

# MONITORING THE IMPACTS

## of the Global Crisis at the Community Level

edited by CELIA M. REYES and MARSMATH A. BARIS, JR.



# **Monitoring the Impacts of the Global Crisis at the Community Level**



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**Celia M. Reyes**

**Marsmath A. Baris, Jr.**

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# Preface

This book is one of the outcomes of a special multi-country research initiative launched in 2009 by the Poverty and Economic Policy (PEP)-Community-Based Monitoring System (CBMS) Network which aimed to monitor and analyze the impacts of the global financial crisis on poverty in developing countries. Supported by the International Development Research Centre (IDRC), the Australian Agency for International Development (AusAID), and the Canadian International Development Agency (CIDA), the research aimed to help policymakers not only in formulating better macroeconomic policies but also in designing and prioritizing appropriate and timely mitigation policies and programs at the micro level. In particular, the results are expected to help in designing the necessary social protection programs as well as in refining program targeting.

The first part of the book is devoted to six studies which monitor and measure the poverty impacts of the crisis in six countries, namely, Kenya, Lao PDR, Nigeria, the Philippines, Tanzania and Zambia. The country reports of Kenya, the Philippines and Tanzania were presented during a policy conference titled “After the Crisis: Measuring the Impacts and Charting the Way Forward” in June 2010 on the occasion of the 8th PEP General Meeting held in Dakar, Senegal. Meanwhile, the reports from Lao PDR, Nigeria and Zambia were subjected to closer scrutiny during the CBMS parallel sessions in the same meeting, with the authors reading and commenting on one another’s papers.

The onslaught of the global financial crisis saw national governments rushing to put measures in place that are designed to protect the vulnerable segments of their populations and to preserve whatever gains they have achieved in attaining the Millennium Development Goals (MDGs).

The papers in the next two sections of the book provide some alternatives in mitigating the negative effects of the crisis, particularly in terms of targeting program beneficiaries.

We take this opportunity to convey our sincerest thanks and appreciation to the authors for patiently undertaking revisions and complying with our instructions and advice as well as for allowing us to feature their papers and presentations in this volume.

**The PEP-CBMS Network Coordinating Team**

# Introduction

The health of the American economy is most often used as a good barometer of global economic health. Its economy's tremendous influence has, in fact, given rise to a popular adage: "When America sneezes, the rest of the world catches a cold." This is no less evident in the recent onslaught of the global financial and economic crisis which started in the United States in 2007. Like a contagion, it spread to other developed countries and subsequently affected developing countries as well.

Acknowledging the dearth of resources in developing countries to deal with the far-reaching and multi-dimensional impacts of this crisis, the CBMS Network started a research initiative in 2009 titled "Monitoring and Mitigating the Impact on Poverty of the Global Financial Crisis" which aims to monitor the impact of the global financial crisis on poverty in selected developing countries in Africa and Asia. Toward this end, a number of communities in the following countries were selected as poverty observatories or sentinels in monitoring the impacts: *Africa*: Nigeria, Kenya, Tanzania and Zambia; and *Asia*: the Philippines, Indonesia, Cambodia and Lao PDR.

What is noteworthy about this project is that the impacts at the household and community levels are being analyzed using data on the different dimensions of poverty obtained from community-based monitoring systems (CBMS) being implemented in these countries. This, in itself, is a very compelling area of research because the challenges brought about by the crisis are far more real and immediate at the

household level. For instance, household welfare could be affected by a decrease in migrant remittances and other private transfers from abroad. Moreover, it is also widely recognized that the poorest and the most vulnerable groups in the society have limited capacity to adopt to the effects of the crisis. Although households could adopt some coping mechanisms in the short run, some of their actions may, however, have negative long-term consequences, especially on women and children.

