Master's Thesis

Risks and Opportunities Associated with Integration of Emergency Programs into Social Protection

Case study: Integration of Emergency Therapeutic Feeding Program "Community-Based Management of Acute Malnutrition" into the Health Care System in Malawi

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Abbreviations

ACSD	Accelerated Child Survival and Development Policy and Strategy
ART	Antiretroviral Therapy
CIDA	Canadian International Development Agency
CHAI	Clinton Health Access Initiative
CMAM	Community-Based Management of Acute Malnutrition
CAS	CTC Advisory Service
DNHA	Department of Nutrition, HIV and AIDS
DALY	Disability-adjusted life year
DHO	District Health Office
DIP	District Implementation Plan
EHP	Essential Health Package
FEWSNET	Famine Early Warning System
FANTA	Food and Nutrition Technical Assistance project
GAM	Global Acute Malnutrition
GOM	Government of Malawi
GDP	Gross Domestic Product
GNI	Gross National Income
IYCN	Infant and Young Children Nutrition Policy
IDS	Institute for Development Studies
IFSNSS	Integrated Food Security and Nutrition Surveillance System
IMCI	Integrated Management of Childhood Illnesses
IFPRI	International Food Policy and Research Institute
ILO	International Labor Organization
MDHA	Malawi Demographic and Health Survey
MVAC	Malawi Vulnerability Assessment Committee
MOH	Ministry of Health
NGO	Non-Governmental Organization
PSNP	Productive Safety Net Program
SUN	Scaling Up Nutrition
SWAp	Sector-Wide Approach
SAM	Severe Acute Malnutrition
DFID	UK's Department of International Development
UNICEF	United Nations Children's Fund
UNSCN	United Nations System Standing Committee for Nutrition
USAID	US Agency for International Development
WHO	World Health Organization
WFP	World Food Programme

Introduction

Research Question and Hypothesis

Research question:

What are the risks and opportunities associated with institutionalizing emergency food security programs into long term social protection?

Hypothesis:

Institutionalizing emergency food security programs into long term social protection expands coverage of the services, increases investment in human development which leads to long term productivity, and improves emergency preparedness. Lack of political support, insufficient national administrative capacity and high cost of social protection restricts integration of emergency program into social protection.

Key Findings of the Study

The study concluded that CMAM was successfully integrated into health care system in Malawi. As a result of integration, the hypothesized opportunities of expanded coverage, increased investment in human development, and improved emergency preparedness, all were proven to be true for the case of Malawi.

- The coverage of CMAM service has been expanded from 32 CMAM sites in 2 districts in 2004 to 444 sites in all 29 districts of Malawi in 2010. The number of children with severe acute malnutrition (SAM) treated by CMAM has increased from 3,500 in 2004 to 100,000 in 2010.
- CMAM increased investment in the human development and long term productivity of 80,000-90,000 children (recovery rate of 80-89%) who were recovered from SAM every year in 2009-2011. These children were protected from severe complications and other health risks associated with malnutrition, and their rights to adequate food and health care were achieved during the treatment period and that would enhance their chance to grow up as healthy and productive adults in the future.
- The emergency preparedness could have improved eventhough Malawi did not have severe food crises since 2006. Integration of CMAM built capacity of Ministry of Health to respond to malnutrition crises in timely manner in case of emergencies. An increased admission in number of children with SAM at CMAM sites was used as one of indicators for food insecurity problem and ensured government's response to the crises. CMAM ensures timely treatment of SAM, which prevents severe complications and health risks associated with severe malnutrition during crises.

Out of hypothesized risks of high dependency from political buy-in, insufficient administrative capacity and financial unaffordability, only administrative capacity was proven to be a true constraint and other two was disproven for Malawi case.

- Political risk was not really substantial in Malawi case, which disproves the hypothesis. CMAM integration was well supported by government and strong leadership played important role in the process.
- The integration of CMAM into health care system was constrained by inconsistent guidelines, shortage of human resources and logistical capacity, non-functional monitoring and surveillance system, delayed inclusion of CMAM in the health care providers' job description and health budget, and unsustainable volunteer system inherited from NGO's burdened the integration process. The most of these constraints were overcome gradually through the process by the time of study.
- Unaffordability hypothesis of integration has been disproven for CMAM case study in Malawi. A study by Wilford et al. concluded that CMAM was highly cost-effective. CMAM budget was incorporated into the national health care budget, which eased financing from government and donors. Though, it should be noted that macroeconomic crises may affect funding for CMAM in coming 2011-2012 fiscal year.

Further Recommendations and Discussion Points

Improvements in CMAM performance as a social protection tool in Malawi

There is need for greater in-depth look at coverage calculation in order to understand if CMAM's performance in terms of SAM treatment.

National nutrition indicators have not changed sufficiently during 2004-2010. In order to enhance CMAM's contribution in the national nutrition status, more attention should be given to its community sensitization, nutrition education and counseling components. Treating moderate malnutrition through CMAM should be considered in order to prevent deterioration of cases to severe malnutrition. There is a need for more integrated approach of prevention and treatment, which has already started with "National Scaling-Up Nutrition Special 1,000 Days Initiative" adopted 13 essential nutrition actions, in which CMAM was included.

Coordination among the nutrition surveillance, food security early warning system, and CMAM should be strengthened. At the moment, nutrition surveillance system at Department of Nutrition HIV and AIDS (DNHA) is not fully functional and works separately from the food security early warning system operated by FEWSNET. The connection of CMAM to both systems is not clear.

Sustaining CMAM for a long-term social protection in Malawi

There is a need for further study of cost-effectiveness of CMAM as integrated to health system versus emergency CMAM program. Wilford et al. studied cost-effectiveness of CMAM when operated by INGO Concern Worldwide. Another study of cost-effectiveness after integration of CMAM into health care system would be useful to compare. Indirect contribution of CMAM in human productivity in long term should be considered when doing cost-effectiveness analysis.

CMAM was included in Ministry of Health's annual workplan and budget as a part of basic health care that allowed funding by the government budget with assistance from donors through SWAp. However, funding of CMAM remains sensitive to economic performance and donor relations of the country. Therefore, there is need for advocacy and awareness creation among the donors if the budget cut severely affects CMAM.

Other countries should considering integration of CMAM into health care system

Based on successful integration strategy and opportunities created by CMAM in Malawi, it is recommended for other countries to consider integrating emergency CMAM into social protection system. As seen from Malawi case study, the political momentum and budget availability were critical and should be leveraged for integration of an emergency program into long term social protection. The challenges associated with limitations in administrative and logistical capacity in Malawi during the integration process provides lessons to share among other countries who are thinking of integrating emergency programs into social protection. These limitations should be thoroughly evaluated and solutions should be well thought before institutionalizing new services into the existing system. Piloting and gradual integration is recommended to test effectiveness of the protocol and approach before nation-wide integration.

Justification for the Study

Crises are not an "event", but manifestation of underlying vulnerability accumulated throughout the period before the crises[1]. Emergency programs respond to the need of people who are affected by crises with short term programs with short term funding, while underlying vulnerability is not addressed through emergency programs. Vulnerability is described by an exposure to risks and inability to cope with livelihoods crises[2]. Underlying vulnerability is characterized by chronic food insecurity, weak state and institutions, lack of basic infrastructures and services, degradation of the environment and natural resources and many other context specific factors. It takes a long time for crises affected people to rebuild their livelihoods or regain their health. Short term emergency programs often do not meet long term needs of the affected population who lost their health, livelihoods and assets.

To complement emergency food security programs in order to meet long term need of crises affected people, prevent future shocks and reduce vulnerability of the poor, a number of emergency programs have evolved into social protection systems. The social protection programs are designed and implemented by the states to address chronic vulnerability, and improve resilience to future shocks and bridge emergency and development programming. The goal of social protection programs is to assure that basic social and economic services are provided by the state to the vulnerable group.

Capturing and institutionalizing good emergency practices into social protection program is crucial because it allows the state to use already tried and proven approach, therefore saves time and resources and maximizes the potential of social protection systems to reduce vulnerability in the long run.

By analyzing the risks and opportunities of institutionalization, this study will identify the specific factors that influence the process and outcome of the institutionalization of emergency

[1] Maxwell and Sadler et al 2008
[2] Maxwell and Sadler et al 2008

food security interventions into the social protection. The study result could be shared among government agencies who are considering the institutionalization of emergency programs into long term risk reduction and social protection tools. The non-governmental agencies could use the study results for awareness creation, lobbying and influencing the public policy of government, and advocating for the funding for social protection from the donors.

Research methodology

This study is essentially a desktop exercise relying almost exclusively on secondary data. The literature review part include review of books, theoretical frameworks, academic papers, project reports and evaluations on emergency food security programs, social protection, and the connection between the two. Expert consultations were held with experts at the Feinstein International Center and the Friedman School of Nutrition Science and Policy. Through literature review, characteristics and connections among emergency food security programs and social protection were studied. The evolution process from emergency program to social protection was reviewed, major risks and opportunities associated with this process were identified, and a framework to guide a case study was developed.

As a case study, integration of emergency therapeutic program "Community-Based Management of Acute Malnutrition (CMAM)" into the health care system in Malawi has been studied in depth to prove or disprove hypothesis of research question using framework developed through the literature review. CMAM started as an emergency program by international non-governmental organization (NGO) Concern Worldwide in Dowa district of Malawi to respond to the 2002 famine. In 2006 the Government of Malawi (GOM) officially adopted CMAM as a treatment of malnutrition, an integral part of health care package.

For the case study, various literatures from government policy documents, guidelines, plans, reports, evaluations and research papers were reviewed. Representatives from Ministry of Health (MOH), Valid Nutrition, Famine Early Warning System (FEWSNET) and USAID Malawi were interviewed. Secondary statistics related to the case study were retrieved from National Statistics Office of Malawi and World Bank Databank, Food and Agriculture Organization (FAO) websites. Unpublished grey literatures from recent meetings on CMAM and its integration into health care system, internal studies of different organizations, internet blogs and newspapers were searched and used as resources.

The case study examined the opportunities and risks associated with the process and outcome of CMAM integration into health care system. Situational analysis was performed to understand aspects associated with the each risk or opportunity. In many parts of the case study, a comparative analysis has been conducted between the emergency CMAM program and integrated CMAM as part of health care system. In order to make comparison of quantifiable indicators such as CMAM program indicators, national statistics, and funding, the year of 2004 was compared to 2009 or 2010, whichever the latest data is available.

Based on the findings from case study, the study provides recommendations for potential improvements of CMAM in Malawi and other countries.

