison to the final period with ICEIDA's support and the capacity of the DHO and MoH to take over responsibilities?* In a way this section assesses sustainability of the project after ICEIDA's departure. A comparison of the situation as presented in the Final Report to the current situation is undertaken. The state of infrastructure, buildings and equipment, level of maintenance and operational capacity, level of performance of health staff and capacity in clinical management at the hospital and the two health facilities and quality of data management, community satisfaction as reported by beneficiaries and the extent to which objectives 1 – 5 were fulfilled is undertaken. Documents review, qualitative interviews with participants at national level, Mangochi district, Monkey Bay Health Zone and community members coupled with secondary analysis of data were used in responding to the question.

To what extent was Objective 1 fulfilled with respect to outputs like physical infrastructure, operational capacity of Chilonga Health Center, clinical management, administration and management, logistics etc?

3.2.1 State of Buildings, Infrastructure and Equipment

Improving and upgrading infrastructure and equipment of the Monkey Bay Community Hospital to progress towards standards defined by the GoM for community hospitals in order to operate as a first line referral community hospital was one of the key objectives of this project. During the 2011 evaluation some considerable work was outstanding. Back then, it was noted that (1) the family planning unit had been completed but was not functional, (2) the x-ray was also there, (3) Nutritional Rehabilitation Unit (NRU) had not been set up, (4) a paediatrics and isolation ward and (5) kitchen were not yet there. An assessment of progress in fulfilling the physical infrastructure outputs and the extent to which the facility was being used to its fullest potential was undertaken. The assessment also looked at the operational capacity in using the facility to full potential. Some commendable progress was noted in making the Monkey Bay Community Hospital a recognized community hospital. Out of the 9 key components of a community hospital, it is only construction of a kitchen that was outstanding. Practically,

the hospital is now operating as a fully-fledged community hospital. Table 2 presents detailed information on progress in upgrading the community hospital. It also compares findings from 2012 to the situation as observed during the last visit in 2015.

Table 2 Progress in Upgrading MBCH to a Recognized Community Hospital

Definition of a Community Hospital	**Situation in 2012 [As reported in Final Report]**	**Situation in 2015 [Impact Evaluation]**
Serve a population of 60-100.000 people	>60,000 people	Projected population by mid 2015 is 144,781
Have 80-120 beds, including medical/surgical wards for males/females, obstetrics/gynaecology, labour and delivery, paediatrics, and isolation	Had 105 beds, all the noted wards except paediatric & isolation ward	Had 190 beds in all the wards. A new paediatric and isolation ward had not been constructed but a former females' ward had been converted to a paediatric ward and separation room with the males' ward demarcated and serving male and female patients
Family Planning	Family planning unit had just been set up with all the required equipment/supplies though not fully functional	Family planning unit was running normally
Operating theatre	Had been set up and operational	Was operational
X-ray	Was not there	Had just been constructed, equipped, staff oriented on how to operate the newly installed X-ray machine and it was functional.
Laboratory	Had been set up and was operational	Was still operational
Nutritional Rehabilitation Unit (NRU)	Was not there	Had just been constructed and functional
Kitchen	Was not there	Was not there
Mortuary	Had been constructed and functional	Was functional.

With respect to operational capacity and maintenance of the buildings and equipment, it should be noted that all the buildings at Monkey Bay Community Hospital remain fully operational. Some challenges were however noted particularly in maintenance of equipment. As earlier presented, during the first visit for example, the mortuary, the generator and incubator in the maternity ward and the x-ray were not functional. The mortuary had been down for more than a month then because the freezers needed maintenance and there were no funds to maintain them. No one seemed to remember when the incubator last worked and much interest seemed to be on KMC than the incubator; the generator had been down for more than six months. During the second visit it is only the generator that remained non functional with the rest of the equipment fixed. The meaning of systems getting down and maintenance work taking long before being undertaken will be discussed shortly.

Interestingly, these shortcomings did not seriously affect full operations of the hospital as some alternative ways to keep operations going were established. When the X-ray and mortuary were down, patients that needed x-rays and those that died and needed mortuary services were referred to the DHO in Mangochi. When the incubator was down pre-term babies were put on Kangaroo Mother Care (KMC) and they are still put on KMC because it is more recommended than using incubators. Due to unavailability of a paediatrics ward and a separation room, a females ward had been converted to the paediatric ward and separation room and a former males' ward was demarcated to accommodate both male and female patients. As one walks into the former males' ward the first compartments have been reserved for female patients with the last compartments reserved for male patients. A consolation in the new arrangement is male and female patients do not share restrooms/toilets and bathrooms. Female patients have to walk to restrooms in the new paediatric and separation room and male patients use the restrooms within the ward. Sadly, male toilets were broken down during the second evaluation visit with patients that were fit to walk asked to use toilets outside the ward. Serious concerns were however raised by both staff and a few interviewed patients. They both felt some big trade offs on privacy had been made through the new arrangement. Some male patients felt restricted in their movement in and out of the ward as they have to pass through the female ward to get to the door as these two "new wards" share the same entrance/exit door. Apart from compromising privacy, the demarcation of a former males' ward reportedly translate to a reduction in the number of beds in either of the "new wards" or congesting either when admission cases are high.

3.2.2 Chilonga and Nankumba

Similar experiences were noted at Nankumba and Chilonga. At Nankumba the maternity wing and outpatient departments that had been renovated by ICEIDA were operational. The three staff houses constructed by ICEIDA were all operational. It is only

the pharmacy, which was not constructed or upgraded by ICEIDA, which was not working. The building did not have air vents or any cooling system for storage of drugs. At Chilonga on the other hand, all the buildings were noted to be operational. Rather, staff houses that were under construction during the end of project had been completed and Figure 8 presents one of the three bedroomed-self contained houses that was built by ICEIDA.

Figure 8 Staff House at Chilonga Health Center

Some minor maintenance issues on windowpanes, replacement of blown off bulbs, broken down door locks, old paint on walls etc were noted during the assessment at these facilities. Some of these problems were reportedly as old as one year. None of them however had rendered any building non-functional. A detailed report on the state of the buildings is presented in the Structural Assessment Report. The report essentially notes that all structures remain functional with some little maintenance issues that need addressing.

With respect to equipment, during the first visit the solar system at Nankumba was not working but this had been fixed during the second visit. Chilonga had an ambulance stationed at the facility during the first visit but this had been returned to the DHO because of the breakdown and delays in fixing of ambulances at the DHO. Again some remedial solutions had been established. When the solar system was down at Nankumba candles and torches were reportedly used when the need arose. In cases of emergencies at Chilonga, they now call for an ambulance from the DHO or MBCH. A snapshot presentation of situation of infrastructure indicators is presented in Annex 2.

3.2.3 Overall Impression on State of Buildings, Infrastructure & Equipment

It is justified asking, given the aforementioned challenges, whether the DHO and the government are able to sustainably maintain infrastructure and equipment in Monkey Bay Health Zone. As observed and reported above, facilities in Monkey Bay Health Zone

remain in good shape and operational. There however are some general maintenance challenges that the zone now constantly faces. These challenges were noted not to be peculiar to the zone only but the district and country as a whole. Indeed there are some concerted efforts by the DHO to maintain infrastructure and equipment in the zone but financial constraints have often affected the urgency with which equipment or infrastructure is maintained. The mortuary and generator situation at Monkey Bay Community Hospital earlier presented are good examples. In some situations some compromises have been made to make sure service delivery continues in the best possible way. The demarcation of the female ward to create space for a paediatric wing as earlier presented is a classic example. Despite these concerted efforts to continue health service delivery, it remains undeniable that some trade offs and/or compromising of standards and quality have been witnessed. These compromises are very likely to continue until adequate funding is injected into the health budget at national level and the funds trickle down to the districts. Referring to the situation at MBCH one participant rightly acknowledged:

> "*MBCH is fully operational but there is some compromising of standards and quality along the way…. That said, it should be stated that this is by far better than nothing. We didn't have the services we are providing now. Issues of funds to run the hospital are not affecting this hospital or this district only. It's a national problem*" [Key Informant, Monkey Bay].

3.2.4 Level of Performance by Health Staff and Capacity in Clinical Management

An assessment of performance by health staff in the delivery of health services and their capacity in clinical management was also undertaken through the health facility assessment. A comparison of the situation in 2012 and now (2015) was conducted.

3.2.4a Monkey Bay Community Hospital

At Monkey Bay Community Hospital the maternity ward, the surgical unit, pharmacy department, family planning unit and admission wards were visited. Just like the observations made during the end of the project, health staff performance was deemed professional and execution of duties were in line with health delivery norms or protocols across the different units/departments visited. With the maternity wing for example, it was noted that the wing offers privacy to admitted mothers and their babies, it had operational infection prevention systems for both neonates and infants, essential equipment like infant scales, ANC scales, refrigerators for vaccines, sick child timers, sick child cups were available and functioning. Partographs were also used in assessing women in labor and essential drugs for neonates, infants and mothers (such as antibiotics and HIV and AIDS drugs for mothers that are HIV positive) were available.