In preparation for this multi-country research, the CBMS Network organized a Technical Workshop on Monitoring and Mitigating the Impact of the Global Financial/Economic Crisis on February 17-19, 2009 at the Somerset Millennium Hotel, Makati City, Philippines. Some 30 CBMS researchers from Asia, Africa and Latin America attended the workshop which tackled the issue of how the impact of the global financial crisis on poverty could be monitored using the CBMS methodology. The workshop involved a thorough discussion of the transmission mechanisms by which the global financial crisis can affect individuals, households and communities. In-depth discussions were held, producing a list of indicators to track the impacts of the crisis. In particular, all CBMS country teams agreed that impacts on men and women, and boys and girls will have to be monitored to capture the differential impacts of the crisis. Moreover, the workshop also generated a list of questions for inclusion in the survey questionnaire designed to capture the required information; technical descriptions as to when and how frequent the data collection should be done to be able to provide timely data to policymakers; and possible areas within the participating countries that can serve as sentinel sites or poverty observatories of this global monitoring system.

Thereafter, the CBMS Teams involved in the project conducted studies in their respective countries using the standard CBMS core indicators as well as additional indicators that were identified based on locally relevant key transmission channels. These include outcome and impact indicators as well as indicators of household coping mechanisms.

The results of six of these country studies (Kenya, Lao PDR, Nigeria, the Philippines, Tanzania and Zambia) have been selected for and comprise the first part of this volume.

In general, the results indicate that domestic economies were not as adversely affected as what was initially anticipated owing to their relatively weak integration into the global financial sector. However, households were still affected through various transmission channels. For instance, workers in export-oriented manufacturing sectors often reported as having been displaced or were experiencing reductions in wages or working hours. On other households, the impact was felt through the remittance transmission channel, as overseas workers – often in developed countries – had to cope with retrenchment or reduced pay.

Meanwhile, the various mechanisms adopted by the households to cope with the crisis provide a telling insight into the adverse effects of the crisis that may reverberate in these countries for years to come and may continue to impact the lives of affected populations long into the future. For instance, the results show that poor households often tend to change their food consumption patterns, withdraw their children from school, and change their health-seeking behavior.

The Philippine country study further brought to fore the issue of targeting eligible beneficiaries of programs that were designed to cushion the impacts of the crisis. The results indicate significant exclusions and leakages which may impair these programs' overall efficiency to protect the most vulnerable groups of population.

The papers in the next section of the book tackle these challenges in program targeting discussed in the Philippine country paper and provide some alternatives. Dr. Nanak Kakwani's paper evaluates the targeting efficiency of the world's three largest social protection programs: *Bolsa Familia* in Brazil, *Di Bao* in the People's Republic of China, and *Progressa* in Mexico. He presents an alternative proxy means test (PMT) model which he designed based on data from the Philippines' Family Income and Expenditure Survey (FIES) 2006. The proxy variables that he used can readily be obtained from the standard CBMS survey. Meanwhile, Akhmedi, Yusrina and Yumna illustrate the use of the Principal Components Analysis (PCA) in predicting the household poverty status using easily verifiable socio-economic indicators such as asset ownership. The authors contend that this is an alternative to recording details of consumption expenditure which requires a lot of resources.

The final set of papers tackles some issues and challenges as well as concrete uses of the CBMS in monitoring the Millennium Development Goals (MDGs). Dr. Grace Bediako underscores the importance of MDG-related statistics in informing policy and program design, bringing clarity to the situation and providing some directions. Pauline Wamwea, on the other hand, points out that local authorities and civil society organizations in Kenya can use CBMS data to allocate resources and guide their investment decisions. She said that since CBMS can capture the felt needs of the communities, local authorities and other stakeholders can develop interventions that specifically address their needs, thus improving their service delivery.

# Global Financial Crisis: Impacts, Coping Mechanisms and Implications in Tana River, Murang'a, Kilifi and Kisumu (Kenya)

Mary Amuyunzu-Nyamongo<sup>1</sup>, Alice Sereti Sinkeet and Gabriel Oguda

## ABSTRACT<sup>2</sup>

**Background:** This study was conducted as part of the community-based monitoring systems (CBMS) with the aim of capturing the impact of the global financial crisis (GFC) in various countries, including Kenya. The surveys were conducted in four sites in Kenya: Tana River, Murang'a, Kilifi, and Kisumu.