Literature Review

From emergency food security program to social protection

Emergency food security program

An emergency has been defined by World Food Programme (WFP) as an urgent situation where an event or series of events has occurred which causes human suffering or imminently threatens human lives[3]. Maxwell et al criticized WFP definition as "tending to imply that an emergency is a stand-alone 'event', whereas many emergencies may be the acute manifestation of an underlying process of conflict, political and economic turmoil, climate change, environmental degradation and chronic vulnerability or poverty"[4]. In many cases, emergency food insecurity is caused by not only specific sudden crises, but also a result of a underlying vulnerability and undergoing process of degradation of livelihoods.

Food security was defined by FAO that all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life[5]. Food insecurity exists when people do not have adequate physical, social or economic access to food as defined above. Devereux distinguished the transitory and chronic food insecurity according to their length of continuation. The chronic food insecurity is a persistent inability to access adequate food and nutritional intake that becomes underlying vulnerability in many cases, whereas transitory food insecurity is of a shorter duration and often involves a precipitous decline in access and consumption as a result of crises[6]. It is crucial to design appropriate interventions which either address immediate needs or tackle the underlying structural causes of hunger[7]. Emergency food security programs intervene to protect people suffering from crises or who are at risk of food insecurity[8]. The emergency food security programs are in the forms of general food aid, nutrition and supplementary feeding interventions, cash transfers, and some very basic livelihood interventions dealing with agriculture and livestock production.

The emergency food security interventions are designed to respond to short term or transitory food insecurity problems caused by crises, whereas underlying vulnerability cannot be addressed by short term interventions. The underlying vulnerability is an exposure to risks and inability to cope with risks and livelihoods shocks[9]. The underlying vulnerability is characterized by chronic food insecurity, degradation of the environment and natural resources, weak state and institutions, lack of basic services and infrastructures and many other context specific factors. Therefore there is a need for the mechanisms to address underlying vulnerability and chronic food insecurity, which is oftentimes in the forms of social protection or disaster risk reduction[10].

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[3] Maxwell and Sadler et al 2008; WFP 2005
[4] Maxwell and Sadler et al 2008, pp 9
[5] Food and Agricultural Organization 1996
[6] Devereux 2006; Maxwell and Webb et al 2008 ; Jaspars 2006
[7] Devereux 2006
[8] Maxwell and Sadler et al, 2008, pp7
[9] Boudreau 2009; Maxwell and Sadler et al 2008;
[10] Jaspars 2006

Social Protection

Social protection started in 1980's but grew rapidly, becoming a popular tool to address chronic food insecurity and underlying vulnerability[11]. Social protection and safety nets are increasingly recognized as crucial elements in pro-poor development strategies[12]. Slater and McCord found out that " During the early 2000s, a series of food crises in Southern and Eastern Africa stimulated a radical rethinking of the humanitarian responses to poverty which had been implemented over several decades, and played a major role in redefining social protection . This led to the recognition that far from being unpredictable humanitarian crises, these situations were more a reflection of chronic poverty and vulnerability."[13]

Definition and inclusion of the social protection is still controversial. The World Bank (WB) formulated the social risk management framework and defined social protection as "as public interventions to (i) assist individuals, households and communities better manage risk, and (ii) provide support to the critically poor"[14]. Devereux criticized the WB's social risk management framework and definition of social protection for not including social rights and social empowerment[15]. Overseas Development Institute (ODI) defined social protection as "the public actions taken in response to levels of vulnerability, risk and deprivation which are deemed socially unacceptable within a given polity or society"[16].

Devereux's argument fits considerably well to Adato and Hoddinot's (IFPRI) definition. Adato and Hoddinott defines social protection as "policies and programs that protect people against social and economic risk and vulnerability, mitigate the impacts of shocks, and support people who suffer from chronic incapacities to secure basic livelihoods"[17]. Social protection includes social insurance (such as health, life, and asset insurance, which may involve contributions from employers and/or beneficiaries); social assistance (mainly cash, food, vouchers, or subsidies); and services (such as maternal and child health and nutrition programs)[18]. The original conceptualization of social protection was known only in the form of cash transfers. The definition has been expanded to include almost everything that addresses vulnerability and risks.

The full range of social protection interventions are categorized under protective, preventive, promotive and transformative measures[19].

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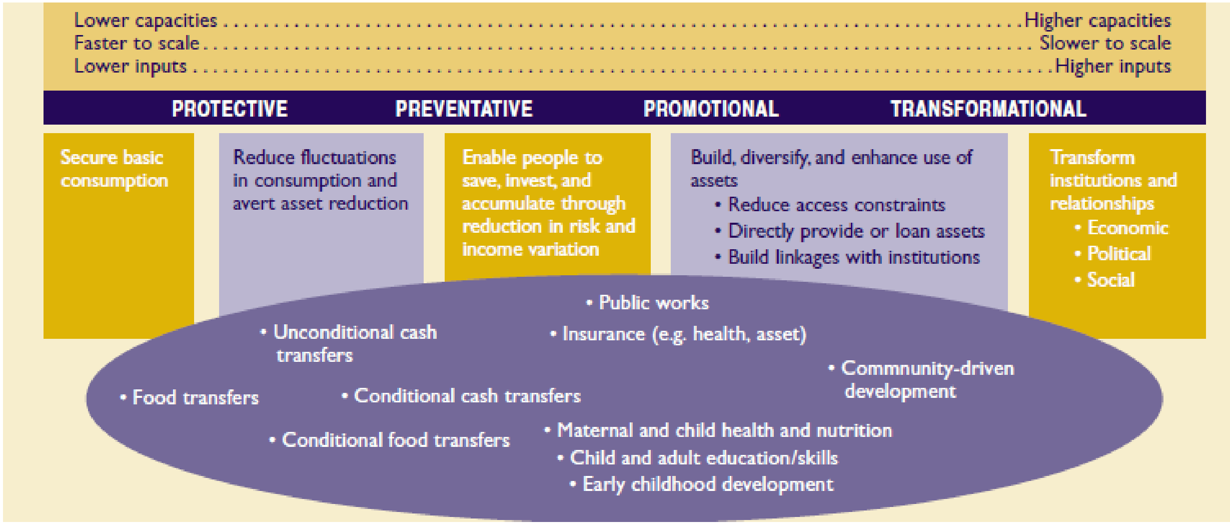
[11] Barrientos and Hulme 2009
[12] Slater and McCord 2009
[13] Slater and McCord 2009, pp 11
[14] Holzman and Jorgensen, 2000, pp 3
[15] Devereux and Wheeler, 2004
[16] Devereux and Wheeler, 2004, pp 3
[17] Adato and Hoddinott 2008, pp 1
[18] Adato and Hoddinott 2008,
[19] Devereux and Wheeler, 2004

Social Protection Diagram



Source: Adato and Hoddinott, Social Protection Opportunities for Africa, IFPRI 2008

According to Adato and Hoddinott "Protective measures provide relief from deprivation (food and cash transfer). Preventive measures seek to avert deprivation (public works, insurance, maternal and child health, school feeding). Promotive measures aim to enhance real incomes and capabilities through a range of livelihood-enhancing programs (livelihood enhancing programs, microfinance, and agriculture input subsidies). Transformative measures seek to address concerns of social equity and exclusion (collective actions for workers' rights or human rights)"[20].

A case study of community-based management of acute malnutrition (CMAM) from Malawi fits to the preventive and promotive social protection, as CMAM builds child health care system that ensures institutional capacity for management of acute malnutrition in a sustainable manner. It also prevents deterioration of health and nutrition status of malnourished children with early detection and treatment and builds capacity of children to grow as healthy adults.

Characteristics of Emergency Food Security Program versus Social Protection

The objective of the emergency food security program is to meet the immediate need of the crises affected population[21], whereas social protection addresses the chronic food insecurity and underlying vulnerability[22].

During emergencies, urgent and diverse need often times favors singular and ad-hoc actions from individual organizations. Weiss and Hoffman criticized the humanitarian responses of being less coordinated and disintegrated due to individualized goals, funding, and approaches of humanitarian agencies and institutional rivalry among agencies[23]. The emergency programs are

[20] Adato and Hoddinott 2008
[21] Maxwell and Sadler et al 2008
[22] Adato and Hoddinott 2008; Devereux and Wheeler 2004;
[23] Weiss and Hoffman 2011

funded by individual international donors and implemented by the foreign non-governmental humanitarian organizations most of the time.

On other hand, social protection is managed by the state in order to assure basic social and economic services are provided to vulnerable groups to improve their resilience to shocks[24]. Forms of social projection programs include asset building, income generation, and availing health and other basic services[25]. Social protection is characterized as a long-term system with standardized targeting, services, implementing institutions and consolidated funding mechanism[26].

In terms of the approach, emergency programs conduct quick assessments in order to identify the need and tend to provide blanket basic services to the entire population in the crises affected area. Impartiality and universality are the main principles during emergencies[27]. The humanitarian agencies often have a clearly defined, although contested, set of principles to protect life, enable access, and ensure fairness in acute emergencies and conflict[28].

Planning for social protection programs is established through more in-depth analysis of the need of target population, institutional capacity and financial resources, and long term projections. The social protection targets the most vulnerable population throughout the nation. The principles for the social protection are more like the development principles and emphasizes national ownership in the process; alignment of external resources to national priorities; and effectiveness, accountability, transparency, and predictability[29].

Institutionalization of emergency food security program into social protection

Some social protection systems were established based on emergency relief programs. Addressing emergency food insecurity problem is rarely an adequate response[30]. Sustained social protection activities are one way to complement the emergency food security programs to prevent future shocks and reduce the vulnerability of poor[31].

There are many common methodologies for both types of programs. Some emergency programs perform social protection roles, but in a small scale and as a stand-alone project form. A number of emergency response programs have been scaled up to nation-wide social protection systems. Through this evolution process, the emergency programs were scaled up and integrated into the existing public services. Not all the emergency programs evolve into such institutionalization. Examples of the institutionalization from emergency program to social protection are: Productive Safety Net Program (PSNP) in Ethiopia which was a government initiative to consolidate the ad-

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[24] DFID and HelpAge et al 2009
[25] Devereux and Wheeler 2004
[26] There are some social protection projects which are administered by the NGO's in small scale. But in this paper the social protection is referred as state owned publicly administered consolidated systems.
[27] Walker and Maxwell 2009
[28] Maxwell and Russo et al 2011
[29] Devereux and Macauslan 2006; OECD Paris Declaration of Aid Effectiveness 2005
[30] Maxwell and Sadler et al 2008, pg15
[31] Maxwell and Webb et al 2008

hoc public work and food aid programs after the food crises into nation–wide safety net to address chronic food insecurity[32]; Farm Input Subsidy Program in Malawi launched after the food crises to improve the productivity and resilience to shocks[33]; Emergency therapeutic feeding program transformed into the Community-based Management of Acute Malnutrition (CMAM) as a part of health care system in Malawi[34]; and Targeted Supplementary Feeding program integrated into the Enhanced Outreach Strategy, a community-based preventive health services delivered every six months, in order to supplement food ration to the women and children who are identified as malnourished in Ethiopia[35].