Suffice noting though stock outs of some of these essential drugs were at times experienced and the facility did not have a well functioning system of replenishing such drugs. This was however a district wide problem with also a number of reports having been made at national level.

Still within the maternity wing, during the first evaluation visit, as earlier noted, the incubator was not working: something that was also observed when the end of project assessment was done in 2012. Again no one seemed to have paid any attention to whether it ever worked or the need to repair it. During the second evaluation visit the incubator had been fixed. A follow up on what system was being used in management of preterm/low birth weight babies given the strong recommendation for KMC, it was observed that the facility is using both KMC and the incubator for pre-term babies. KMC is however most practiced since that is the method recommended by the government. The incubator was however used, but not often, in situations where the mother was not fit enough to be putting the baby in KMC position. Unreliable electricity supply and back up systems (as the generator for the hospital was broken down) were also making the incubator less preferred by the health personnel. Figure 9 shows one of the mothers with a pre-term baby practicing KMC. Under that purple cloth was her pre-term baby born weighing far less than 2000 grams. The hospital personnel advised that she remains admitted until her baby is weighing at least 2500 grams.

Figure 9 A mother practicing KMC at MBCH

A visit to the surgical unit also revealed a clean, well taken care of unit with, as expected, restricted entrance. Basic supplies were available and the equipment was working. The main challenge reported about the unit was the absence of a doctor for

complicated surgery and unreliable electricity supply. Accordingly, patients requiring complicated surgery were referred to the DHO. At the family planning department, a nurse was seen manning the unit during the two visits by the evaluation team. A waiting area and a private family planning counseling room were in place to provide services.

3.2.4b Chilonga Health Facility

Renovation of Chilonga Health Center structures making them fit for providing maternity and other basic services was one of the expected outputs of the project. By 2012, during the end of project reporting, renovation of the former dispensary and construction of a maternity wing had been completed. The maternity wing had five beds, a room for antenatal care, and two delivery beds. The facility was running on solar power and had a water pump. Experienced staff (a medical assistant and nurse/midwife) had been recruited. A team of four HSAs was in place. Three staff houses had been renovated and two were under construction. Spirits among staff were reportedly high. During this evaluation it was noted that the facility was still operating normally as observed during the final reporting phase. Information drawn from the rapid health facility assessment indicated that the facility now had three skilled health workers – a medical assistant and two nurse/midwives, the solar system was still functional, the facility had an ambulance during the March visit but had been transferred to the Mangochi during the September. Its water system was still there although the water tank was damaged resulting in water problems. A spirit of satisfaction and happiness was still presented by the members that were met. Even the traditional leaders and local members met spoke highly of the staff.

3.2.5 Situation on Clinical Management

An assessment of the situation on clinical management, even after ICEIDA's exit, indicates that by 2012 most of the indicators had been met. The gains made before ICEIDA exited the zone remained despite a few challenges. Table 3 presents the different indicators that were tracked during the life of the project, progress in 2012 and the situation during this impact evaluation.

Table 3 Situation on Clinical Management Indicators

Indicator to be tracked	Situation in 2012	Situation in 2015
Components of IMCI, TB, VCT/ART, STI and safe motherhood applied within the services	These components are included and guidelines often found on the consultation table	Components were still being applied with guidelines shown to the evaluation team during the rapid health facility assessment
Surgical theatre operating regularly and as need arises	Attained	Attained. The main autoclave machine was

		reportedly down with a standby one working.
Ceasarian sections conducted according to need	Attained	Attained with more than 15 ceasarian sections conducted between January & February and recorded in register.
Delivery assistance above 80% of cases in the zone	Not attained, currently 50-75% depending on health area	Not attained. Delivery assistance at 60% in the zone with a range of 43% (at Nankhwali) – 85% (at Chilonga).
Laboratory regularly offers services in line with needs assessment in >80% days/year	Attained, irregular availability of reagents was however reported	Attained. Again stock outs of reagents were reported
Emergency situations taken care of by means of emergency stock supplies	Was initiated but failed within months	System still not operational
Emergency stock supplies refunded on a regular basis and audited by ICEIDA	Replenishment from the Central Medical Stores did not materialize	Not applicable since ICEIDA stopped supporting the project in 2011
Management of endemic, maternal and childhood diseases follows official guidelines, overseen by the PC	PC does not have this responsibility within the organizational chart.	This was happening with guidelines posted on the walls. This evaluation did not follow up who oversaw the process
Women with complicated pregnancy and deliveries treated	Attained	Well treated in the magnificent maternity ward
Monitoring of outpatients and inpatients according to guidelines as reported by the PC	This was not followed through as planned because of lack of funds	Not tracked because the system did not even work whilst ICEIDA was still supporting the project
Improved response to emergency situations through use of laboratory and theater and qualified staff present at MBCH	To some extent attained: more professional staff on call compared to before. Laboratory people called in cases of need. Transport at night is however a problem.	Still to some extent attained because the facility has professional staff and the laboratory are still called in cases of need. The hospital yearns for a doctor as complicated cases are referred to Mangochi District Hospital

3.2.6 Overall impression on Performance of Health Staff and Capacity in Clinical Management

On the whole, health staff's performance was observed to be still professional and just as good as during the final reporting period in 2012. Capacity in clinical management of different health conditions was, based on the areas assessed that were also linked to what was observed during the 2012 evaluation, was still professional and in line with national norms. Qualified personnel were still manning facilities in the zone. Despite some challenges faced particularly with supplies or maintenance of some equipment and infrastructure, some commendable dedication to providing health services was also observed as reflected by alternative solutions sought in face of the different challenges in the delivery of health services.

3.2.7 Status of Administration and Management Systems

In an effort to spearhead transparent management of services with clear lines of command, an administrative structure was proposed during implementation of the Monkey Bay Health project. This included a Project Management Team, Technical Management Team and the Monkey Bay Coordination Team. A report by Dr Gunnlaugson (2012) indicates that the administrative structure then, was functional. Meetings on the overall running of the project, financial commitments, supervisions etc were reportedly held and documented. The only concern then was lack of involvement of health professionals within the zone in some of the meetings allegedly due to financial constraints. With the ending of ICEIDA support, the administrative structure was replaced with the district administrative and management system where administration and management of health facilities is done through the District Health Management Team (DHMT). Under this set up, the DHMT comprises some senior personnel within the district such as the DHO, District Medical Officer, District Nursing Officer, District Environmental Health Officer non medical personnel like accountant, administrator, etc. A staff member from MBCH is part of the DHMT: this is the only zone in the district that has a staff member who sits in the DHMT because of the status and size of the hospital and also being a government owned facility. MBCH also has its own hospital management team comprising the hospital in-charge, senior nursing officer among other staff members.

A review of the current administrative and management system revealed that it is working perfectly. The system allows the DHO to be abreast with issues taking place at MBCH and other facilities in the zone. In essence it fosters consistent communication and a transparent and cordial environment between MBCH and the DHO. As earlier noted, the system fosters a complimenting or supporting or sharing environment between the District hospital and Monkey Bay Hospital in providing health services not only in the zone but the district as a whole. The earlier noted response to the x-ray

situation at the two hospitals, the sending of an ambulance to be stationed at Chilonga by the DHO etc are clear examples of how perfect the current administration and management system is working.

3.2.8 Status in Provision of Logistical Support

Logistical support in this project essentially covered provision of transport for health services. ICEIDA acquired two ambulances, a utility vehicle and seven motorbikes for the project. Upon reporting in 2012, two ambulances were running and were noted to have improved provision of health services such as outreach clinics, carrying the sick from surrounding communities including expecting women in labour or transporting staff to meetings. Suffice noting that one of the ambulances that was bought by ICEIDA was involved in an accident and later replaced. It was however observed in 2012 that the ambulances were getting too old and requiring service every now and again. Administratively, maintenance was done by ICEIDA, so was the purchasing of fuel. Log books for the vehicles were being used.

During this evaluation it was noted that the same ambulances purchased by ICEIDA were still in use though now under the Mangochi DHO for servicing and fueling. Monkey Bay Community Hospital was now operating with one ambulance as the other one had been moved to Mangochi DHO. A well-received development during the first evaluation visit was the allocation of an ambulance to Chilonga Health Center that was making movement of patients and supplies between the health center, its catchment community, MBCH or the district hospital easy and timely. However during the second evaluation visit, as earlier noted, the DHO had retained the ambulance because of serious transport challenges at the district. Servicing of the ambulances was reportedly still taking place with Toyota Malawi although not as regularly as required. With respect to motorbikes, only two bikes (out of seven) were operational. The others had broken down and were not fixed.

On the whole, the transport situation in the zone and the district at large is now a challenge. The district now has an old fleet of cars whose maintenance costs keep rising. Coincidentally, the district is not getting sufficient funding to accommodate such maintenance costs. This has often strained the DHO in service provision particularly where there are emergency situations. These sad circumstances are however not common to Mangochi District only. They are a countrywide problem. This is issue is also going to be taken up in the Conclusion and Recommendations sections.