**Objectives:** The study had two broad objectives: (1) to assess the impact of the GFC; and (2) to assess the capacity of the communities in implementing and utilizing CBMS. This paper focuses on the first objective, which specifically sought to: (1) assess the impact of the GFC on poor households (real or potential); and (2) document the coping strategies adopted by households, especially the poor.

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<sup>1</sup> Corresponding author, African Institute for Health & Development, 2nd Floor Wood Avenue Court, P.O. Box 45259-00100, Nairobi. Email: mnyamongo@aih dint.org or manyamongo@yahoo.com.

<sup>2</sup> This report is based on studies conducted in four sites. The CBMS funded the study on Tana River District while the government of Kenya, through the Ministry of State for Planning, National Development and Vision 2030, supported the process in three local authorities: Murang'a, Kilifi, and Kisumu.

**Methods:** A household census was conducted on 11,845 households, broken down as follows: Tana River, 5,882; Murang'a, 2,286; Kilifi, 2,649; and Kisumu, 1,028. The reason for the larger number of households from the Tana River is because of its being a Phase II survey that entailed scaling up of the coverage from the initial three sub-locations in the 2008 study to six.

**Results:** Findings indicate that the impact of the crisis on the households was minimal at a general level. However, of the households that saw a decline in remittances (30.4%), more than half (55.6%) experienced food shortages, while a substantial proportion had reduced expenditure on healthcare (28.3%), education (34.7%), and clothing (38.6%). In terms of coping, a high proportion of the households affected by the GFC borrowed money (31.4%) or spent their savings (35.5%) to cope with the shocks. Loss of jobs was related to food shortage (6.6%) and reduced access to services (healthcare, 7.4%; education, 7.7%; and clothing, 7%). Access to government programs was mainly in the form of relief food, where most were directed to residents in Tana River (88.2%) than in Murang'a (2.6%), Kisumu (0.4%), and Kilifi (9.6%). Thus, households in Tana River that experienced food shortage had more access to relief food (77.4%) compared to residents in Murang'a (42.8%), Kisumu (42.9%), and Kilifi (36.5%).

**Conclusion:** Households that experienced declines in remittances and job losses as a result of the GFC were markedly affected in terms of access to food and other basic services.

## INTRODUCTION

### Background

In April 2008, the International Monetary Fund (IMF) sent a warning that the United States mortgage crisis had spiraled into “the largest financial shock since the Great Depression”, adding that there was a one-in-four chance that it would cause a full-blown global recession. In its report, the International Monetary Fund

(2008) projected that the world Gross Domestic Product (GDP) growth would slow down by at least 2.0 percentage points (from 5.0% to 3.0%) for 2008 and 2009. This meant that global GDP per capita would also decrease by a considerable margin. The signals became even more worrisome when the World Bank also confirmed that the GFC had all the characteristics of a global economic crisis, which was “rapidly becoming an unemployment crisis” (World Bank 2008). A sharp decline in growth in 2009 was projected through various economic channels. While the major casualties were confined to the developed world, the developing world was not immune. The World Bank projected that the latter’s growth would slow down to 4.5 percent in 2009 from 7.9 percent in 2007 (Brahmbhatt 2008).

Developing countries were expected to be affected by the GFC in two ways: (1) from financial contagion and spillovers for stock markets in emerging markets; and (2) from economic downturn in developed countries, whose impact on developing countries could be through the following channels: (i) trade and trade prices; (ii) remittances; (iii) foreign direct investment (FDI) and equity investment; (iv) commercial lending; and (v) aid, among others. It was expected that the crisis would also result in weaker export revenues, lower investment and growth rates, and loss of employment. In terms of social impact, the lower growth would translate into higher poverty and even more difficulties in meeting the medium-term development goals (Velde 2008) and other indicators at the national level.