Institutionalizing an emergency food security program into a social protection system changes the program objective from meeting immediate needs to addressing chronic vulnerability and improving disaster preparedness and resilience. Institutionalization entails incorporating specific activity or activities from short term emergency programs into long term government services to ensure permanent and nation-wide availability. Practically, institutionalization occurs when governments recognize the chronic problem, and subsequently develop policies and pass laws instituting a program to address the problem, allocate budget resources and put in place systems to implement the program.

Although there are a lot of literatures and studies about the emergency programming and social protection individually, not much literature is available that studies the linkages between the two. The development of social protection is uneven through different regions[36]. Sub-Saharan Africa region is behind other regions in terms of the social protection development. Many African countries implemented a range of social protection measures after their independence, including the provision of free health care and pensions for government employees, as well as food and agricultural subsidies[37]. "The social protection in Sub-Saharan Arica is characterized by deeply embedded informal systems, aid-financed social assistance programs (focused on humanitarian support), NGO initiatives and under-funded, fragmented and partially implemented social insurance institutions for civil servants. Recently, a desire to shift from an emergency aid focus to more institutionalized social protection programs has led to aid-financed pilot cash transfers schemes, targeted on the poorest and most vulnerable, and usually including human development components. Such initiatives are underway in Zambia, Kenya, Malawi, Uganda, Ghana and Nigeria."[38]

[32] Government of Ethiopia 2003; Devereux and Guenther 2007
[33] Denning and Kabambe et al 2009
[34] Deconinck and Navarro- Colorado 2007
[35] Hall and Khara 2006
[36] Barrientos and Hulme 2009
[37] Slater and McCord 2009
[38] Barrientos and Hulme, 2009, pp 446

Opportunities of institutionalizing emergency food security program into social protection

Improved coverage of services through scaling up

Coverage is the extent to which the specific services covers or reaches the target population or target area. There are two types of coverage. Population coverage refers to number of individuals who received services against total number of individuals who need services. Geographical coverage is the geographical areas where specific service is available against whole geographical area where service is needed.

The emergency programs initiated by NGO's are small scale and targeting the specific group in the crises affected area and therefore can have limited geographical coverage although have good population coverage in the specific area. Institutionalizing emergency program into national social protection would expand its geographical coverage throughout the all areas where the service is needed, thereby avail the basic public services to every citizen who is entitled. Once a program is institutionalized in governments' structures and budgets, it becomes more visible and formal. Eligible people can claim their rights to accessing the program, and governments should be more accountable in meeting their obligations[39].

Increased investment in human capital that would bring economic productivity in the medium and long term

United Nations (UN) and other international agencies agree on the significant contribution of social protection to human development and children though their joint statement[40]. "Social protection has been used to ensure that benefits of economic growth reach the poorest and most marginalized, helping to fulfill the internationally accepted right to a decent standard of living. The Universal Declaration of Human Rights, the Convention on the Rights of the Child, and the International Labor Organization's (ILO) constitution and legal instruments on social security all establish social protection as a means for states to protect their most vulnerable citizens. There is a growing body of evidence from a range of developing countries that social protection programs can effectively increase the nutritional, health and educational status of children. Social protection is increasingly viewed as a key investment in human capital and in breaking inter-generational poverty traps."[41] According to UK Department of International Development (DFID), social transfers can address some of the underlying causes of inequalities in health and education outcomes, such as poverty, social exclusion and malnutrition[42].

Social protection is an investment in nutrition that allows poor households to eat better food more regularly that leading to improved nutritional status. Improved nutrition in young children will in turn benefit their health, and is important for children's cognitive development and ability to benefit meaningfully from school. Adults with enough to eat are less likely to get ill and more likely to be productive.

[39] Gentilini 2009;
[40] DFID and HelpAge et al 2009
[41] DFID and HelpAge et al 2009 pp 1
[42] Chapman, DFID 2006

An investment in human capital fosters economic growth and income generating opportunities for those individuals. Recent evidence from the emerging 'economics of nutrition' literature shows that better nutrition among children enhances their earning potential as adults, since nutrition affects cognitive development, school attendance (and educational attainments), and physical productivity – all significantly associated with higher-income opportunities[43].

The social protections in transfer form directly raise the incomes and smooth the consumption of the poor, which also allows them to engage in moderate risk-taking, and to protect rather than erode their asset holdings when confronted by livelihood shocks[44].

"Rights-based approaches" to development focus explicitly on social equity concerns, and propose interventions that modify prejudicial attitudes and behaviors towards socially vulnerable groups such as women and children. Social protection promotes equity, which bring poverty reduction according to the recent studies[45]. The social protection is the social contract between the state and its citizens, and the state's responsibility to provide a minimum level of well-being to its citizens[46].

Strengthened emergency preparedness

By ensuring a basic livelihood level, social protection measures will reduce impact of shock and thus protect household reserves and productive assets[47]. The Productive Safety Net Program in Ethiopia is aiming to protect the poor households from depleting their productive assets during shocks[48]. With social protection, people will not be displaced and when conditions improve they will be better placed to rebuild productive activities.

Social protection improves disaster preparedness through the presence of already established delivery systems and administrative capacity, which will shorten emergency response times. In addition, these social protection programs provide monitoring and targeting systems that communicate early warning information that is critical to a rapid response. This reduces the human and economic cost of shocks to the economy and to households and makes recovery time faster[49].

Risks of institutionalizing emergency program into social protection

Dependency from political buy-in

Establishing and maintaining social protection sustainably in developing countries requires a supportive and sustainable political environment in which demand for social protection can translate into effective government responses. WB suggests that political economy

[43] Gentilini 2009; Hoddinott et al 2008;
[44] Devereux and Wheeler 2004
[45] Gentilini 2009 pg 151; Barrientos & Hulme, 2009
[46] United Nations Children's Fund (UNICEF) 2007
[47] Cleirigh 2009
[48] Gilligan and Hoddinott 2008
[49] Cleirigh 2009

considerations should be an essential part of the social protection design[50]. The introduction and sustainability of social protection depends on government's full understanding of the chronic problem, the political gain from the policy, and the government's leadership and ownership.

Understanding of problem

With a major disaster or crises, public pressure and media coverage raises attention to political leaders of the problem. This engagement highlights the need for social protection policies, and urges the government to take actions. Understanding of chronic nature and underlying vulnerability versus the sudden crises itself is the key for the government to recognize the need for social protection. Institute of Development Studies (IDS) recommends involving the decision-makers and politicians more in the process when institutionalizing emergency interventions to social protection programs leads to more successful social protection[51]. Pelletier argues that in order to motivate policy change, an advocacy for all the good benefits of the nutrition is not enough, but there is a need for more strategic approach to create political rationale[52].

Political gain from the policy

In addition to recognition of the problem, decision to support social protection programs is influenced by political gain in future. It is not surprising that the initiation of social protection programs often reflects a desire on the part of policy-makers to counteract real or perceived opposition to government policy, and the threat of social unrest[53]. Masset argued that the government's commitment in the hunger reduction should be indexed and measured by assessing its political will, policies and programs, because political process is very important determinant of success in fighting hunger[54].

Local ownership

The local ownership and leadership in designing and supporting social protection programs is a crucial element for maintaining social protection sustainably. Devereux argued that the social protection initiatives that emerged from local political agendas are more likely to succeed compared to imported "projectized" models[55]. Devereux argued that "a danger with many safety net interventions is that they are stand-alone 'flagship' projects, often designed and funded by bilateral or multilateral donors, and run by international NGOs, that create islands of social protection in oceans of vulnerability. Even if these projects are successful if evaluated on their own terms, they typically have limited impact beyond their defined target group of beneficiaries, and they are usually time-bound rather than permanent. Social protection must not be 'projectized', it must be institutionalized; it must not be donor-driven, it must be government-owned (though donor financing may be required in very poor countries like Malawi); and it must

[50] Holzman and Jorgensen 1999
[51] Institute of Development Studies (IDS) 2011
[52] Pelletier 2002
[53] Barrientos and Hulme 2009
[54] Masset 2011
[55] Devereux and Macauslan 2006

not be seen as 'charity' or 'welfare', but ultimately as a right of citizenship"[56]. Devereux's statement directly reflects to the limitations and inadequacy of emergency programs when meeting the long term need to address chronic problems. The emergency programs are often projectized in a parallel structure to the government policies, limited in their impact beyond their target group, ad-hoc and less coordinated approach implemented by individual agencies, which shows need for institutionalization.

Reduced quality of services due to inadequate national technical and administrative capacity

A considerable challenge for institutionalizing and scaling up small scale emergency interventions into social protection is maintaining the quality of services. Emergency programs are often well staffed by NGOs and funded by donors. Most low-income developing countries lack resources and administrative capacity[57] to keep the quality of services when projects are scaled up. Implementing social protection requires that citizens are made aware of the program, beneficiaries are correctly identified, administrative and operational systems are put into place that deliver regular benefits and other inputs, and that there are effective monitoring-and-evaluation systems. This will be a challenge in environments where delivery capacity is weak[58].

Institutional capacity, policies and procedures, and targeting to deliver the social protection services is an important set of factors affecting successful institutionalization. Building institutional capacity, developing policies, procedures and technical guidelines and developing an evidence base are the core steps taken in the process of institutionalization. All of these institutional adjustments must be made during the transition from emergency to social protection.

Piloting delivery mechanism through emergency programs

The IDS Policy brief cautions against premature expansion and instead suggests piloting social protection in order to build on the informal experiences[59]. IFPRI recommends using models of existing successful informal social protection or humanitarian programs when expanding and institutionalizing social protection[60]. In poor and low-capacity countries, it makes sense to pilot with simpler programs; build on community, nongovernmental, and governmental systems; put in place mechanisms that facilitate learning; pay close attention to implementation issues; and develop an evidence base before the nation wide scale ups[61]. The technicalities of the delivery mechanism such as targeting, referral, graduation, indicators and measurements, information system, and amount and type of the support play an important role in the institutionalization process. A lot of these delivery mechanisms are already developed and tested during the emergency or informal social protection programs by different actors of the government and NGO's, which should be exploited when institutionalizing.