3.2.9 Situation in the Usage of Health Services in Monkey Bay Health Zone as Presented in Tables ES1 to ES7

HMIS facility data was used, just like during the final reporting, to assess usage of health service in Monkey Bay Health Zone. As has been noted before, health services in the zone have continued to be utilized even after ICEIDA's exit because the structures that were constructed/renovated, the personnel that was trained and the equipment that was purchased is still available in the different facilities in the zone. This evaluation however notes that the level of utilization had declined in some areas in the zone compared to the trends reported in the Final Project Report (2012). A review of Table ES1 for example indicates that OPD attendees had increased threefold between 2003 and 2010. A decline of about 46% is however noted in 2011. Similarly a review of Table ES2 indicates an increase in the total number of ANC visits by facility from 2003 to 2011then a drop from 2012 to 2014. This drop around 2011 or 2012 is noticed in nearly all facilities in the tables presented below. In some situations there is a drop between 2011 and 2012 then a rise again. Tables ES1, ES5, ES6 and ES7 are good examples. Some graphical presentation of this data is done in Annex 3. A number of possible causes were presented through interviews with staff at both Mangochi DHO and MBCH. Some felt the drop could be attributed to the exit by ICEIDA. It was argued that although services were still being provided, the effectiveness, as earlier noted, was no longer the same thus the possible drop in 2011. However, looking at ICEIDA's gradual withdrawal and the fact that there was still support going to the zone, though very small, it is not compelling submitting withdrawal of ICEIDA as a cause of the drop in service usage in 2011. Others argued the poor economic situation in 2010/2011 characterized by shortage of fuel, drugs, electricity, blackouts etc and the sudden change of the economic situation from early 2012 (when Mrs Joyce Banda became president) might explain this trend. Personnel in the Mangochi HMIS unit on the other hand believe this is a data issue. They noted that there was a migration from DHIS 1 (District Health Information System) to DHIS 2 and during the migration process some data might not have been captured. One can therefore not pinpoint at a single factor as the underlying cause to the observed trends. It is likely that a combination of factors have a bearing on these trends with the economic climate having some considerable effect. What has been observed over the years is with a poor performing economy, quality of health services goes down which often results in a drop in health services utilization. The situation in Monkey Bay Health Zone is noted not to be any different. Health services are still being used but the extent of utilization tends to be determined by the quality of services offered with the quality often related to the overall economic and socio-political environment.

Facility	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*
MBCH	27961	22578	47503	62460	63155	54855	69666	93145	**50106**	**61567**	**59907**	**41181**
Nankumba	1373	12151	25289	27773	40793	50394	57544	44726	**22542**	**25305**	**13223**	**21921**

Malembo	5690	3530	5995	6806	11964	12381	9682	7651	**11374**	**13740**	**11441**	**14925**
Nkopé	5560	7190	11549	8175	11148	9185	7671	7873	**6372**	**8090**	**4805**	**5117**
Nankhwali	3240	4570	4075	3098	3865	6875	4217	4514	**3939**	**4710**	**2704**	**3585**
Chilonga	0	0	0	0	0	0	4539	5783		**5907**	**10574**	**15872**
Total	**43824**	**50019**	**94411**	**108312**	**130925**	**133690**	**153319**	**163692**	**94333**	**119319**	**102654**	**102601**

Table ES 1. *Number of attendees to OPD by health facility. Monkey Bay area 2003-2014.*

Table ES2. *Number of attendees to ANC services by health facility and year. Monkey Bay area 2003-2014.*

Facility	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*
MBCH	7592	8279	7608	6878	5454	6830	5470	6765	6305	**6496**	**1939**	**1786**	**1853**
Nankumba	2915	5035	5044	3958	4258	4107	4328	4155	4363	**4174**			
Malembo	1195	2111	280	1288	1052	1371	1290	1298	2008	**3014**			
Nkopé	2512	5619	3246	2856	2059	2294	2156	2874	2230	**2676**			
Nankhwali	22	1168	240	995	784	1083	991	1113	937	**1040**			
Total	**14236**	**22212**	**16418**	**15975**	**13607**	**15685**	**14235**	**16205**	**15843**	**17400**			

[1] *January to June 2011*

Table ES3. *Number of deliveries by health facility and year. Monkey Bay area 2002-2014.*

	2002	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*
MBCH	633	696	696	691	703	856	933	1415	1501	1617	2063	1808	1885
Nankumba	285	469	538	596	695	816	777	929	1141	741	888	538	764
Nkope	312	437	543	498	424	498	445	631	869	553	893	436	603
Malembo	203	305	293	309	363	359	382	249	569	380	693	764	786
Nankhwali	24	216	189	213	148	163	194	236	328	284	402	282	303
Total	**1457**	**2123**	**2259**	**2307**	**2333**	**2692**	**2731**	**3460**	**4408**	**3575**	**5075**	**4161**	**4892**

Table ES 4. *Number of surgical procedures by type and fiscal year. MBCH, July 2008 to September 2011.*

	Jul 2008-Jun 2009	*Jul 2009-Jun 2010*	*Jul 2010-Jun 2011*	*Jul 2011-Jun 2012*	*Jul 2012-Jun 2013*	*Jul 2013-Jun 2014*
Caesarian Section	135	140	261	136	228	254
Evacuation	130	145	287	156	189	204
Incision and Drainage	138	90	86	170	120	109
MUA*	15	28	28	15	24	29
Hernia repair	3	11	27	19	27	10
Circumcision	0	6	35	15	9	4
Hydrocele repair	3	4	5	4	0	2
Other	50	48	115	136	158	162
Total	**474**	**472**	**844**	**651**	**755**	**774**

** Manually under anesthesia (orthopedic operations, e.g. fractures)*

Table ES5. *Number of attendees to VCT/HCT by health facility and year. Monkey Bay area 2005-2014.*

	2005[1]	2006	2007	2008	2009	2010	2011[2]	2011	2012	2013	2014	Total
MBCH	537	2378	2318	3331	3342	3735	1227	**1312**	**3254**	**1579**	**2341**	
Nankumba	0	291	700	1513	1154	908	183	**264**	**1272**	**1448**	**1960**	
Malembo	0	241	566	931	1066	542	517	**1043**	**1490**	**1919**	**2664**	
Nkope	0	257	717	914	1156	1155	352	**214**	**1324**	**1238**	**1896**	
Nankhwali	0	0	0	182	499	404	110	**175**	**604**	**328**	**760**	
Total	**537**	**3167**	**4301**	**6871**	**7217**	**6744**	**2389**	**3008**	**7944**	**7207**	**10924**	

[1] *Opened in May 2005.*

Table ES6. *Number of attendees to U5-clinics by year and health facility. Monkey Bay area, 2006-2014.*

	2006	2007	2008	2009	2010	2011	2012	2013	2014
MBCH	11912	13357	13842	15673	13806	**9317**	**18611**	**16193**	**15784**
Nankumba	15898	21924	22178	18963	20149	**14366**	**18987**	**12979**	**14575**
Malembo	5994	6285	8305	8309	9756	**8059**	**12627**	**9657**	**7806**
Nkope	7716	7929	10710	10703	11259	**4736**	**7376**	**6535**	**7253**
Nankhwali	3328	4142	3681	3851	4195	**2681**	**4663**	**2546**	**3619**
Total	**44848**	**53637**	**58716**	**57499**	**59165**	**39159**	**64309**	**51661**	**57323**

Table ES7. *Admissions to MBCH by year and ward. MBCH 2006-2014.*

Facility	2006	2007	2008	2009	2010	2011	2012	2013	2014
Paediatric	1555	1801	2438	2484	1877	**1808**	**2704**	**5192**	**4913**
Maternity	1199	1334	1469	1832	1734	**1926**	**2128**	**1800**	**1960**
Female	676	679	832	1033	1123	**1029**	**1093**	**1114**	**1366**
Male	512	544	617	606	613	**631**	**649**	**669**	**911**
Total	**3942**	**4358**	**5356**	**5955**	**5347**	**5394**	**6574**	**8775**	**9150**

3.2.10 Status in Fulfillment of Objective 2

Objective 2: *More than 2/3 of outreach clinics deliver integrated services of antenatal care and <5s.*

The 2009 to 2011 PD, also sought to improve community health related services with a focus on delivery of integrated ANC and under-5 outreach clinics. Among the different strategies planned to meet this aim was the training of HSAs, Traditional Birth Attendants (TBAs) and Community Based Distribution Agents (CBDA) and purchasing of bicycles for the community work. As noted in the Final Report, there was nothing that could be reported regarding the role of TBAs since their roles have been redefined and are no longer expected to provide any delivery services. Similarly no review of the CBDAs was

undertaken because they were not properly followed up. This evaluation also did not assess the activities of these two cadres for similar reasons. Attention was however paid to the role of HSAs since they are the recognized community level cadres by the government. A review of progress in the provision of outreach clinics was also undertaken. The HSAs still continue with community activities like vaccinations and disease surveillance, home visits to pregnant and recently delivered mothers among other activities. Among the HSAs that were interviewed, it was noted that they are at times compelled to operate from health facilities because they are resident close to the health facilities, or due to staff shortage at the health facilities or they have limited forms of transport to visit their designated catchment areas. Supervision was not frequently undertaken for these cadres. With respect to outreach clinics, just like during the end of project reporting, there was no data one could use to track the number of integrated outreach clinics that have been undertaken. The number of outreach clinics had reportedly declined since ICEIDA left because MBCH does not have enough cars and the DHO does not have adequate funds for fuel and per diems for these activities. Again, this is not an issue only common in MBCH zone or Mangochi District. Conducting outreach activities has been a challenge across the country for the same reasons presented above.