## **The Effects of the GFC in Kenya**

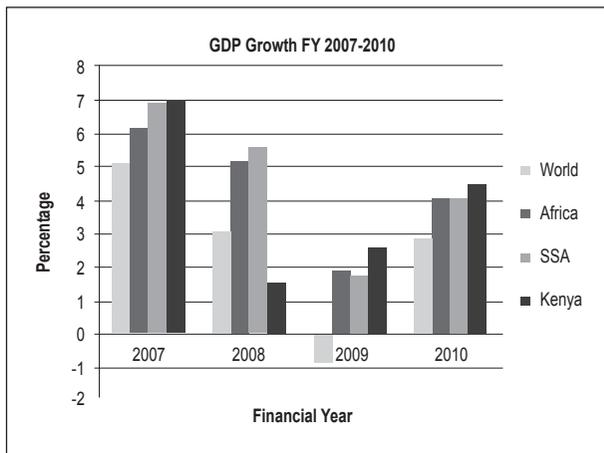
For Kenya, the effects of the GFC could be driven by the following key factors (Nyagito 2009):

- A decline in the demand for Kenyan exports;
- Collapse of any of the external institutions with links to Kenyan banks and other monetary institutions which could hurt the economy;
- Decline in remittances as disposable incomes drop in countries experiencing the global recession;
- Tourism through postponement and cancellations;

- Reduced value of exports and increased cost of imports;
- Depreciation of the Kenya shilling against the US dollar with adverse implications on transaction costs;
- A fall in the stock markets; and
- A decline in international aid to the country and to non-governmental organizations.

For the last two years, many publications have focused on the various impacts of the GFC (e.g. IMF 2009).<sup>3</sup> Assessments indicate that, so far, there has indeed been a global impact, with America and parts of Europe having been more hit than Africa and other developing nations. Figure 1 shows the global trends in GDP growth between 2007 and 2009. Estimates indicate that 2010 would see considerable growth globally and in Kenya in particular.

**Figure 1. Yearly Comparison of GDP Growth**



Source: IMF World Economic Outlook, July 08, 2009

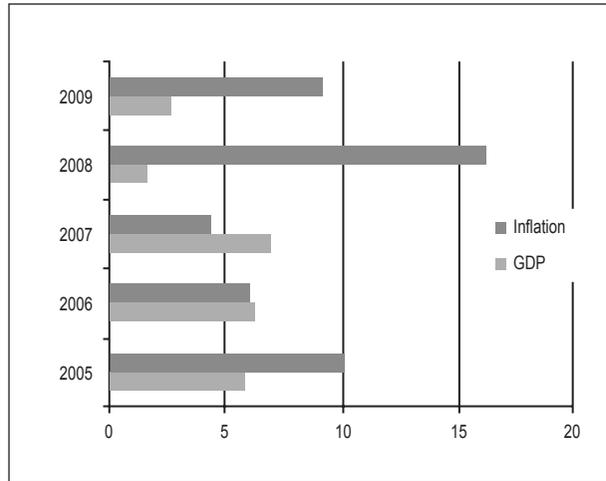
Kenya's GDP recorded a major decline in 2008 of 1.6 percent due to three adverse shocks. First, the second-round effects of the global economic downturn depressed Kenya's main export markets (particularly tea, coffee, and horticulture). Second, the erratic, delayed and shorter rainfall had a negative impact on the

<sup>3</sup> IMF World Economic Outlook, July 08, 2009.



agriculture and power sectors. And third, the prolonged effects of the 2008 post-election violence depressed investor confidence and adversely affected the whole Kenyan economy and population. Figure 2 illustrates the impact of these factors on the GDP and inflation. Inflation generally led to higher cost of commodities, including food.