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[56] Devereux and Macauslan 2006 pp 3
[57] Gentilini 2009; Barrientos & Hulme 2009; IDS 2011; Adato and Hoddinott 2008;
[58] Adato and Hoddinott 2008,
[59] Institute of Development Studies (IDS) 2011
[60] Adato and Hoddinot 2008
[61] Adato and Hoddinot 2008

Developing national policy, systems and guidelines

An Irish Aid study claims that "A clear national approach to social protection is critical. A single national policy defining the objectives of social protection, types of social protection measures to be used, definition and targeting of beneficiary groups, and management and delivery strategies should regulate all the different social protection efforts. Without such a unifying framework it will be difficult to scale up and institutionalize social protection system"[62]. A failure in adjusting policies, systems and support mechanisms into the appropriate forms for non-emergency situations and permanent services causes potential risks for institutionalization and reduces quality of service delivery. The government needs to materialize its politically supported intention to institutionalize social protection through producing legislation and policies, making institutional changes, and allocating budgets. These policy actions are to build administrative capacity to implement social protection in a standardized quality. The World Bank and Irish Aid highlights that the governments need proper financial management and monitoring and-evaluation capacity in order improve affordability of social protection and avoid from associated corruption[63]. In addition, the World Bank argues that in order to improve long term efficiency gains, investments in better technologies and improving structure is needed when replacing informal systems by public arrangements[64].

The high costs of integration and scale up

In low-income countries, social protection continues to be perceived by governments and donors as comprising fiscally unsustainable "consumption" transfers to economically inactive or unproductive poor, which diverts scarce public resources from "productive" investment for economic growth, and therefore deserves lower priority as a poverty reduction tool[65]. On the other hand, advocates of social protection argue for fundamental importance to long-term benefits of the social protection. Indeed, most of those benefits take considerable time – even up to a generation or more – to create tangible economic benefits. In the contexts where there are significant trade-offs between meeting short-term needs and long-term investments, decision-makers at the national as well as household level may spend their limited resources on options that have the most immediate returns[66]. WB claimed that the choice of social protection and risk management measures may give a rise to a trade-off between short-term effectiveness and long-term dynamic efficiency[67]. While all these long term benefits of the social protection are claimed, measuring the long term efficiency is very difficult and controversial.

Setting up social protection is costly on national budget especially for those low-income countries which rely on short term volatile donor funding. The social protection programs need considerable amount of funding in the long term, whereas emergency programs are funded by short term funding by mostly donors. Therefore, the governments are bound by resources available when making decision about institutionalizing large social protection programs.

[62] Cleirigh, 2009 pp 124
[63] Holzman and Jorgensen 1999; Cleirigh 2009;
[64] Holzman and Jorgensen 1999
[65] Devereux and Wheeler 2004
[66] Gentilini 2009
[67] Holzman and Jorgensen 2000

Cost-effectiveness and affordability by national budget

The cost effectiveness of the institutionalization can be understood in many different ways. An Irish Aid study claims that the existence of social protection programs reduces the cost of emergency response and recovery programs, therefore cost-effectiveness should be calculated in comparison to emergency response cost in absence of social protection[68].

Some other studies show the affordability of the specific social protection services relative to the national income. ILO studied affordability of the different social protection programs in seven poor countries in Africa and five countries in Asia. They found out that average cost of a basic package of social protection, including a universal pension covering for old age, disability and child benefits, universal access in essential health care and social assistance through employment scheme would absorb around 4–10% of GDP which is affordable to even low income countries[69]. The cost of the same package in different countries would differ in line with demographic, macroeconomic and fiscal conditions. The cost of program varies across different type of programs according to their coverage and repetitiveness. Countries with a larger incidence of poverty and/or relatively smaller GDPs will perhaps require substantially more than this. Barrientos and Hulme's study found out that "Financing this basic level of social assistance appears affordable for most developing countries, but it is bound to be more difficult to achieve for low-income countries with low revenue mobilization capacity. In many developing countries in Latin America, social protection has been paid by national budget and has been successful tool to address poverty. In middle-income countries such as South Africa, Chile, China and India social assistance programs are financed from domestic resources by government from tax revenues. Unlike many countries in other regions in the world, Sub-Saharan Africa's social protection trajectory is likely to be heavily dependent on donor design and financing"[70].

A similar type of affordability studies was conducted for health interventions to understand the cost effectiveness, by measuring disability-adjusted life year (DALY) in the GNI per capita.

Donors' funding and commitment

A lot of social protection systems in the developing countries are dependent on the donor funding, while a few programs are solely funded by national governments[71]. The social protection is gaining a lot of attention and engagement from international donors in recent years.

"Among multilaterals, the ILO did take a lead in advocating and supporting social protection in developing countries. This is an advocacy exercise as, like most UN agencies, the ILO does not control funds that could be directly allocated to this goal. WB developed a social protection strategy in the mid-1990s as a response to the impact of structural adjustment on developing countries and a failure of its "social dimensions" initiatives. WB is now a major player in social protection, leveraging change through technical assistance and financial support. Its role as a

[68] Cleirigh, 2009
[69] Barrientos and Hulme 2009; ILO 2008; Hagemejer 2009
[70] Barrientos and Hulme 2009 pp 444-447
[71] Devereux and White, 2010

bank restricts its social protection work in countries with high debt levels. Partnerships with bilaterals, such as the Social Protection Trust Fund established by the DFID to support joint initiatives, provide a facility with which to influence policy developments in these countries. Other parts of the UN family have adopted social protection policies, including the United Nations Development Programme (UNDP), United Nations Children's Fund (UNICEF), the World Health Organization (WHO) and WFP. Their interests and influence tend to vary with their mandate—UNICEF on child welfare, WHO on health issues and WFP on hunger.

Bilaterals such as DFID, Germany's GTZ, and USAID are increasingly developing and supporting social protection policies. DFID is becoming a major player through the funding of social protection initiatives of multilaterals and efforts at leveraging policy change in the international system.

Except for humanitarian relief and assistance, the adoption of social protection among international NGOs has been slower. Receptiveness to the social protection agenda has been greater among international NGOs committed to poverty reduction and advocating policies directed at groups whose vulnerability arises from life course conditions, such as Help Age International and Save the Children. Interestingly, it is among the NGOs involved in delivering emergency and humanitarian assistance that receptiveness to social protection, as a longer-term response to conflict and emergency, is strongest"[72].

Case study: Integration of Community-based Management of Acute Malnutrition (CMAM), an emergency therapeutic feeding program, into routine health care system in Malawi

Background

Malawi has population of 14.9 million[73] with approximately 52.4 percent[74] living under poverty line. Malawi's economic and health indicators have improved in last five years, but still the majority of the population is vulnerable to economic and health risks. From 2004-2009, GNI per capita has increased from 230 US$ to 310 US$[75]. Food supply or caloric intake per capita per day has been increased from 2,060 kcal to 2,171 kcal from 2004 to 2009. Infant mortality rate declined from 81 per 1,000 live births in 2004 to 61 in 2009. Similarly under-five mortality rate decreased from 136 per 1,000 live births in 2004 to 98 in 2009[76]. Prevalence of HIV/AIDS infected has been almost the same across the period of 2004-2009.

Table 1: Malawi Economic and Health Indicators, 2004-2009

Economic and Health Indicator	2004	2009
Population, total(thousands)*	12,473	14,442

[72] Barrientos and Hulme 2009, pg 447
[73] World Bank Data Bank 2010 http://databank.worldbank.org/ddp/home.do?Step=1&id=4
[74] World Bank Data Bank 2004 http://databank.worldbank.org/ddp/home.do?Step=1&id=4
[75] World Bank Data Bank, 2004 and 2009 http://databank.worldbank.org/ddp/home.do?Step=1&id=4
[76] World Bank Data Bank, 2004 and 2009 http://databank.worldbank.org/ddp/home.do?Step=1&id=4

Population growth (annual %)*	2.66	3.07
Poverty headcount ratio at national poverty line (% of population)*	52.4	
GNI per capita, Atlas method (current US$)*	230	310
Food supply (kcal/capita/day)**	2,060	2,171
Cereal production(thousand metric tonnes)**	1,718	2,846
Health expenditure per capita (current US$)*	15.18	19.07
Health expenditure, total (% of GDP)*	7.68	6.24[77]
Life expectancy at birth, total (years)*	48.06	52.68
Prevalence of HIV, total (% of population ages 15-49)*	12.5	11
Mortality rate, infant (per 1,000 live births)*	81.6	61.4
Mortality rate, under-5 (per 1,000)*	135.7	98.1

Sources: * World Bank Databank http://databank.worldbank.org/ddp/home.do?Step=1&id=4
** FAOSTAT Food Balance sheet http://faostat.fao.org/site/354/default.aspx

CMAM as an emergency response

The economy of Malawi is based primarily on agriculture, which accounts for 30 percent of gross domestic product (GDP)[78]. Agriculture in Malawi is rain-fed and highly vulnerable to adverse weather conditions. Hence food insecurity is a major feature in the country's profile, which includes chronic and recurrent food emergencies. The other major vulnerabilities that impact nutrition are a high prevalence of HIV, high endemic malaria, yearly cholera outbreaks and widespread poverty[79]. The country was heavily affected by natural disasters in 2002 and again in 2005. During these crises, crisis-level food insecurity and associated malnutrition, especially among children under five years of age, was widespread.

In 2001-2002 Malawi experienced a devastating famine, which led to 500-1000 deaths due to starvation and hunger related diseases[80]. The famine was caused by localized flooding in February-March in 2001, which decreased national maize production by 32% compared to the previous year[81]. Though, the famine could have been prevented through timely response and market stabilization interventions[82]. The famine was caused by not only production failure but also delayed and inadequate response[83]. That was explained by lack of reliable information on production figures, misunderstanding among the government and donors, and corruption and misuse of strategic grain reserve, coupled with inadequate and late import of maize from South Africa[84].

As one of the emergency responses to the famine, Community-based Management of Acute Malnutrition (CMAM) was introduced in Dowa district of Malawi in 2002 as a pilot project by

77 According to Malawi Health Sector Strategic Plan it is 9%.
78 National Statistics Office, Demographic and Health Survey 2010
79 Deconinck and Colarado 2007
80 Devereux 2002; Menon 2008
81 Devereux 2002
82 Devereux 2002
83 Stevens and Devereux et al 2002
84 Stevens and Devereux et al 2002

the INGO Concern Worldwide[85]. The project was scaled up to another district in 2003-2004 and the treatment results were effective with 77.9% recovery rate[86].

What is CMAM?