3.2.11 Status on the full Integration of MBCH into the Operational Capacity of the DHO

The last PD clearly noted that Mangochi DHO was supposed to take over the overall running of the hospital both administratively and financially from ICEIDA. During the final reporting, the taking over process had commenced but not completed. A Project Coordinator was finalizing his term with one of his major responsibilities being linking the project to the DHO. Plans to make MBCH a cost center were still under discussion. Funding from ICEIDA was still coming though the amount had been reduced drastically. Basing on the final report, the little financial support was in a way complimenting the funds from the DHO and activities were going on fairly well with very limited shortages or challenges similar to the ones noted during this evaluation as has been discussed.

This evaluation however noted that MBCH was now fully integrated to the DHO administratively and financially. All personnel at the hospital were under the DHO, vehicles, equipment and the overall running of the hospital was now through the DHO. Sadly, the budget allocation to Mangochi DHO had not increased even after ICEIDA had withdrawn support. In effect, the district was still getting the same budget despite taking over the operations of a facility with services close enough to a community hospital. As the overall budget allocation to the MoH has declined, so has been the budget going to the district. As earlier presented, this had resulted in the compromising of quality. A quote below from one of the senior officials from Mangochi DHO sums up the desperate situation currently faced by the district.

"The Treasury Department still allocates us the same amount of money it allocated before taking over running of Monkey Bay [Community] Hospital. The government has not filled in the shoes left by ICEIDA. There is a lot that we have to forgo or compromise to keep that facility running." [Key-informant interview, Mangochi District]

A proposal to have MBCH (or rather the whole zone) have its own cost center[13] (operate as an independent zone from Mangochi DHO) had been tabled but not progressed. Changes of political parties running the government over the years and transferring of key personnel like Permanent Secretaries (PS) within the Ministry of Health at national level and DHOs as district level were noted as stifling progress. Between March 2012 and March 2015 Malawi has had three presidents and two political parties running the country. As is often the case, new presidents come with different priorities and a lot of shuffling of staff. A follow up on the progress in establishing a cost center for Monkey Bay Community Hospital or the whole zone revealed two schools of thought. Despite a consensus that it was necessary and important, one school felt it was difficult, if not impossible, having two cost centers in one district. Some argued that MBCH is not the first community hospital in the country and therefore it will be difficult to treat it differently because it has been upgraded to that status. The other school however noted that as long as the DHO and the District Council presented a compelling and mutual case that builds on the number of health facilities and population in the district vis-à-vis the amount allocated to the district, it was possible to establish an additional cost center in the district since it has happened before in Mzimba District under the same pretext. Mzimba District is in northern Malawi and had 54 health facilities before it was demarcated and a population of more than 700,000 people. This compares very well with Mongochi District that has 42 health facilities and almost 1 million people. With some prolonged lobbying, Mzimba District was demarcated to Mzimba North and Mzimba South with separate cost centers.

3.2.12 Situation in Fulfillment of Objective 3

Objective 3: *Provide training to health and administrative personnel in the MBCH zone based on identified need during the project period*

During the 2009 to 2011 PD, staff training was specifically targeted on a needs basis. A budget line for training was set up and plans to provide training when the need arose were in place. Not as many people were trained as planned then because some of the money meant for training was rechanneled to buying a new ambulance after one had been involved in an accident. By the end of the project, seven cadres had been

[13] In general terms a cost center is a budget vote each district is allocated to provide health services within a financial year

trained: two in clinical medicine at diploma level, one in nursing and midwifery at diploma level, one as an anaesthetic technician, one in health management at degree level and another in community health development at masters level. The trainings in the different fields reportedly led to better clinical management and care for patients. After the end of ICEIDA's support in Monkey Bay Health zone, staff training has reportedly continued though now managed and coordinated at district level. A total of 20 staff members have been trained in long-term courses since the DHO took over MBCH. Areas of training have been in environmental health, nursing and midwifery, biomedical sciences, clinical medicine. An additional 5 support staff members have been trained in short term secretarial and messenger courses. Annex 4 presents detailed information on staff that has been trained through the DHO but with support from ICEIDA. The DHO was very appreciative of the support provided by ICEIDA in training staff. It was noted as an incentive that is improving the trained staff's capacity in service delivery, motivating them and fostering staff retention.

3.2.13 Status in Fulfillment of Objective 4

Objective 4: *Improve utilization of health management information systems to strengthen delivery of the essential health package in the zone*

Health data remains essential in health planning and decision-making. Quality and reliable data is a good source of information for health management. It was one of the project's key areas of interest promoting usage of data in health management. Accordingly, consultations and collaborations between different stakeholders in the delivery of health services was expected within the MBCH zone and with Mangochi District Hospital. Findings in the Final Report however indicate that data quality remained an issue of concern and there was very minimal collaboration and consultation on issues basing on generated data. During this evaluation, a review of the quality and usage of data was also undertaken. The evaluation went a step further into assessing if there were similarities between the data collection system in ICEIDA supported health facilities vis-à-vis the district and national expectations. Issues reviewed were where and how data is captured, the data flow system, quality assurance and data usage. This review was done in the MBCH zone and the HMIS office in Mangochi. Data collection system in the zone was noted to be similar to the other zones and the national level system where there are paper-based forms where disaggregated data is sent to the district monthly on some selected HMIS indicators. All the entry is done within the HMIS office in Mangochi. Tracking and data cleaning however remains an issue. A review of different registers at MBCH, Chilonga and Namwera revealed some shortcomings. Some registers in maternity wing, for example, were noted to have missing/incomplete data with others having wrongly filled data. This was attributed to shortage of staff that leads to pressure particularly where there

are emergencies. The overall utilization of data and consultations and collaborations based on generated data were noted to be ongoing but not as regularly as expected because of workload and at times the poor quality of the data generated. A review of data at the HMIS revealed some queries and inconsistencies that could not be easily resolved implying limited or no use of generated data.

An experience by this consultant during the evaluation process was it often took very long accessing any data from the HMIS. Some of the data, as presented under maternal mortality section, had some queries that could not be resolved until the end of the evaluation. Often, it was reported that the system is down because of Internet connectivity, or there was no electricity at the district, or the people who could explain some inconsistencies had left the district or there were not enough people in the office to assist with consolidation of requested data. The HMIS is expected to have four people manning the office. However there were only two people in the office at the time of conducting this evaluation because the other two had gone for further studies. As earlier noted, data prior 2011 could not be tracked because there was a shift from DHIMS 1 to DHIMS 2. As such making comprehensive analysis or evaluation of trends of different indicators say in the past 10 years is a challenge that is difficult to resolve.

3.2.14 Status in Fulfillment of Objective 5

Objective 5: *Facilitate collaborative approaches among stakeholders delivering essential health package in the Monkey Bay Health Zone and with the Mangochi District Health Management Team*

In line with the project's expectation that regular contacts and meetings of administrative bodies be undertaken between Monkey Bay Health Zone and Mangochi DHO, collaboration was noted to exist between MBCH and Mangochi District administrative systems during the end of project assessment in 2012. This was characterized by regular visits/contacts between MBCH and Mangochi Distrct Hospital staff including the District Health Officer in person. As presented in Section 3.2.11 MBCH has been fully incorporated into the district operations despite plans for having a cost center for MBCH having been unsuccessful. Furthermore, the Ministry of Health has not provided additional funding to the district since the DHO took over MBCH. It was noted though that since the end of ICEIDA support the relations remain very cordial and there is even more interaction between the MBCH team than before because Mangochi District Hospital is the center for the entire district administration and the MBCH team reports to the district. Interviews with different senior personnel at MBCH and Mangochi noted that collaboration was even extending beyond MBCH to include other partners that are supporting the district such as Baobab Health, the DREAM project, SSDI among others. A sense of wanting to make sure all continues well from where ICEIDA left was noted in the interviews contacted with both MBCH and Mangochi DHO senior staff. A typical illustration of this collaboration is the rehabilitation a former garage to a NRU unit

after discussions between the DHO and MBCH by the DREAM project. Furthermore, the X-ray unit (see picture below) that was not in place in 2012 was constructed through collaborative efforts between the DHO, MBCH and support from African Development Bank (ADB). It was even noted that the district is using the ICEIDA constructed maternity wing at MBCH to undertake trainings for district staff since it is one of the most specious and new maternity wing among the government owned facilities. During the second evaluation visit, the team was informed of a fistula management-training course that had been hosted by MBCH for some selected staff members from the entire district because it was found to be the most suitable facility in the district.