**Figure 2. Impacts of GFC on GDP and Inflation 2005-2009**



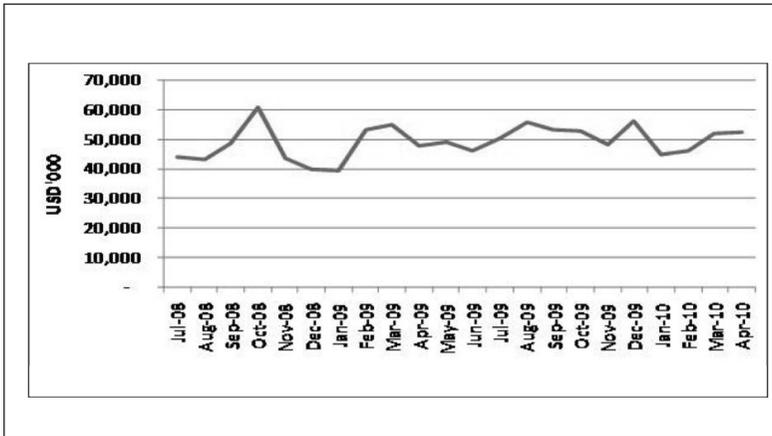
Source: Kenya Economic Survey 2010 Highlights

Remittances were also affected during the same period, but the Central Bank of Kenya maintains that the levels picked up considerably as shown in Figure 3.

Remittances seem to be on track with the long-run average of US\$50 million per month. Meanwhile, the source markets for remittances on average maintained the same shares, with North America and Europe respectively contributing 52 percent and 30 percent of total remittances to Kenya in April 2010. This uptick in April 2010 could indirectly be attributed to the improving economic conditions in the regions of origin, and improved prospects for economic recovery at home.<sup>4</sup>

<sup>4</sup> Commentary on Remittances for April 2010, Mr. Charles Gitari Koori, director of the Research Department

**Figure 3. Monthly Remittances (2008-2010)**



Source: *Commentary on Remittances for April 2010*, Mr. Charles Gitari

In response to the shocks outlined above, the government put in place several measures to stimulate growth, including:

- Restoring investor confidence;
- Expansionary fiscal policy, e.g., establishing an economic stimulus package; and
- Monetary policy focusing on achieving and maintaining price stability within a single digit inflation rate of 5 percent.

These measures contributed to an improved economic growth rate of 2.6 percent in 2009 and a projected 4.5 percent in 2010.

## The Impacts of the GFC on Different Transmission Channels in Kenya

As anticipated, the GFC affected the Kenyan economy through the following transmission channels. Domestic exports grew marginally by 0.3 percent while re-export declined by 4.1 percent. Total imports grew by 2.5 percent in 2009 compared to 27.4 percent in 2008. This resulted in the volume of trade growing by 1.6 percent in 2009 compared to a growth of 26.8 percent in 2008 (KNBS 2010). Furthermore, tea production declined by 9.2 percent from 345.8 thousand tons in 2008 to 314.1 thousand tons in 2009.

Exports of fresh horticultural produce reduced from 193.1 thousand tons in 2009, while export earnings declined from Ksh 58.0 billion in 2008 to Ksh 49.4 billion in 2009. On the other hand, the Kenya shilling depreciated against the US dollar to a record Ksh 77.35 in 2009 compared to Ksh 69.18 per dollar in 2008. Remittances inflow declined from US\$611.4 million in 2008 to US\$609.2 million in 2009 (although this was a minimal decline). However, tourism earnings rose from Ksh 52.7 billion in 2008 to Ksh 62.5 billion in 2009. The turnaround in the tourism sector was attributed to recovery from the effects of the post-election violence and perceived political stability.

## **The GFC Study in Tana River, Murang'a, Kilifi, and Kisumu**

In response to the GFC, the CBMS network designed a study in 2009 that aims to capture the consequences in several countries, including Kenya, Ghana, Peru, the Philippines, Tanzania, and Zambia. The channels of impacts in Kenya were expected to become apparent in agricultural exports, tourism, and remittances. Further compounding the GFC was a food crisis that hit the country and other parts of the world in 2008, which led to approximately 10 million people being declared at risk of starvation (KFSSG 2008). This number was adjusted to 7.5 million in 2010 (KFSSG 2010).

The Kenyan study was therefore commissioned to assess the impact of the GFC on poverty in Tana River District<sup>5</sup> and in three local authorities (LAs)<sup>6</sup>—Murang'a, Kisumu, and Kilifi.