Traditionally, the children with severe acute malnutrition (SAM) were treated at inpatient facilities, which was not sufficient during emergencies when malnutrition was widespread. These centers often provide individual patient care using highly appropriate diets and medical treatments based on the WHO protocol for the treatment of severe malnutrition (Sadler et al 2007). However inpatient treatment of SAM had several disadvantages such as requiring huge resources and highly skilled staff, inaccessibility by the rural patients due to its centralized facilities, opportunity cost of the caregivers from staying in the hospital for extended period of time, and transmission of other diseases among children due congregated situation in the inpatient centers (Briend et al 2010; Collins 2001).

Community–based management of acute malnutrition (CMAM) was first introduced in Malawi in 2002 to address all these shortcomings. CMAM's advantage over the traditional inpatient model was its ability to provide safe outpatient treatment to the majority of SAM cases among children under 5 years old through community-based structures, thereby improving timely access of patients in detection and treatment. CMAM had main features: (1) Outpatient therapeutic program (OTP) treated children with SAM without complications at their home. (2) Children with SAM with complication was referred to and treated at Inpatient therapeutic program (ITP). (3) CMAM prioritizes active case finding through community structures and a simplified screening/admission protocol based on mid-upper arm circumference (MUAC) and edema criteria. (4) Introduced ready-to-use-therapeutic-food (RUTF), a critical alternative to the inpatient-only therapeutic milks of the past. (5) Community health workers and community volunteers play important role in the CMAM. (Wilford et al. 2011)

In 2005-2006 Malawi experienced another food crisis and Malawi Vulnerability Assessment Committee (MVAC) and FEWSNET predicted a shortfall in both availability and accessibility of food, and estimated that nearly four million people, one third of the population were unable to meet their food needs[87]. The crisis was caused by crop loss when the rains failed, and as a result, maize prices doubled making food unaffordable for millions. The situation was triggered by the HIV/AIDS pandemic that pushed people to spend more on medicine rather than food[88]. Nutrition surveys were conducted in all districts nationwide, coordinated by the MOH and UNICEF. The results showed prevalence rates of global acute malnutrition (GAM) ranging between 12.6 and 13.1 percent[89]. In 2006 food aid was sent to alleviate the shortage, and health workers were dispatched to treat the pervasive malnutrition. However, these resources only reached areas with

[85] Kathumba 2011; FANTA 2008 ; Gatchel et al 2008
[86] Kathumba 2011
[87] Famine Early Warning System(FEWSNET) 2005; Malawi Vulnerability Assessment Committee(MVAC) 2005
[88] Menon 2007; SOS Children's Village http://www.emergency-appeal.org/previous-emergencies/malawi-emergency-famine
[89] Deconinck and Colarado 2007;

pre-existing health care access; the challenge remained of how to rapidly reach a rural population lacking health personnel or an established framework for health care delivery[90]. The nutrition emergency stimulated a national level scaling-up of services for CMAM which was supported by the MOH. Menon claimed in the Human Development Report that these food crises in 2001-2002 and 2005-2006 clearly demonstrated the need for adequate social protection measures in Malawi in addition to its macroeconomic reforms[91].

Scaling up and integration of CMAM into health care system

During 2002 and 2005 emergencies, management of SAM was identified as a major priority for the MOH. Nationally, UN and NGOs supported Nutrition Rehabilitation Units (NRUs), providing inpatient care for SAM, either in combination with or without outpatient care and community outreach components. Following the evidence demonstrated in the CMAM pilot programs implemented in 2002-03 in Malawi, NGOs opened more than 200 CMAM sites in 13 districts in 2005 and 2006, providing inpatient care of SAM with complications and outpatient care of SAM without complications[92]. In 2006, at a second national CMAM meeting, THE Government of Malawi formally adopted CMAM approach for treatment of severe acute malnutrition. National guidelines for treatment of severe malnutrition using the CMAM approach were developed[93]. The CMAM Advisory Service (CAS) was formed and funded to provide technical support to the MOH and NGOs for introducing and expanding CMAM services in the country. The CAS has provided support to the MOH in developing guidelines, supervision and monitoring tools, and conducting pre- and in-service trainings. The MOH encouraged expansion of CMAM sites to all districts. By 2008, nearly 300 treatment sites were set up with support from UNICEF, WFP, and numerous NGOs under strong leadership of MOH Nutrition Unit[94]. In 2011, CMAM has been scaled up to all 28 districts in Malawi at 444 sites.[95]. There has been strong coordination at district and central levels, among many key stakeholders involved in the scale-up process. CMAM has been mainstreamed into the national health infrastructure and it is now included in the Essential Health Package, National Nutrition Policy, and Accelerated Child Survival and Development (ACSD) Policy and Strategy[96], Infant and Young Children Nutrition Policy (IYCN), Integrated Management of Childhood Illnesses (IMCI), Antiretroviral Therapy (ART) and MOH's annual work plan and budget[97].

[90] Amthor and Cole et al 2009;
[91] Menon 2007
[92] Deconinck and Colarado l 2007
[93] FANTA 2008; Kathumba 2011
[94] Deconinck and Colarado 2007;
[95] Kathumba 2011
[96] FANTA 2008
[97] Deconinck and Colarado 2007; Kathumba 2011

Analysis of the case

Opportunities

Improved coverage through scaling up the services

In 2006, after the food crises the government of Malawi decided to integrate CMAM into the health care system. Since then scaling up was done gradually over 2006-2011. The coverage could be explained by three indicators (1) Geographical distribution of available services, (2) Number of children with SAM treated per year and (3) Population coverage ratio of treated children per year to the total number of children with SAM in the country[98].

Geographical distribution of available services has been improved

The geographical distribution of the CMAM service availability has been increased from 32 sites in 2 districts before the integration in 2005 to 444 sites in all 29 districts in 2011(Table 2). Though, the coverage within the districts was not all even. At a CMAM/Scaling Up Nutrition (SUN) conference in Addis Ababa in November 2011, Mr. Kathumba from MOH claimed that CMAM facility coverage in Malawi was 73% in 2011 and is expected to reach 80% in 2012[99]. Availing the treatment facilities close to the population improves access of the population who need the service.

Table 2. CMAM indicators and treatment sites in Malawi, 2004-2010

Indicators	2004	2005	2006	2007	2008	2009	2010	2011
Number of districts	2	2	5	20	21	24	29	29
Number of sites	32	32	116	236	292	349	418	444
Number of admission	3489	5052	17308	32679	31874	105778	101637	62484*
Discharge rate	3172	4928	15649	28994	35112	107568	101854	64953
Recovery rate	77.90%	82.90%	84.80%	85.90%	84.50%	85.90%	86.20%	89%
Death rate	2.70%	1.40%	1.70%	2.90%	2.40%	4.90%	5.10%	2.10%
Default rate	17.90%	12.60%	11.70%	9.00%	11.60%	6.70%	6.20%	5.40%

Source: Malawi CMAM Policy Environment, presentation by Sylvester Kathumba, Ministry of Health, 2011; *Number of admissions in the first nine months of year 2011

Number of children admitted and treated has been increased dramatically

The admission of the children with SAM to CMAM treatment sites increased from 3,489 children in 2004 to 101,637 children in 2010[100], which demonstrates coverage has been increased significantly in nominal terms as a result of the CMAM integration into health care system. Recovery rates remained high as 80-89% (Table 2).

[98] UNICEF 2011
[99] Kathumba 2011
[100] Kathumba 2011

Need for measuring the national coverage

National coverage of CMAM should be calculated in the following way, in order to calculate coverage in real terms[101]:

$$\frac{\text{Number of SAM children 6-59months treated over a period (1 year)}}{\text{Population 6-59 months x prevalence of SAM x incidence of SAM}}$$

The prevalence shows the number of children with SAM at a specific time of the year when the survey was conducted, but does not show how often both the children with SAM and children without SAM are at risk of becoming SAM during the year. The incidence rate would give the rate of new cases of SAM in a year and it depends on many different factors throughout the year. The incidence rate was not calculated during the Malawi Demographic Health Survey (MDHS), which made it impossible to calculate the coverage of CMAM in real terms.

MDHS shows that SAM prevalence was 1.6% (35,733 children) and 1.5% (38,444 children) in 2004 and 2010 respectively[102]. There were 38,444 children with SAM at one point of time when the survey was conducted in 2010, while total number of admitted cases to CMAM was 100,000 during the same year[103]. This shows that there is need for calculation of the real coverage in order to understand if CMAM is over performing or underperforming in terms of SAM treatment.

Increased investment in human capital that would bring economic productivity in the medium and long term

In Malawi's Health Sector Strategic plan 2011-2016, under-nutrition is prioritized as the second highest risk after HIV/AIDS as a threat to human health relative to all other diseases[104]. Numerous studies have demonstrated associations between undernutrition and growth retardation, impaired mental development, and increased susceptibility to infectious diseases. The mortality increases exponentially with declining weight for age[105].

Treated children were protected from health risks associated with malnutrition

Outpatient care and early detection and treatment of malnutrition through community structures protects treated children from severe complications and health risks associated with malnutrition. As mentioned in the earlier section, CMAM's integration into the health care system improved CMAM coverage from 3,489 children in 2004 to 100,000 children per year in 2009 and 2010 with recovery rate of 80-89%[106]. This implies that 80,000-90,000 children recovered every year from SAM and were protected from severe complications and other health risks associated with malnutrition. Their access to food and health care were improved. Bahwere et al. study in Dowa district of Malawi shows that the children treated by CMAM has better long term survival with reduced mortality risk[107]. Although it is too early to predict CMAM impact on the future adult

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[101] UNICEF 2011
[102] National Statistics Office, Demographic and Health Survey 2004 and 2010
[103] National Statistics Office, Demographic and Health Survey 2010; Kathumba 2011
[104] Ministry of Health, Malawi Health Sector Strategic Plan 2011-2016
[105] Pelletier and Frongillo et al 1993
[106] Kathumba 2011
[107] Bahwere et al

life, there are studies from other nutrition programs in other countries that demonstrate that better nutrition among children enhanced their earning potential as adults, since nutrition affects cognitive development, school attendance, and physical productivity – all significantly associated with higher-income opportunities.[108]

National nutrition indicators have not improved sufficiently

National nutrition indicators in Malawi have improved slightly between 2004 and 2010 but not sufficiently enough, and levels of malnutrition remain high. MDHS shows that prevalence of wasting (weight-for-height z score < -2SD) was reduced from 5.2% to 4% and prevalence of underweight (weight-for-age z score < -2 SD) was decreased from 22% to 12.8% during the period of 2004-2010 (Table 3)[109]. Prevalence of stunting (height-for-age z score < -2SD) stayed basically the same at 47%. In Malawi, it is assumed that changes in nutrition indicators are explained by many different factors such as the favorable food security conditions caused by good rains, agriculture programs, increased staple food production and different health interventions including malaria prevention and child care. It is difficult to separate the size and direction of impact of any of these factors on change in rates of undernutrition, but CMAM integration and scaling up could have contributed to the slight improvement of nutrition indicators, especially through its community sensitization and behavior change components. On the other hand, insufficient improvement in nutrition indicators shows the need for strengthening community mobilization part of CMAM and prevention from malnutrition.