Entrance to the new X-ray Unit at MBCH

3.3 Comparison of Service Provision by Zone

Testing assumption that Monkey Bay Health Zone provides the best health services in Monkey Bay Health Zone compared to other zones

This evaluation also explored the assumption that Monkey Bay Health Zone provides better health services compared to other zones in Mangochi District. It should be noted that this assumption is so broad and could constitute a study on its own. In order to present an objective comparison, it was found prudent establishing the number of health facilities per zone, type of health facility, population-health facility ratio, and then assess service delivery by zone on a few indicators. Table 5 presents the total number of health facilities per zone disaggregated by the facility population ratio. Though there is no big difference on the average population a facility caters for, except for Mangochi Boma zone, facilities in Monkey Bay Health zone now have the lowest proportion of people they cater for compared to the other zones. Had Chilonga

remained a dispensary to this date, the facility-population ratio in Monkey Bay Health zone could have been almost similar to that in Makanjira zone. Similarly the proportion of the population living within the recommended 8 kilometers of a health facility was reportedly now much higher since the upgrading of Chilonga and the other facilities in the zone. Sadly, no exact figures could be obtained on the proportion of people now living within 8 km of a health facility in the district.

Table 5 Distribution of Health Facility-Population Ratio Disaggregated by Zone

Name of Zone	Number of health facilities [excluding dispensaries]	Projected Population (2014/15)	Health facility to population ratio
Mongochi Boma Zone	6	270,316	1:45,053
Chilipa Zone	5	127,316	1:25,463
Monkey Bay Zone	6	144,781	1:24,130
Makanjira Zone	6	175,703	1:29,284
Namwera Zone	10	263,942	1:26,394
TOTAL	**42**	**982,058**	**1:23,382**

Data source: Mangochi HMIS data (December 2014)

A review of the type of health facilities in each zone was undertaken. As presented in Table 6 all the zones, except Chilipa zone have a hospital. Suffice noting that the hospitals in Namwera and Makanjira are CHAM facilities. Looking at the facility-population ratio, Monkey Bay facilities have less burden and they are advantaged to also have *"a new government owned state of the art community hospital where referrals can be made"*

Table 6 Distribution of Health Facilities Disaggregated by Zone in Mangochi

Name of Zone	Type of Health Facility	
	Hospital (including community hospital)	Health center (including clinic)
Mangochi Boma	1	6
Chilipa	0	5
Makanjira	1	5
Monkey Bay	1	5
Namwera	1	9

Source: HMIS data December 2014

The consultant also assessed the number of functional ambulances disaggregated by zone. Availability of vehicles, notably ambulances, correlates with provision of better health services. Table 7 presents the distribution of ambulances by zone. If one looks at

the population size by zone, number of health facilities per zone against the number of ambulances in each zone, the data again suggests Monkey Bay Health Zone to be in a better standing. It has the same number of ambulances with Namwera Health Zone that has 10 health facilities and a health facility to population ration of 1:26, 394. It should however be made clear that though the health facility to population ration was noted to be higher in Namwera, it was reported that the proportion of people that live within 8km of a health facility is highest in Namwera because it has more health facilities. Suffice noting though that there are some constant changes on where ambulances are stationed depending on the fuel situation and demand in the district. Ambulances tend to be shifted very often from one facility to the other.

Table 7 Distribution of Ambulances by Zone

Zone Name	Number of Ambulances
Namwera	2
Makanjira	1
Monkey Bay	1
Chilipa	1
Mangochi DHO	4

Source: Mangochi DHO, Transport Department

Skilled health providers are an important asset in providing quality health services. This consultant went on to assess the distribution of skilled manpower by zone. Table 8 presents the findings. Although there are some gaps in the data, Monkey Bay Health Zone seemed, in all cases where there was data, to have the second highest number of cadres in all categories after Mangochi District Hospital. Key informant interviews with district personnel indicated that this has to be the case because Monkey Bay Health Zone now has the second biggest government run hospital in the district.

Table 8 Distribution of Health Cadres by Zone

Zone	Nurses	MA	Clinicians	Pharmacy	Laboratory	Medical Doctors	Dentists	ENT	Orthopaedic	Opthmologist	Anathesia	Radiography
Namwera	14	15		1								
Makanjira	6	5										
Monkey Bay	26	11	5	2	2	0*			1		2	1
Chilipa	9	5										
Mangochi DHO	81	8	11	3		12	3	1	6	3	2	2

Source: Mangochi DHO, Human Resources Department

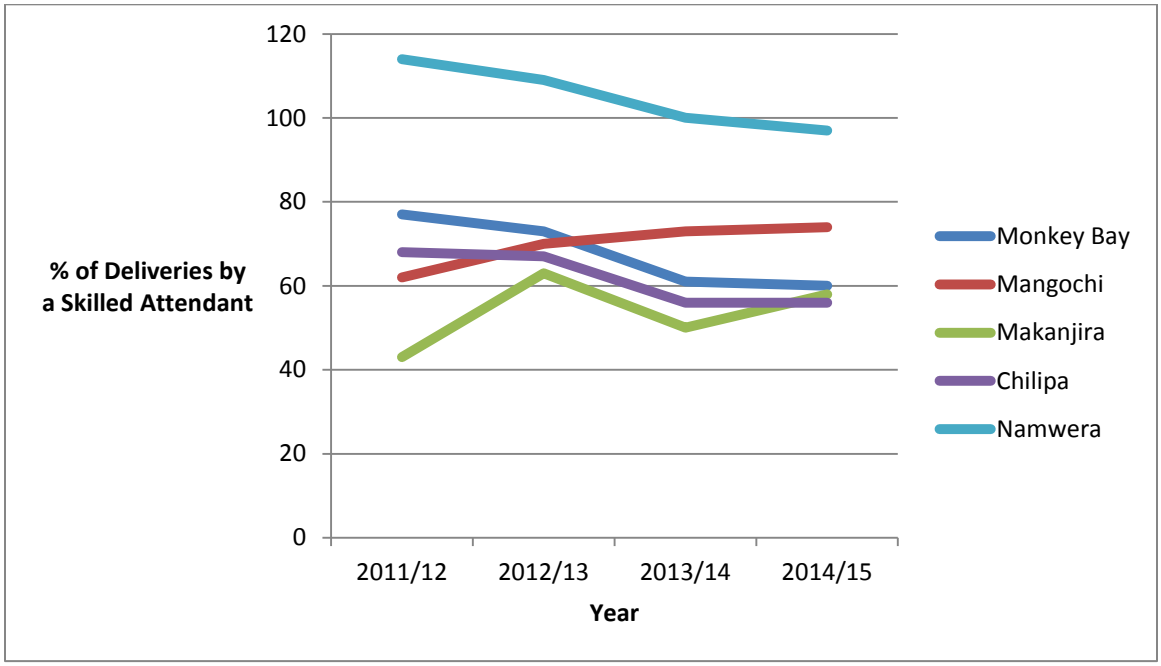
* A Doctor had been assigned to MBCH but not reported by the end of the evaluation

N.B Blank boxes are because there was no data available not necessarily because the cadres are not there

This evaluation went a step further into assessing the impact of the assessed situations on proportion of women that are assisted by a skilled attendant at delivery and the number of maternal deaths by zone. Figure 10 presents the percentage distribution of deliveries that were assisted by a skilled attendant in each zone. Surprisingly, the data

reflects a general decline in distribution of deliveries by a skilled attendant over the four-year period except for Mangochi Zone where the proportion has been increasing over the years. The data also reflects that deliveries attended by skilled personnel are highest in Namwera Health Zone with Monkey Bay Health Zone having been on the second position until 2013 before slipping to third place in 2014. Follow up on these trends revealed that the issue of distance to health facilities, functional SLAs, availability of transport and staff had a bearing on these trends. As earlier noted, the proportion of population living close to a health facility is reportedly highest in Namwera and there are more ambulances in the zone compared to the others.