## **OBJECTIVES AND RESEARCH QUESTIONS**

This study had two broad objectives: (1) to assess the impact of the GFC; and (2) to assess the capacity of communities to implement

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<sup>5</sup> The African Institute for Health and Development (AIHD) has been implementing a Local Poverty Monitoring System in Tana River District since 2007. The household questionnaire was reviewed to include questionnaires intended to capture the effects of the global financial crisis.

<sup>6</sup> The Ministry of State for Planning, National Development and Vision 2030 funded the implementation of CBMS in Kilifi, Murang'a, and Kisumu.

and utilize CBMS results. This paper focuses on the first objective, which specifically aimed to respond to the following questions:

- 1) How is the GFC impacting the communities or what is the potential impact of the GFC on communities?
- 2) What are the effects on the ability of households to access services such as health, education, and wealth-creation opportunities?
- 3) What strategies have the communities adopted to cope with the crisis?

## METHODS

### Approach

This study utilized the standard CBMS tool in the form of a household census although additional questions were added to assess the impact of the GFC over the last six months prior to data collection. The data collection took place between July 2009 and January 2010.<sup>7</sup> Three indicator categories were derived for the study: outcome indicators, impact indicators, and coping strategies.

**Outcome indicators:** The outcome indicators were meant to capture the immediate and direct impacts of the crisis on households. The focus was on three main channels: employment and income, utilization of social services, and access to credit. Outcome indicators included diminishing remittances, reduced labor income, job losses, reduced access to healthcare services, asset losses, and lack of access to credit.

**Impact indicators:** Impact indicators focused on the effect of the GFC on different dimensions of poverty. Those monitored in this study included health and nutrition, education, income, and employment.

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<sup>7</sup> The Tana River study was conducted in July, a year after the Phase I study. The government funded the municipal council studies, and the timing was influenced by the release of funds, which was done in October 2009.

**Indicators on coping mechanisms:** These indicators intended to capture changes in household behavior within a specified period of time (in this case, six months prior to the survey), particularly with regard to the coping strategies employed by households in response to income and welfare shocks from the GFC. These were captured based on the following aspects: health and nutrition, education, and income.

## Rationale of the CBMS Project for LAs in Kenya

Participatory planning and monitoring have been found to not only accelerate development but also to empower communities to recognize their strengths and responsibilities for their own development. Monitoring the government's achievements on the medium-term development goals (MDGs) is a critical responsibility, and key stakeholders are making all efforts to ensure that Kenya attains these goals. Ironically, the current system of data generation is still centralized whereas the impacts are supposed to be experienced at the community level. City, municipal, town, and county councils are important loci of development more so that the government is now seeking to decentralize its programs.

Since 2003, the government has channeled development funds directly to its constituencies, which allows for these funds to be available at the lowest administrative level. However, although there are mechanisms on paper to facilitate the engagement of community members in the decision-making processes, much is still to be desired in ensuring that they occupy their rightful space and that their decisions are based on local evidence.

The CBMS therefore provides important lessons to the Ministry of State for Planning, National Development (MSPND) and Vision 2030 on its MDGs-related mandate. Engaging community members in data collection and analysis allows for regular updates on study results to be generated inexpensively. It is also envisioned that once the communities start monitoring the performance of their councils, they will gain a voice in the planning and implementation processes. Because of these CBMS benefits, the African Institute for Health and Development (AIHD), in close collaboration with the MSPND and Vision 2030, pilot tested the CBMS methodology in the

three local authorities of Murang'a, Kisumu, and Kilifi. This survey incorporated questions aimed at capturing the impacts of GFC on the study populations.

After the successful CBMS pilot test in the three local authorities, the MSPND and Vision 2030 now intend to expand CBMS's coverage to more local authorities (LAs) in Kenya. The Association for Local Government Authorities in Kenya (ALGAK) has expressed interest in implementing and utilizing CBMS data on service delivery at the local level.

## Study Sites

This study was conducted in four sites in Kenya, as briefly described below.