Table 3 Nutrition Indicators of Malawi, 2004 and 2010

Nutrition Indicators	2004	2010
Total Population(thousands)*	12,473	14,901
% of Under 5 population	17.90%	17.20%
Under 5 population (thousands)	2,233	2,563
Prevalence of wasting (GAM), % of children under 5, weight-for-height, <-2 SD	5.20%	4.00%
Prevalence of severe wasting (SAM), % of children under 5, weight-for-height, < -3 SD	1.60%	1.50%
Prevalence of underweight, % of children under 5, weight-for-age, < -2 SD	22%	12.80%
Prevalence of severely underweight, % of children under 5, weight-for-age, < -3 SD	4.50%	3%
Prevalence of stunted, % of children under 5, height-for-age, < -2 SD	47.80%	47%
Prevalence of severely stunted, % of children under 5, height-for-age, < -3 SD	22.20%	20%

Sources: National Statistics Office Demographic and Health survey, 2004 and 2010; * World Bank Data Bank, 2004 and 2010

Indirect economic benefit of CMAM integration

CMAM integration into health care system incurs some indirect contribution towards economic productivity. Traditional inpatient treatment of severe malnutrition required caregivers to stay with their children in inpatient facilities for extended period of time, which burdened on other responsibilities such as taking care of other children, household chores and working in the farm. CMAM protocol of outpatient treatment allows the children with SAM without complications to

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[108] Gentilini 2009; Hoddinott et al 2008

[109] National Statistics Office, Demographic and Health Survey, 2004 and 2010

be treated at their homes, which reduces the opportunity cost of time spent in the hospital by the caregivers[110]. CMAM allows early detection and treatment of malnutrition that reduces length of patient's stay on the program and saves additional resources to be used for more complicated cases with associated health problems, which could have resulted from delayed responses otherwise.

Strengthened emergency preparedness

Food security situation in Malawi

From 2006-2010, the food security situation in Malawi had been stable and improved[111]. This was partly due to the good rain, but also strong leadership and policy decisions played an important role. Malawi had become a net food exporter since 2007[112]. In 2007-2008, when global food prices doubled and the crises hit markets in most countries[113], Malawi was not affected as much as other countries. This was due to its local capacity to produce adequate amounts of food, ongoing agriculture and food security programs such as Farm Input Subsidy Program, and timely response to the early signs of the crises through its marketing and price stabilization policies. Though, it should be noted that in 2011, Malawi faced a problem of not being able to import enough fuel and fertilizers due to severe shortage of foreign currency reserves compounded by the persistent rise in prices of fuel and fertilizers in the global market[114]. Localized foot and mouth disease outbreak, reduced *ganyu* labor opportunities, increased grain prices, and shortage of fuel put Chikhwawa district in Southern Malawi in a critical food insecure situation (IPC Phase 3) in November 2011[115].

During the food crises, CMAM integration into health care system assisted with emergency preparedness through (1) Early response or treatment of malnutrition to prevent from severe complications and associated health problems during the crises, (2) Contributing to early warning systems and (3) Integration sets up a response system in case of emergency.

Early response or treatment of malnutrition prevents severe complication of the cases

One of the main objectives of CMAM was that to detect and treat malnutrition at the early stage through its community-based system, which prevents complications at later stages of malnutrition. A CAS presentation at Overseas Development Institute (ODI) in 2006 claimed that CMAM with early detection and treatment of malnutrition prevents severer malnutrition and health complication associated with malnutrition in Malawi[116].

CMAM contribution in the early warning system

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[110] Mwase 2006
[111] FEWSNET reports 2006-2010
[112] FAOSTAT Food balance sheet http://faostat.fao.org/site/354/default.aspx
[113] Food and Agriculture Organization (FAO) Food Price Index 2011
[114] Famine Early Warning System (FEWSNET) Malawi Food Security Outlook 2011
[115] Famine Early Warning System (FEWSNET) Malawi Food Security Outlook 2011
[116] Mwasa 2006

An increased admission of the SAM cases at CMAM sites indicates a food security problem. For example, in November 2011 FEWSNET referred to an increased admission at CMAM sites as a sign the food crises, which was considered and responded by the government with humanitarian assistance[117]. FEWSNET Malawi food security update report, November 2011 stated that:

> *"Nutrition monitoring information shows that the number of children admitted at Outpatient Therapeutic Feeding Centers in September 2011 is higher than the same time last year in the food insecure districts of Balaka, Chikhwawa and Nsanje by 62 percent, 122 percent, and 8 percent respectively. Inpatient Therapeutic Program admissions also increased between August and September of this year, with reported increases of 25 percent, 5 percent, and 19 percent in Balaka, Chikhwawa and Nsanje respectively."*[118]

Integration of CMAM builds response systems for future emergencies

Through integration of CMAM, the system to respond to potential malnutrition crises has been established. This improves government's capacity and ability to respond faster in case of emergency. A report from the Conference on CMAM Integration, which took place in Washington DC in 2008, highlighted the emergency preparedness being improved through CMAM integration[119]. The report stated that the common finding amongst the case studies across the countries who implemented CMAM shows that strong leadership of MOH with clear roles, responsibilities and coordination mechanisms improves the emergency preparedness and timely response[120]. Many of the case studies indicated standardized protocols, guidelines, functional surveillance system, staff training and capacity building as important factors to improve emergency preparedness[121]. Pre-positioning (especially of RUTF) was recognized as important as well. Various community sensitization activities under CMAM improved awareness of malnutrition and its treatment among local communities which prepares them to understand the problem and act faster when faced with crises and malnutrition problems[122]. It is likely that emergency preparedness was improved through CMAM integration in Malawi, eventhough no documented evidence was found specifically for Malawi.

Risks

Dependency from political buy-in

Political factors played an important role in the integration of CMAM. In other countries, political commitment to integrate CMAM has been constrained by the gap in cost effectiveness data, lack of advocacy, reluctance to use imported goods, and the criticism that CMAM treatment takes focus away from prevention[123].

Food security and nutrition was high priority for the political profile

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[117] Famine Early Warning System (FEWSNET) Malawi Food Security Outlook 2011
[118] Famine Early Warning System (FEWSNET) Malawi Food Security Outlook 2011
[119] FANTA 2008
[120] FANTA 2008
[121] FANTA 2008
[122] Kathumba 2011
[123] Khara, UNICEF http://www.unicef.org/supply/files/4._Community_Based_Management_of_SAM.pdf

Interestingly, Malawi was not constrained much by these political risks when integrating CMAM into health care system. Food security was highly prioritized by the President of Malawi, Dr. Bingu Mutharika, who was elected for the first time in 2004, and then reelected in 2009. The GOM has promoted "Improving the nutritional status of people of Malawi"[124] as one of the government's top priorities. Because nutrition was a cross-cutting issue, the GOM established the Department of Nutrition, HIV and AIDS (DNHA) in the Office of the President and Cabinet (OPC) in 2004. The mandate of this department was to provide stakeholders with policy directions, guidance, coordination and monitoring and evaluation in the implementation of nutrition programs. Food security programs may have contributed to success of President's re-election in 2009. In addition, the localized severe food insecurity problem due to the drought in 2005-2006 fueled political interest to take measures against food insecurity and severe malnutrition. Prevention and treatment of severe malnutrition was in interest of the government in both raising profile locally and avoiding from the shame at the international arena.

Leadership in the policy support

While DNHA has more political authority to develop policies and strategies related to nutrition programs, the Nutrition Unit at the MOH assumes all technical responsibilities to translate these policies into action through nutrition interventions. The Malawian MOH has demonstrated strong political will and commitment to develop CMAM services through its integration into the health care system[125]. Once evidence of program impact, effectiveness, and good practices were available and published internationally, the MOH provided leadership and guidance during the nutrition emergency of 2005-2006 and promoted CMAM within the NGO community and at the District Health Office (DHO) level[126]. MOH engagement and DHO motivation have been significant keys for success of CMAM programs and integration into the health care system in Malawi[127]. Once CMAM is institutionalized, it is less exposed to the political risk of being changed by a new successor or new government.

Reduced quality of services due to limited national administrative capacity

In 2002-2004, CMAM was piloted in three districts and the methodology and evidences were documented. In 2006, Malawi officially adopted CMAM into its health care package. As a result, in 2006-2010 CMAM expanded to new districts gradually. The NGO's who were providing CMAM services as a project handed their activities over to the MOH and DHO. CMAM has been integrated into the Essential Health Package strategy and CMAM guideline has been developed by MOH Nutrition Unit. CMAM has been streamlined into the National Nutrition Strategy, Accelerated Child Survival and Development (ACSD) Policy and Strategy[128], Infant and Young Children Nutrition Policy (IYCN), Integrated Management of Childhood Illnesses (IMCI), Antiretroviral Therapy (ART), Health Sector Strategic Plan and MOH's annual work plan and budget. CMAM Advisory Service (CAS) has been established, and later on it was integrated into the Nutrition Unit of MOH. CAS provided technical support to NGO's, MOH and DHO's. Number of learning forums and workshops were organized to share experiences among the implementing partners. CMAM training manuals were developed and DHO's and community volunteers were trained.

[124] Government of Malawi, National Nutrition Policy and Strategic Plan 2009
[125] Deconinck and Colarado 2007
[126] Deconinck and Colarado 2007
[127] Deconinck and Colarado 2007
[128] FANTA 2008

The recovery rate of CMAM treatment was kept high as 80-89% even after CMAM integration, which is above the Sphere guideline[129]. Though, there were administrative constraints that challenged integration process.

Standardization of CMAM protocol and guidelines, and translating them into practice took long time

Guidelines for SAM management were developed in 2001 and updated by MOH, with UNICEF and NGO support, as CMAM guidelines in 2006. In practice, several different treatment protocols were being implemented in Malawi and it took a while to standardize all the guidelines and protocols. When Food and Nutrition Technical Assistance Project (FANTA) project reviewed CMAM integration in 2007, they found that 2001 inpatient care protocol was still being applied at inpatient care, while outpatient care was provided using either the 2006 protocol or NGO protocols, depending on which NGO was providing support[130]. This created confusion, despite efforts by MOH and CAS to standardize treatment and services.