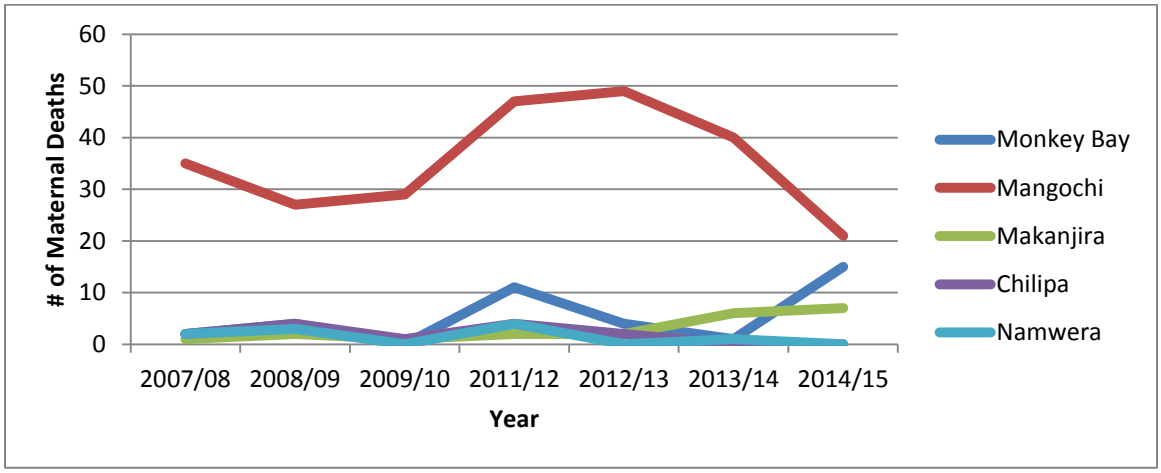
Figure 10 Percentage Distribution of Deliveries by a Skilled Attendant by Zone: 2011 - 2015



Source: HMIS Data, Mangochi District

Maternal deaths on the other hand were noticed to be highest in Mangochi Health Zone and second highest in Monkey Bay Health Zone as from 2009 (Refer to Figure 11). These were reportedly facility and community maternal deaths. A follow up on the death trends revealed that Mangochi and Monkey Bay Health Zones had the biggest government owned hospitals in the district. As such, they attended to more patients and had more referrals of complicated maternal cases. Accordingly, they were bound to record more maternal deaths given the number of both normal and complicated maternal cases they attend to. That said, this consultant, as earlier noted, remains skeptical about both the figures and the explanations around maternal deaths in the district. Different figures and explanations often emerged in the course of following up the actual data and the trends.

Figure 11 Distribution of Maternal Deaths in Mangochi District Disaggregated by Zone



Source: Mangochi HMIS Data (2011-15) and Central Health Management Data 2007-10

As the above HMIS data and qualitative interviews with senior staff at Mangochi DHO, Monkey Bay Health Zone suggest, the assumption that Monkey Bay Health Zone provides the best health services compared to the other zones seem not to hold. In terms of infrastructure and equipment, Monkey Bay Health Zone, as one respondent noted, "*... has the best and is worlds apart from the other zones, courtesy of ICEIDA*". Quality of service provision was however noted to be similar, if not lower, when compared to the other zones because of poor funding channeled through the DHO. As earlier presented, shortages of drugs and other supplies are now common in the zone as well. One participant commented:

"*You might have the best infrastructure and equipment but as long as you do not have adequate drugs and other supplies, you are crippled in your operations. Health delivery should be comprehensive, not be in peace-meal as we are experiencing now*" [Key Informant, Monkey Bay Community Hospital]

3.3.1 Overall Impression on Assumption that Monkey Bay Provides Better Services than Other Zones

Currently, the assumption that Monkey Bay Health Zone provides the best health services in the district seems not to hold. Renovation and upgrading of facilities by ICEIDA undeniably created demand for health services in the zone which, because of limited funding, cannot be met now. Whilst the zone has some of the best facilities and equipment in the district, service provision has been going down since the exit of ICEIDA because of no additional funding from the government as was expected. Providing a budget that caters for the renovated services is most likely going to put the zone on the best zone in providing health services spot again.

3.4 Satisfaction with Service Provision - *intervention versus control*

Qualitative and quantitative interviews were undertaken to assess satisfaction with service provision among health service recipients. In addition, an assessment of how health workers are satisfied with their work was also conducted. These assessments were conducted in Monkey Bay Health Zone with Namwera Health Zone being used as a control. The assessment with health service beneficiaries was done at two levels: at community level through FGDs and in-depth interviews and at facility level through exit interviews during the rapid health facility assessment. Facility interviews in Monkey Bay were done at Monkey Bay Community Hospital, Nankumba and Chilonga health facilities. In Namwera these were conducted at Namwera Health Center, Mulibwanji Hospital and Nkhumba Health Centre. Namwera and Nkhumba health centres are government-run facilities and Mulibwanji Hospital is a CHAM run facility that gets substantial financial support from Italy. Community interviews were undertaken in health center catchment areas for the aforementioned health centers.

Beneficiaries' satisfaction with health services is determined by a number of factors. Often, these include the state of physical structures, availability of skilled health workers, availability of drugs and supplies among other factors. To get a well-informed background on satisfaction with services by both the providers and beneficiaries a quick assessment of physical structures, staff housing, availability of electricity or back up, availability of water or back up systems, availability of an ambulance among others were undertaken. Tables 9 and 10 present the findings. Table 9 presents findings on assessment of hospitals and Table 10 presents findings on assessment of health centers. Colors are used to illustrate the availability and status of each assessed area. Green indicates that all was well, orange indicates areas that needed improvement and red indicates areas that needed urgent attention.

As Table 9 presents, the status of different components assessed at Mulibwanji Hospital were all favorable whilst there are areas at Monkey Bay Community Hospital that, as discussed before, needed improvement. Inadequate funding to the DHO, as earlier noted, had led to this situation which, as earlier presented, was resulting in lower quality service provision compared to the time the hospital was supported by ICEIDA. That said, one key informant at Monkey Bay Hospital noted that *"ICEIDA's efforts in putting the former health center to a position where it can be compared with one of the best hospitals in the country (Mulibwanji Hospital) should never be underestimated and the current challenges being faced are due to financial problems which the DHO and the Ministry of Health are ever working on averting"*.

Table 9 Infrastructure, Equipment and Supplies Situation at Mulibwanji and Monkey Bay Hospital

Area Assessed	Status – Monkey Bay Community Hospital [Intervention]	Status – Mulibwanji Hospital [Control]
Ambulances that are functional	Ambulance available and running	Ambulance available and running
Electricity	Available	Available
Back up generator	Generator available but not functioning	Available and functioning
Running tap water	Available	Available
Back up water source	Available	Available
Maternity wing offering antenatal, labour, postnatal services and child admission services	Available	Available
Adequate staff housing	Adequate	Adequate
Guardian shelter	Available	Available
Skilled personnel [Doctors, clinical officers, nurses]	No doctors but clinical officers	Has doctors, nurses, clinical officers stationed at the hospital
Consistent supply of essential drugs and supplies with emergency backup systems in place	Supply not always consistent	Supply system consistent and back up systems available

As Table 10 presents, despite the four facilities now being under the DHO, MBCH zone health centers seemed to be in a better standing compared to Nankumba facilities as no facility fell in the red category. It is only availability of ambulances and consistent supply of drugs and other supplies that was in the needing improvement category. Based on the two visits that the evaluation team did, availability of an ambulance at a facility changes very often and this issue is not going to be repeated. With availability of drugs and other supplies, it is a situation much to do with finances and supply systems between the DHO and the Central Medical Stores Trust.

Table 10 Infrastructure, Equipment and Supplies Situation at Chilonga, Nankumba, Namwera and Nkumba Health Facilities

Area Assessed	Status – Chilonga [Intervention]	Status – Nankhumb [Intervention]	Status – Namwera [Control]	Status – Nkhumba [Control]
Ambulance that is functional	Not available. Get from DHO/MBCH	Not available. Get from DHO/MBCH	Available & functional	Available & functional
Electricity/solar	Solar system	Solar system	Not	Solar system

	available & working	available & working	available	available & working
Running tap water/borehole	Available	Available	Available	Not available
Maternity wing offering antenatal, labour, postnatal services and child admission services	Available	Available	Available	Available
Staff housing for skilled personnel	Adequate	Adequate	Not adequate	Not adequate
Guardian shelter	Available	Available	Available but too old	Available
Medical assistant or nurse midwives	Available	Available	Available	Available
Consistent supply of essential drugs and supplies with emergency backup systems in place	Supply not always consistent	Supply not always consistent	Supply not always consistent	Supply system consistent and back up systems available

During exit interviews patients seeking maternal, newborn and child health services in the intervention and control zone were asked whether they were satisfied with the services they received; whether they would use/seek the same service again and whether they would encourage others to use the same facility and why. In keeping with findings from the health facility assessment and as presented in Tables 11,12 and 13 exit interviewees from Monkey Bay zone, except those interviewed at hospitals, were more satisfied (86% intervention versus 84% in control), more likely to use the same facility again (88% in intervention versus 82% in control) and more likely to refer/encourage someone else (90% intervention versus 88% in control) than those in Namwera zone. Follow up on what they found satisfying about the health centers indicated friendliness of staff, presence of skilled personnel, smartness of the facility including having a guardian shelter as the key satisfying factors.