**Murang'a:** Murang'a is one of the local authorities in Central Kenya. Although the area was a major producer of coffee in the 1970s and 1980s, coffee growers had since uprooted their coffee due to poor returns. At the time of the study, the community was not generating any income from exports. In fact, through consultations, the questions on export in the questionnaire were deemed irrelevant and subsequently removed. The study was conducted in Njoguini ward, which was considered the largest and poorest ward in the local authority. The listing exercise by the CBMS enumerators covered 2,286 households. Current estimates indicate that 39 percent of the people in the district live below the poverty line. This figure, however, camouflages local differences, with some parts of Murang'a having a higher proportion of poor people than the district average.

**Kisumu:** This study site is located in a lakeside town in Western Kenya. Its main economic activities are linked to Lake Victoria in the form of fishing. Kisumu is also a town whose potential for tourism has been increasing recently.

The study was conducted specifically in Nyalenda "A" as this was considered the most representative in terms of common problems ranging from lack of formal settlements, poor sewerage and sanitation, among other poverty indicators. Nyalenda "A" is subdivided into four main administrative units:

Dago, Kanyakwar, Nyalenda Central, and Nyalenda Western. Given limited resources and time, the study was conducted in Dago unit covering 1,028 households. An estimated 48 percent of the residents of Kisumu town live below the poverty line.

**Kilifi:** Located in the coastal region of Kenya, Kilifi used to be a major producer of cashew nuts in the 1970s and 1980s, but investments in this crop eventually waned following the market's slump. The study was conducted in Mavueni/Mkongani ward, which was considered one of the poorest wards in the local authority (a decision made by local authority leaders). The poor comprises 65 percent of the district population while that defined as hardcore poor accounts for 43 percent of the population. Relief food forms part and parcel of the government's response in some parts of the district during drought. The ward has a total of 2,649 households.

**Tana River district:** The CBMS Network has been supporting a local poverty monitoring system (LPMS) in Tana River district since 2007. Phase I of the study was conducted in 2008, while Phase II was done in 2009. The LPMS Phase II was implemented in six sub-locations of Bura, Garsen, and Galole for a total of 5,882 households. Tana River is ranked as one of the poorest districts in Kenya. An estimated 72 percent of the population live below the poverty line. The high poverty levels have implications on access to basic services including health, education, and food (KIHBS 2005-2006).

## Data Collection

Data were collected through an interviewer-based questionnaire administered to heads of households or other responsible adults. Enumerators were selected from the study areas and underwent a five-day training on CBMS. The questionnaire was pre-tested in each site and amended accordingly. The data collection process in the local authorities covered between 15-30 days, although the longest period was spent in Tana River at 103 days due to the huge number of the households and the vast size of the study area.

## Data Analysis

The data processing was done at three levels: (1) the community analyzed the data by using tally sheets; (2) the LAs processed the data in Excel; and (3) at AIHD, a team of data entry clerks was trained on data entry and post-coding of open-ended questions. This was after a Census and Survey Processing System (CSPro) screen had been developed by a data manager. Data were then entered and analysis done with the use of a Statistical Package for Social Sciences (SPSS) software.

## Ethical Considerations

It was important to assure the respondents of confidentiality and get their consent before their participation in the study. Respondents were informed that they could stop the interview at any time during the process to ensure that they did not feel coerced into participating. The AIHD has a research permit provided by the National Council for Science and Technology in 2007, which allowed the former to conduct the CBMS in Kenya.

## Study Limitations

Results should be interpreted with care by taking into account the following facts:

- The study was carried out in the four sites at different times: It was done in Tana River in July-October 2009 while it took place between October 2009 and January 2010 in the other sites. Some changes may have occurred in between the two periods that could influence the results.
- The pilot sites in the three LAs represent a small proportion of the population. Therefore, any generalization should be made within this context.
- There is no "before and after" data on the GFC to provide a comparison in the study sites. The respondents depended on their recollection of events within a six-month period, which could skew the results due to recall bias.

## RESULTS

Data were collected from 11,845 households as follows: Tana River, 5,882; Murang'a, 2,286; Kilifi, 2,649; and Kisumu, 1,028.

### Outcome Indicators of the GFC

Indicators chosen were aimed at capturing the immediate and direct impact of the crisis on households. The focus was on three main channels: remittances; employment and income, utilization of social services; and access to credit.