Misclassification of patients was observed on several occasions by FANTA team in both inpatient and outpatient services. In particular, edema was over-diagnosed, leading to incorrect admissions of children, overestimation of SAM cases, and unnecessary occupation of inpatient care beds. In other situations, cases with complications were admitted to outpatient services, or cases without complications remained in inpatient facilities for full treatment despite presence of outpatient services nearby[131].

Similarly, the reporting systems were introduced by NGO's, including forms and indicators in use. Although these were usually quite similar, they were not completely compatible. In some centers, monthly reports were completed twice: once in NGO format and once in MOH format[132]. At district level, CMAM was not incorporated in the position description of health professionals and community health workers. CMAM budget was not included in the District Implementation Plan (DIP), though which yearly budgets were secured[133].

Since MOH did not have capacity to introduce CMAM in all districts at the same time, NGO's were filling some of the gaps and integration process led to lack of coordination in the standardization of processes and inconsistent approaches.

Presently, MOH claims that these constraints have been solved gradually by 2011[134]. With CMAM officially integrated into health care system, CMAM treatment protocol has been standardized, the reporting system has been adjusted to report to only MOH. CMAM has been integrated into the position description of health professionals, and CMAM budget is included in the DIP. Also, inpatient care rechecks the referred cases from the outpatient care before admitting patients, which corrects misclassifications that were previously a burden on the quality of services[135].

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[129] Kathumba 2011
[130] Deconinck and Colarado 2007
[131] Deconinck and Colarado 2007
[132] Deconinck and Colarado 2007
[133] Deconinck and Colarado 2007
[134] Kathumba 2011
[135] Kathumba 2011

Logistical constraints due to limited capacity at government health sector

Shortage of human resources

The health sector in Malawi is constrained by shortage of professionals and human resources, which becomes a burden when integrating CMAM, a new service, into routine health care system. A human resource crisis in Malawi has led to a reduced capacity to deliver health services, especially in rural areas, where primary health care is severely compromised. Migration out of the country of well-trained Malawian health workers is high. There are only 2 physicians and 38 nurses per 100,000 in the population[136]. In 2010, the vacancy rate for nurses at national level stood at 74%[137]. The government in conjunction with its development partners implemented a Emergency Human Resources Plan in 2005-2010 which resulted in 50% increase in health work force and in training institutions[138]. The challenge is to sustain and improve the gains so far made.

Insufficient financial and material resources

WHO surveys (2002-2004) show that almost half of all facilities have drug shortages and inadequate means of communication and transportation[139]. The referral of patients with complications from outpatient care to inpatient care became hard after CMAM was integrated. Inpatient centers are far and patients don't have transportation. Previously, NGO's helped to bring patients to inpatient care[140]. After CMAM was integrated and NGO's handed over their responsibility to DHO's, it became difficult for DHO's with limited vehicles to continue the same level of services[141]. A nutrition capacity assessment of Malawi conducted by FAO in 2009 claimed that an examination of Government's material resources underlines that there is a huge scarcity in terms of necessary equipment and material resources for program implementation[142].

Community volunteer system

The community volunteers are an important part of CMAM, as they can reach communities and detect malnutrition. There were high drop-outs of community volunteers especially in the districts where NGO's provided CMAM initially and handed it over to the government[143]. Because those volunteers were paid some incentives by NGO's which became unaffordable by local government when CMAM was integrated into health care system, therefore some volunteers stopped working. However the government built new community outreach system either through community sensitization and choosing new volunteers or using existing extension services of Mother Child Health (MCH) program.[144]

Monitoring and evaluation

[136] World Health Organization 2011
[137] World Health Organization 2011
[138] World Health Organization 2011
[139] Deconinck and Colarado 2007
[140] Deconinck and Colarado 2007
[141] Kathumba 2011
[142] Government of Malawi and Food and Agriculture Organization(FAO) 2009
[143] Kathumba 2011
[144] Deconinck and Colarado 2007; Kathumba 2011

There is no systematic monitoring and evaluation of the nutrition interventions being implemented by various stakeholders. The government is still seeking financial and technical support to ensure continuity of the national Integrated Food Security and Nutrition Surveillance System (IFSNSS), which would be a useful tool for overall monitoring and evaluation of food security and nutrition programs in the country[145]. However, the IFSNSS, which was operational during the emergency years, has been adversely affected by capacity constraints, which have rendered it unsustainable[146]. Because of institutional problems, including too little staff, the DNHA has so far not been able to fulfill this mandate and provide leadership to revitalize the nutrition surveillance system.

The high costs associated with integration and affordability of integration

As part of integration process, the GOM included CMAM and other nutrition interventions in the Essential Health Package (EHP), which is delivered free of charge and is provided through public health sector. It is important to look at cost-effectiveness of CMAM, the overall health sector financing, and funding resources of health sector in Malawi.

CMAM was a highly cost-effective treatment

Disability-adjusted life years (DALYs) are standard measure of disease burden combining loss of years due to premature death as well as the non-fatal health consequences of disease and injury[147]. The WHO classifies interventions as 'highly cost-effective' for a given country if they avert a DALY for less than the per capita GNI or GDP (gross domestic product) and cost-effective if they avert a DALY for less than 3 times the GNI or GDP per capita[148].

Wilford et al. studied cost-effectiveness of CMAM in Dowa district in Malawi by calculating DALY averted by SAM treatment with or without CMAM and calculated incremental cost per DALY averted for each option. The respective costs and effects (in terms of DALYs) were calculated and aggregated for each option of the treatment. The difference in costs and effects between the two scenarios was used to estimate the incremental cost per DALY averted. The study found the incremental cost of implementing CMAM in addition to existing health services was US$42 per DALY averted (or US$1365 per life saved) which is within the highly cost-effective GNI per capita threshold of US$250[149].

The result also showed that CMAM cost per DALY averted is within the general range of cost-effectiveness ratios estimated for other priority child health care interventions in Africa, including community or facility-based case management of lower acute respiratory infections (US$398), integrated management of childhood illness (US$38), universal salt iodization

[145] Government of Malawi and Food and Agriculture Organization(FAO) 2009
[146] Government of Malawi and Food and Agriculture Organization(FAO) 2009
[147] Murray 1994
[148] Wilford and Golden et al 2011; WHO -CHOICE (http://www.who.int/choice/costs/CER_levels/en/index.html)
[149] Wilford and Golden et al 2011

(US$34–36), iron fortification (US$66–70) and insecticide-treated bed nets for malaria prevention (US$11 for sub-Saharan Africa)[150].

Funding of health care in Malawi

According to Malawi Health Sector Strategic Plan 2011-2016, "The actual health expenditure per capita for Malawi was US$20 in 2004/05 which increased to US$27 by 2008/09which was lower than the recommended amount of US$34 per capita by WHO for low income countries. Out of this expenditure, in average of US$5.7 per person was funded from the national budget and the rest funded by the donors through the Health Sector Wide Approach (SWAp). In Malawi, total health care expenditure constituted 12.8% of the total GDP in 2004-2005, which has been reduced to 9,7% in 2008/09."[151]

The health care budget in Malawi is highly dependent on the donor funding though SWAp. SWAp is a single budgetary support to the government from the major donors which started in Malawi in 2004. The contributions of donors to the health budget ranged from 45%- 60% in 2002-2007, which was reduced to less than 50% in 2007-2009[152].

In 2011, Malawi has been experiencing severe shortage of foreign exchange and fuel due to fall in the tobacco market and cut in the foreign aid. This led to reduced economic activities and tax revenues for the country. Nyasatimes (13 Feb 2012) reported that due to reductions in the tax revenue, budget for MOH was cut by 6 billion Kwacha ($ 35 mln) in fiscal year of 2011/2012 and many activities stopped at the Ministry[153]. The data was not available for the effect of budget cut on CMAM, though CMAM budget is likely to be affected by the budget cut.

CMAM funding has been integrated into SWAp

CMAM integration into health care system helps to leverage funds from government and external sources[154]. The comprehensive approach of GOM ensured successful resource mobilization for integrating CMAM into health care system. Though in the future, GOM needs to figure out the way to finance not only CMAM but also the whole health sector.

CMAM is included in SWAp and funded from single health budget. The CMAM cost has been budgeted and approved under EHP with no resistance until end of 2011[155]. It could be argued that CMAM otherwise would have been more likely to be cut if it was not integrated into health care system. However, the risk of CMAM budget of being affected by the negative consequences of macroeconomic situation and budget availability still remains.

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[150] Wilford and Golden et al 2011; Laximinarayan et al 2006

[151] Ministry of Health, Malawi health sector strategic plan 2011-2016; Though, these numbers were slightly smaller on WB data.

[152] Ministry of Health, Malawi health sector strategic plan 2011-2016

[153] "Malawi's zero deficit budget slashed" Retrieved from http://www.nyasatimes.com/malawi/2012/02/13/malawis-zero-deficit-budget-slashed/

[154] Conclusion points from CMAM/SUN conference Addis Ababa, Ethiopia 2011 http://cmamconference2011.files.wordpress.com/2011/11/recap_days_1_to_31.pdf

[155] Kathumba 2011

Donor funding to CMAM integration and scaling up

Through a joint statement by the WHO, WFP, United Nations System Standing Committee on Nutrition (UNSCN), UNICEF, and UN agencies endorsed CMAM as an effective treatment to acute malnutrition[156]. As a result, CMAM has been accepted and supported by different donors and international bodies.

Number of donors supported and financed different parts of CMAM implementation in Malawi. According to CMAM Global Mapping Review by UNICEF 2011, UNICEF, Canadian International Development Agency(CIDA), Clinton Health Access Initiative(CHAI), Irish Aid, Concern Worldwide, Coopi, Millennium Village Project are supporting CMAM in Malawi through either with implementation or purchase of RUTF[157].

A significant amount of donor funds remains off budget and sometimes these donors fund NGOs for interventions that are not a priority for health sector[158]. The GOM finds off budget financing as a constraint to their inadequate financing resources faced with health system. For example, USAID funded CAS operation through Concern Worldwide NGO and provided funding to Project Peanut Butter[159].

The persistent nature of malnutrition requires long term funding and commitment. As the FANTA study of CMAM integration in Malawi found out, the long term commitment from these donors is not clear, as no donors had promised for long term support[160].

Limitations to the study

Limited availability of literatures and resources

For the section of literature review, many resources were available about emergency programming or social protection individually. However but not much literature was found that studied the linkages between emergency programming and social protection. Therefore the linkages were traced from either literatures of social protection or emergency programming.