Table 11 Percentage Distribution of Patients Reporting Satisfaction with Services

	Satisfied with services			
Name of Facility	**Yes**	**No**	**Row Total**	**Average satisfied – intervention**
MBCH	84% (N21)	16% (N4)	100% (N25)	86%
Chilonga	93% (N14)	7% (N1)	100%	

			(N15)	
Nankumba	80% (N12)	20% (N3)	100% (N15)	
				Average satisfied - control
Mulibwanji	92% (N23)	8% (N2)	100% (N25)	84%
Namwera	80% (N12)	20% (N3)	100% (N15)	
Nkumba	80% (N12)	20% (N3)	100% (N15)	
Total	**85%(N94)**	**15% (N16)**	**100% (N110)**	

Similar reasons to those on satisfaction were submitted on whether respondents would use the facility again and those that reported they would refer someone. Among those that reported that they would not use the facility again, 4 out of the 19 (21%) said they were not expecting to have another baby again, all those at Mulibwanji Hospital (26%) reported that they had travelled very long distances from their homes with the remaining (53%) noting poor services characterized by unfriendly staff, lack of water in the facility (particularly at Nkumba), over-crowding (at Namwera and Nkumba) or a sub standard guardian shelter (at Namwera) as the reasons.

Table 12 Percentage Distribution of Patients Reporting they Would Use Facility Again

	Would use same facility again			
Facility Name	**Yes**	**No**	**Row Total**	**Average agreed would – intervention**
MBCH	92% (N23)	8% (N2)	100% (N25)	88%
Chilonga	100% (N15)	0%	100% (N15)	
Nankumba	73% (N11)	27% (N4)	100% (N15)	
				Average agreed would – control
Mulibwanji	80% (N20)	20% (N5)	100% (N25)	

Namwera	87% (N13)	13% (N2)	100% (N15)	82%
Nkumba	80% (N12)	20% (N3)	100% (N15)	
Total	**85% (N94)**	**15% (N16)**	**100% (N110)**	

Table 13 Percentage Distribution of Patients Reporting Would Encourage Others

	Would encourage others to use the same facility			
Name of Facility	**Yes**	**No**	**Row Total**	**Average would encourage others - intervention**
MBCH	96% (N24)	4% (N1)	100% (N25)	90%
Chilonga	100% (N15)	0%	100% (N15)	
Nankumba	73% (N11)	27% (N4)	100% (N15)	
				Average would encourage others – control
Mulibwanji	96% (N24)	4% (N1)	100% (N25)	88%
Namwera	87% (N13)	13% (N2)	100% (N15)	
Nkumba	80% (N12)	20% (N3)	100% (N15)	
Total	**90% (N99)**	**10% (N11)**	**100% (N110)**	

Community level interviews somewhat substantiated findings from exit interviews and facility assessments. Community members around Chilonga area for example spoke so highly of the services they received from the facility. Staff members were reportedly "*patient, understanding and professional*". The facility was reportedly always clean (something that was also observed by the evaluation team during the two visits to the health facility) which "*created a welcoming environment*". A strong sense of owning the facility was established, through interviews with community leaders and members something that can be traced to the high level of community involvement in the

renovation of the facility. Concerns over drug shortages and withdrawal of the ambulance by the DHO were however noted. Again, respondents felt there are more challenges that the facility is facing now because of limited support from the DHO. In MBCH on the other hand community members still spoke so highly of the facility but were quick to refer to the situation before ICEIDA left. They felt though the facility was offering good services, standards had gone down. They referred to some cases where the ambulance is called to pick a sick person but fails to come because there is no fuel or situations where people go to the hospital but are asked to buy drugs because there will not be any at the hospital. These issues have been discussed already and are not going to be repeated.

In Namwera and Nkumba health facility catchment areas participants were equally content with the facilities but noted issues like patients sleeping on the floor, fewer nurses to attend to patients, lack of water at Nkumba, the old waiting room as issues that did not please them when they go to the facilities. During the second evaluation visit the evaluation team actually met a nurse from Mulibwanji Hospital who had been temporarily brought to Nkumba because of staff shortage. Figures 12 and 13 show a broken down bed and containers of water which guardians provide for expecting mothers at Nkumba. The facility is fairly old and does not have water supply into the facility. Suffice noting that the evaluation team observed a water tank currently under construction at Nkumba.

Figure 12 An Old Bed in Maternity Wing At Nkumba Health Center

Figure 13 Water Containers in Maternity Wing at Nkumba Health Center

3.4.1 Staff Satisfaction

With respect to staff satisfaction, it was a mixed bag. Staff in Monkey Bay generally expressed great satisfaction with the type of accommodation they have and the facilities they work from. They however lamented the deteriorating quality of services and the absence non-financial incentives they used to get when ICEIDA was supporting the zone. Reports on drug shortages and situations where at times water from the Malawi Water Board is cut or internet is disconnected etc because of non payment of bills were made. In Namwera on the other hand, staff were not content with the type of houses they were living and the state of their facilities. They felt they were too old and needed replacement or renovation. They, like those in Monkey Bay also lamented the shortage of drugs, supplies which they said frustrated and demotivated in providing health services.

3.4.2 Overall impression on satisfaction

In general, beneficiaries from the Monkey Bay Health Zone appeared more satisfied with the services they were receiving than those from Namwera zone. It should however be noted that the differences are very minor. Looking at the amount of investment made to Monkey Bay one would have expected more satisfied beneficiaries and staff there compared to Namwera. It should however be appreciated that (1) the challenges in health service delivery that the district is facing because of limited funding are cutting across the whole district and one would therefore not expect some

wide differences in satisfaction when service delivery is similarly below standard across the district. (2) Beneficiaries and staff in Monkey Bay Health Zone have a scenario to compare with: they witnessed better days when ICEIDA was supporting and their expectations are much higher than what is currently available. This is very different in Namwera where there are no other options and there are no services to compare with. If anything, they have the best in as far as their experiences and exposure is concerned.

3.5 Was the MBCH project a success and justified?

This evaluation also assessed whether this project was a success and justified with respect to contribution to the wellbeing of the population in Monkey Bay zone. It also assessed the relevance or appropriateness of the approach adopted. A review of policy documents, project reports and interviews with different stakeholders at national, district and community level were undertaken in responding to these questions.

3.5.1 Was the MBCH project a success and justified?

To objectively assess success of the project a review of what the project sought to achieve was undertaken. This evaluation rates the MBCH project a great success. As presented in section 3.3 Monkey Bay Community Hospital is now operating as a community hospital following the upgrading and improvements done through the project. Chilonga Health Center has been transformed from a non-functional dispensary into a fully operational health center. Similarly Nankhumba health center had some renovations of OPD wing, staff housing etc. About 37 health personnel has been trained in long term courses that have made them more effective in executing different clinical responsibilities within the zone. This has been complimented by the purchasing of state of the art equipment such as the surgery equipment, X-ray machine, lab equipment, laundry equipment etc. It is however not the fulfilling of infrastructure indicators or purchasing of equipment or the training of personnel that deems the project a success. Rather, it is its impact or the number of people that have received services from these facilities that counts most. As presented in Tables ES1 to 7, an increasing number of people have utilized the services from the facilities over the years. Some of the beneficiaries are reportedly from other districts (eg Dedza and Salima) because the MBCH in particular has been noted to offer great services. Paediatric admissions for example have increased by almost 3 times between 2006 and 2014 in the zone (refer to Table ES7). HTC/VCT attendees have grown by an enormous twenty fold between 2005 and 2014 (refer to Table ES 5). Nearly 4000 cases had received surgical services from MBCH between 2008 and 2014: a service that was unavailable before upgrading the facility (refer to Table ES4). Deliveries at health facilities which in effect translate to delivery by a skilled attendant has increased threefold between 2002 and 2014 (refer to Table ES 3). As earlier presented, upgrading

of Chilonga Health Center for example, has lured mothers to seek maternal services from the facility rather than from TBAs as was the case prior to the renovation. What is also most appealing about the project in terms of success and sustainability is service delivery has continued even in face of serious financial constraints since the exit of ICEIDA about four years ago. The evaluators did not witness scenarios of run down facilities or transport networks or a population excluded from health services because very few government run facilities were operational as presented at baseline. Instead, the upgraded facilities were intact and functional. Indeed some compromises have been made along the way but service delivery continues. As earlier noted, the challenges that are facing the zone are a country wide problem. During the write up of this report there were some demonstrations in the capital city, Lilongwe, by Civil Society Organizations for the government to improve budget support to the health sector. Once the economic situation changes for the better, health service delivery in the zone is envisaged to continue with minimum or no compromises.

3.5.2 Was the approach used appropriate?

Judging from a sustainable development perspective, the approach adopted in implementing the MBCH project is a commendable approach in development work. A few fundamental facts are presented to support this notion:

- The project started with a rigorous enquiry or establishment of facts about the problem, areas that needed support through baseline surveys, feasibility studies etc. Using findings from these studies, a detailed implementation plan and some monitoring systems were put in place to assess progress. From this process the project was responsive to the national health agenda, district and community needs.
- Key stakeholders from central to community level were involved in the project planning and implementation process. Accordingly, there is a strong element of project ownership by the government, the district and to some extent community members.
- Despite ICEIDA contributing the bulk of funding in the project, it is evident from the interviews conducted and the review of structures constructed that ICEIDA did not dictate how the project was to be conducted. Rather, the government had the biggest say in what was to be done and how it was to be done. The structures that were constructed for example are not any different from any new structures built in the country. It is even clear that a local contractor who has done similar work for the government in other districts was hired. There have been some arguments in some circles that ICEIDA set some standards that will be difficult to follow. This evaluation rather perceived that ICEIDA followed government standards by the book. Professionalism and quality standards are clearly spelt out in most of the government's guiding standard documents but at times these are not followed or corners are cut. This was observed not to have been the case with the MBCH project.

- The overall design of the project was in line with the existing administrative and logistical systems in health delivery in Malawi. No parallel systems were created particularly in the last years of the project. Coordination with the DHO was emphasized right from the inception of the project. By adopting or using already existing systems, costs are cut thus making the project efficient.
- Unlike most donor-funded projects, ICEIDA's withdrawal was gradual both in the coordination, administration and financial support to the project. It even had an exit plan with agreements that the government was going to take over running of the facilities. This is a recommended approach in development work as it fosters sustainability or continuity of projects. Evidently, this has been the case with the MBCH project even in face of numerous challenges.

3.6 Cross Cutting Issues

Under cross cutting issues, the evaluation assessed the extent to which the project was gender sensitive; (the extent to which the project benefited both women and men on staff issues and other project benefits) the level to which the government, DHMT and DHO, traditional leaders and community at large own the project; and actions needed to consolidate gains made by the project was also done.

As earlier noted, 37 staff members were trained during and after ICEIDA's support to the program. Among these only 35% (13) of the staff were female. This clearly indicates that the program was not gender sensitive. A review of the proportion of male to female staff members (both skilled and unskilled[14]) solidifies this assessment as it revealed that there were more female than male staff members and the trainings targeted both skilled and unskilled workers. At MBCH for example, there are 75 females and 57 males. On the part of community beneficiaries, the opposite was established. Using HMIS OPD data for the zone for example, 65% of adult beneficiaries were female. The majority of these were patients registering for family planning, maternal health and HIV and AIDS services. Whilst the bulk of the services sought might explain why there are more females, it is worth noting that there have been some strong campaigns promoting male involvement in health seeking even for maternal health services. As one respondent noted:

> "*Male involvement in seeking health has not measured up to the expected levels. It is changing but it will take time for us to see big changes*" [Key Informant, Monkey Bay].

The proportion is however assumed to level off if one factors in indirect beneficiaries of health services.

[14] Skilled staff refers to personnel that underwent professional training in areas like nursing, clinical medicine etc and unskilled staff refers to cleaners, general hands, messengers etc.

With regards to ownership of the project, there is no doubt the MBCH project was fully handed over to the government through Mangochi DHO. As earlier presented, the administrative systems, staffing, supplies etc are all controlled by the DHO. A symbiotic relationship was observed between MBCH and the district hospital characterized by complimenting or sharing of equipment, supplies, staff etc. This DHO-heath facility link was also observed at Namwera and Chilonga health centers as the overall running of the facilities are all through the DHO. Coming to ownership by the traditional leaders and the community, it was noted that since the project has been handed over to the government through the DHO, there is a strong impression that the government owns the different facilities. What is however striking is that traditional leaders and the community at large perceive themselves as key stakeholders in the running of the facilities. In all the facilities, there are Health Advisory Committees (comprising elected community members) that represent and link the community members to the health personnel in terms of expectations and the general delivery of health services. These structures are not in Monkey Bay zone only but throughout the district and country.

It remains an undeniable fact that ICEIDA's support changed health provision in the zone: a situation that has benefited and improved the health of a big proportion of the population in the zone and the district at large. For these gains to be consolidated, there is need to consistently channel adequate funding so that the structures that were constructed and the equipment purchased are maintained and, in the long term, some equipment replaced. Health delivery requires a lot of consumables and for these to be supplied, there is also a need for consistent and adequate funding.

4 Conclusion and Lessons Learnt

Basing on the presented findings, it can therefore be concluded that:

- The MBCH project has, through the upgrading and renovation of facilities, investing in staff training, procurement of vehicles, equipment etc, has resulted in improved and closer access to quality health services and increased the demand for these services within the zone. Health service delivery has improved tremendously if compared with the systems before 2000. Failure by the government to provide additional funding to Mangochi DHO as expected upon the exit of ICEIDA has resulted in continued provision with some compromising in quality health services provided. Consequently, some of the gains that had been registered on a number of health indicators have started taking a negative turn and are likely to keep reversing unless the funding situation is changed.

- MBCH project is now fully integrated into the Mangochi DHO's administrative and management system. Infrastructure and equipment provided with support from ICEIDA remain intact and health service provision continues. However due to failure by the government to provide funding, service provision has continued with a number of challenges like shortages of consumables, failure to provide or maintain vehicles being registered. These shortcomings have started compromising access and quality of services provided.
- The MBCH project was a relevant project as it worked to fill in some health access deficiencies in Monkey Bay Health Zone. Furthermore, an appropriate intervention strategy that (1) was similar or complimented the existing health delivery system; (2) was led by local stakeholders and upheld their full participation from inception to finalization of the project and (3) characterized by a well planned implementation and exit strategy was undertaken. As such, the project is well taken as handed over by ICEIDA to the government through Mangochi DHO. Similar approaches are highly recommended for future programs.
- A number of unexpected outcomes of the project were observed. It was not expected that the renovation and upgrading of services would result in a demand of health services beyond Monkey Bay Health Zone. As presented, the demand has been so big right from the zone itself, the whole district and in some cases patients from other districts are seeking services from MBCH. Furthermore, it was not expected that after signing an agreement with the government to take over the running of the facilities in the zone, the government would face challenges in providing services. Service delivery has therefore started deteriorating.
- Because of no additional funding that has been channeled to running the upgraded facilities in Monkey Bay Health Zone (especially the hospital), the assumption that the zone provides better health services compared to other zones is failing to hold. Monkey Bay currently has the best infrastructure and equipment compared to the other zones but health services delivered are now rated the same with other zones because no additional funding is being channeled to the facilities since the departure of ICEIDA. This conclusion should however be taken with caution as respondents in MBCH had been exposed to better services before; a situation that does not apply to the other zones.
- Despite some efforts in addressing utilization of data, this evaluation picked some big challenges in accessing data, consistencies/reliability of provided data and its availability. It takes a very long time accessing most data and when it is availed, there are often some issues that require following up or cleaning. This is an area that needs further consideration and is discussed in detail below.

One of the biggest lessons derived from this project is much as commitments and agreements can be entered into with the government, the prevailing political and economic situation in the country has a bearing on the fulfillment of the contracts/agreements. Interviews with senior government officials within the MoH indicate keen interest in providing additional funding to Mangochi DHO but they argue that the financial situation the government is in seem not to allow such flexibility. Such scenarios however require continued lobbying of the government to fulfill its commitments and continued support from its development partners.

Another lesson learnt is utilization of data in health management remains a challenge despite some concerted interest and effort by different partners to improve the situation. This has been the situation for a number of years now. Basing on this evaluation, the major problems lay in:

1. How the data is collected: The data collection process remains paper based, except for HIV and AIDS data that is getting web based though the system is still under pilot. The paper based system is however cumbersome and requires adequate manpower. With the staffing shortages in the health facilities and pressure of work, it is very unlikely that quality and reliable data will be collected.
2. The data flow and disaggregation system: Once data has been filled on respective forms, it is summarized at health facility level then sent to the district for entry. This, again, is another long and cumbersome process that does not correspond with the size of manpower, vehicles and other logistical systems at both health facilities and districts to perfectly police the data flow system.
3. Data entry, storage, analysis and usage: Data entry and analysis requires adequate manpower, reliable power supply systems, servers, internet connectivity etc. There seemed to be a problem with availability of all these during the evaluation. For generated data to be utilised, there is need to ensure that it is promptly or easily available and clean. Again, there were some challenges in this area.

Based on these findings, it is suggested that the best response to data issues should critically assess how these three key challenges are addressed. Furthermore, the government has been piloting web-based data collection systems in partnership with Baobab Health. Through this system data is entered at the point of data collection (not at the district) and saved on a central server. Whoever has the rights to access the data can do so from wherever. It is recommended that a critical review of how the web-based pilot data management system has been operating vis-à-vis the aforementioned challenges and the generation of quality and reliable data be undertaken. That said, it should be noted that simply addressing issues around data collection, data flow, analysis, cleaning etc will not translate in usage of data. There is also a tendency by health providers to pay more attention to health service provision at the expense of data recoding because service provision is their main area of

specialization/interest. The problem is further compounded by staff shortage. As such simple technical methods that do not overwhelm health providers ought to be explored to ensure that quality data is collected and used. The Mangochi-ICEIDA Public Partnership in Health 2012 – 16 has a Research Fund component. It will be ideal that some of the research is geared towards exploring better ways in simplifying data collection and usage in the district: an exercise that will benefit the country as a whole.