Since CMAM is relatively new approach, the related literatures from different perspectives were limited. For example, there was lack of documentations and evidences on how CMAM integration helped emergency preparedness in case of Malawi as a specific country. This could be partly due to no severe crisis happened in Malawi since 2006. Therefore, the part of emergency preparedness was deducted from the discussions at the international meetings about CMAM's role in different countries.

[156] World Health Organization et al, A joint statement, 2007
[157] United Nations Children's Fund 2011
[158] Ministry of Health, Malawi health sector strategic plan 2011-2016
[159] Government of Malawi and Food and Agriculture Organization(FAO) 2009
[160] Deconinck and Colarado 2007

Some statistics from local sources such as National Statistics Office and National Health Sector Plan from MOH was slightly different from the statistics from international resources such as WB.

Coverage study

Malawi Demographic and Health Survey (MDHS) shows that the prevalence rate of SAM was 1.5% (38,444 children) in 2010[161], while total number of admitted cases to CMAM sites was 100,000 during the same year[162]. Without the incidence rate, a rate of new cases of SAM in a year, it was impossible to calculate the population coverage of CMAM in real terms and make conclusion about whether CMAM was over performing or underperforming in terms of SAM treatment. Therefore, there is a need for coverage study.

Cost-effectiveness study

Limitation to the Wilford et al.'s cost effectiveness study was that the study was done when CMAM was still implemented by INGO Concern Worldwide. In Wilford et al.'s study the administration cost associated with NGO's operation constituted 21% of total costs at time of study. Since CMAM was integrated into health care system, this NGO cost should have been reduced. This implies a gap in the cost effectiveness analysis comparing integrated CMAM to the emergency CMAM programs which could be studied in the future.

Another observation from the study was that cost of RUTF accounted for the largest portion of total costs (32%), followed by administrative costs of NGO (21%). The government of Malawi is taking some actions to reduce cost of RUTF through enabling local RUTF production by exempting the import taxes for equipment and inputs for RUTF production, and providing some of the inputs such as powder milk on certain occasions[163]. Local RUTF production saves the cost of transportation and storage for the government[164]. All these changes were not reflected in the Wilford et al.'s cost-effectiveness study.

Timing of the study

By the time when this study was conducted in 2011, the macroeconomic situation in Malawi has been very favorable for last five years. The country had observed many positive developments in food security, economic growth, democracy and transparency, and strong partnership with donors. All these enabling environment factors played important role in the successful integration of CMAM into health care system. The exact same conditions may not exist in the other countries. Therefore, any country who would like to adopt approach of CMAM integration from Malawi should consider contextual analysis. For the case of Malawi, it would be interesting to look at the CMAM in 2-3 years from 2011, when the country faces with some macro-economic constraints.

[161] National Statistics Office, Demographic and Health Survey 2004 and 2010
[162] National Statistics Office, Demographic and Health Survey 2010; Kathumba 2011
[163] Kathumba 2011
[164] Kathumba 2011

CONCLUSION

An absence of social protection and risk management instruments have left the poor and vulnerable population at high risk and impeded their ability to improve their livelihoods. This eventually affects human development burden and economic growth. In Malawi, an emergency CMAM program was used to establish a nation-wide social protection system.

Through this study, the opportunities and risk associated with integration of emergency CMAM program into the health care system in Malawi were analyzed against the hypotheses set forth at the beginning of the study. The three hypothesized opportunities were proven to be true: (1) Expanded coverage of the treatment; (2) Increased investment in human development which leads to long term productivity; and (3) Improved emergency preparedness.

Out of three hypotheses associated with the risks of CMAM integration, only limited national administrative capacity was proven to be a true constraint. The remaining two hypotheses were disproved: (1) High political buy-in was not substantial risk for the integration process, instead strong leadership played an important role in the process. (2) The hypothesis of high costs associated with CMAM integration and its unaffordability was disproven to be a major risk. CMAM was highly cost-effective and integration of CMAM into health care system eased financing from the government and donors.

The main findings of the study

Opportunities

Three main opportunities associated with integrating CMAM into health care system in Malawi were studied:

(1) Expanded coverage

- The geographical coverage of CMAM service has been expanded from 32 CMAM sites in 2 districts in 2004 to 444 sites in all 29 districts in 2011. The number of severely malnourished children treated by CMAM has increased from 3,500 in 2004 to 100,000 in 2010. Due to the absence of incidence rate, an accurate coverage rate in real terms could not be calculated.

(2) Contribution to human development and long term productivity

- As a result of CMAM integration, 80,000-90,000 children were recovered from SAM in each year in 2009 and 2010 (recovery rate of 80-89%). They were protected from severe complications and other health risks associated with malnutrition. Furthermore, their access to adequate food and health care were improved during the treatment period.
- CMAM treatment reduced the potential health and cognitive development risks of treated children. CMAM improved survival of the treated children in the long run by reducing future mortality rate. Although it is too early to predict CMAM's impact on the adult life at this stage, CMAM may have improved their future productivity and opportunity for income generation.
- National nutrition indicators have not changed substantially between 2004-2010. Though slight improvements occurred in wasting and underweight indicators, which could be attributed to many different factors. CMAM integration could have contributed in the

improvement of nutrition indicators through community sensitization and behavior change components.
- CMAM allowed outpatient treatment that contributed in economic productivity by reducing opportunity cost of caregivers. In addition, the treatment cost of potential severe complications and health problems if SAM was not treated in a timely manner should be noted as a contribution to economic productivity.

(3) Enhanced emergency preparedness

Since CMAM was integrated in 2006, Malawi has not experienced severe food crises with exception of a moderate crisis in 2011 in the southern region. CMAM integration into the health care system did not prevent food crises, but did improve the emergency preparedness and prevented severity and complications of malnutrition in the following ways:

- CMAM sites allowed for early detection and treatment of SAM during the crises.
- Increases in SAM admissions at CMAM sites provided indication of food insecurity status and this information was used for early warning.
- Integration of CMAM built capacity of the Ministry of Health, its systems and staff through which a response can be delivered faster in the case of emergency.

Risks

Three main hypothesized risks associated with CMAM integration into health care system were studied.

(1) Dependency from political buy-in did not impose a substantial risk

- In general politics played an important role in integration of CMAM. In Malawi, the emergency CMAM project from 2002-2004 was implemented and displayed proven evidence of effectiveness. Afterwards with another food crisis in 2005, the momentum was emerged for integration of CMAM into the national health care system.
- Strong leadership and supportive policies for food security enabled successful integration of CMAM. The food security policies and measures may have helped the President and his party to be re-elected in 2009.
- Once CMAM is institutionalized it is difficult to be changed by successors and new governments. In other words, integration into the health system protects the long term sustainability of CMAM.

(2) Limited national administrative and logistical capacity hindered the quality of services.

As most developing countries, Malawi lacks adequate administrative and logistical capacity to deliver quality CMAM services as a part of their health care package. When looking at recovery rate, the clinical effectiveness remained high even after the integration of CMAM. However, the MOH and DHO's experienced several challenges due to limited administrative and logistical capacity during the integration of CMAM into its health care system.

- Inconsistent CMAM protocol and guidelines, double reporting systems, the delayed inclusion of CMAM in the health professional's job description and the District Implementation Plan (DIP) constrained the CMAM integration process which has since been corrected.
- Inadequate human resources, limited logistical capacity and lack of monitoring and surveillance of the health system hindered CMAM integration.
- High drop-out occurred among the community volunteers who were one paid by NGOs. The district health offices had to replace them by using alternative volunteer systems.

(3) The CMAM was highly cost-effective treatment and integration of CMAM improved its financing mechanism.

- CMAM was highly cost-effective according to the WHO thresholds of GNI per capita. According to a study conducted in Dowa district, CMAM cost US$42 per DALY averted (or US$1365 per life saved) which was within the highly cost-effective threshold of GNI per capita of US$250.
- Integration of CMAM into the health care system eased its financing mechanisms. CMAM was budgeted as a part of overall health sector budget. The GOM was able fund about 50% of national health care costs, and the rest has been funded by donors through SWAp.
- Health care funding in Malawi is highly dependent on donor funding which puts the program at risk in case the donors decide to cut their funding. There is a need for further consideration on how to continue to secure funding with minimal risk in the long run.

Recommendations and Discussion Points

This study provides three main recommendations.

(1) Improving CMAM performance as a social protection tool in Malawi

- There is need for greater in-depth look at the real coverage calculation in order to understand if CMAM's performance in terms of SAM treatment.

- National nutrition indicators have not changed sufficiently between 2004-2010. In order to increase CMAM's contribution in the national nutrition status, more attention should be given to its community sensitization, nutrition education and counseling components. Treating moderate malnutrition through CMAM should be considered in order to prevent deterioration of cases to severe malnutrition. There is a need for more integrated approach of prevention and treatment. This has already started with "National Scaling-Up Nutrition Special 1,000 Days Initiative" adopted 13 essential nutrition actions, in which CMAM was included.

- Coordination among the nutrition surveillance, food security early warning system, and CMAM should be strengthened. At the moment, the nutrition surveillance system at DNHA is not fully functional and works separately from the food security early warning system operated by FEWSNET. The connection of CMAM to both systems is not clear.

(2) Sustaining CMAM for a long-term social protection in Malawi

- There is a need for further study of cost-effectiveness of CMAM as integrated to health system versus emergency CMAM program. Wilford et al.. studied cost-effectiveness of CMAM when it was operated by INGO Concern Worldwide. Another study of cost-effectiveness after integration of CMAM into health care system would be useful to compare. Indirect contribution of CMAM in human productivity in the long term should be considered during the cost-effectiveness analysis.

- CMAM was included in the Ministry of Health's annual workplan and budget as a part of basic health care which allowed funding by the government budget with assistance of SWAp from donors. However, funding of CMAM remains sensitive to economic performance and donor relations of the country. Therefore, there is need for advocacy and awareness creation among the donors if the budget cut affects CMAM.

(3) Based on the Malawi case study, the other countries should consider integrating emergency CMAM into their social protection system.

- Integration of CMAM into the health care system increases coverage, eases budget availability, improves emergency preparedness and ensures right for health care for its citizens.

- Recognition of malnutrition as a public health problem, subsequent advocacy and as well as public budget availability created political momentum. These are critical factors that should be leveraged for integration of an emergency CMAM program into long term social protection.

- The lessons learned from administrative capacity challenges from Malawi case study should be shared with other countries. Limited capacity hindered the quality and effectiveness of services. Therefore administrative and logistical capacity should be thoroughly evaluated and solutions should be well planned before institutionalizing new services into the existing system.

- Integration needs to be done gradually. Piloting in small scale provides an opportunity to test effectiveness of the protocol and approach before nation-wide integration.

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