**Remittances:** During the surveys, very few households indicated that they received remittances from abroad. Of the few (1%) who received remittances, more than a quarter (26.9%) saw a decline in the amount remitted. Another 26.4 percent on average experienced changes in the schedule of payment as shown in Table 1.

**Table 1. Experiences with Remittances in the Last Six Months**

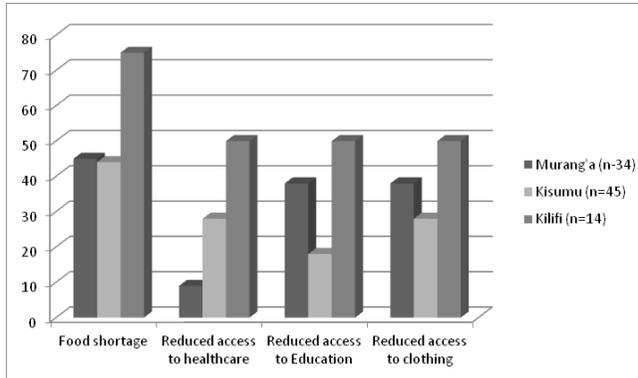
	Murang'a	Kisumu	Kilifi	Tana River	Total
Proportion of HHs that received remittances from relatives working abroad	n=2249 2.3%	n=993 4.5%	n=2617 0.6%	n=5823 0.2%	n=11,682 1.0%
Proportion of HHs that saw a decline in remittances received	n=34 38.2%	n=45 24.4%	n=14 28.6%	n=11 0.0%	n=104 26.9%
Proportion of HHs that experienced changes in schedule of remittances' received	n=17 17.6%	n=45 33.3%	n=14 35.7%	n=11 0.0%	n=87 26.4%

"n" refers to the small number of households (sub group) that responded to the question.

Source: Kenya CBMS, 2009

Table 1 shows that most of the households did not have access to external resources and therefore did not feel the impact of the GFC when remittance was considered as a channel. Although the proportion of households that saw a decline in remittances was relatively low, these affected households experienced shocks that may be related to this decline. As shown in Figure 4, such households experienced high levels of food shortage (especially in Kilifi) while many experienced a marked reduction in expenditure on healthcare, education, and clothing.

**Figure 4. Impacts of Reduced Remittances on Access to Food and Services**



Source: Kenya CBMS, 2009

It is clear from the Figure that the most important impact was on food shortage—more so in Kilifi, which saw a decline in access to healthcare, education, and clothing. For Murang'a, although the impact on access to healthcare was relatively low, there was a marked reduction in access to education, which could be reflected in the 16.4 percent out-of-school rate (13-16 year old persons).

**Labor employment:** Households were asked a range of questions to assess whether they had experienced any changes in employment in the six months prior to the survey. Similar to the findings on remittances, a few had reported changes in labor as shown in Table 2.

**Table 2. Local Employment**

	Murang'a	Kisumu	Kilifi	Tana River	Total
Proportion of HHs with employed persons who experienced wage cut	n=2209 32 (1.4%)	n=989 39 (3.9%)	n=2571 69 (2.7%)	n=5306 57 (1.1%)	n=11,075 197 (1.8%)
Number of persons who lost jobs	n= 2232 106 (4.7%)	n= 991 80 (8.1%)	n= 2579 196 (7.6%)	n=5436 68 (1.3%)	n=11,238 450 (4%)
Number of employed persons who experienced reduced working hours	n=2221 25 (1.1%)	n=991 17 (1.7%)	n=2568 22 (0.9%)	n=5289 132 (2.5%)	n=11,069 196 (1.8%)
Proportion of persons who are employed	n=1376 785 (57%)	n=723 443 (61.3%)	n=2126 1426 (67.1%)	n=4060 478 (11.8%)	n=8,285 3,132 (37.8%)
Proportion of persons who perform multiple jobs	n=2251 426 (18.9%)	n=995 188 (18.9%)	n=2571 445 (17.3%)	n=5572 197 (3.5%)	n=11,389 1,256 (11%)

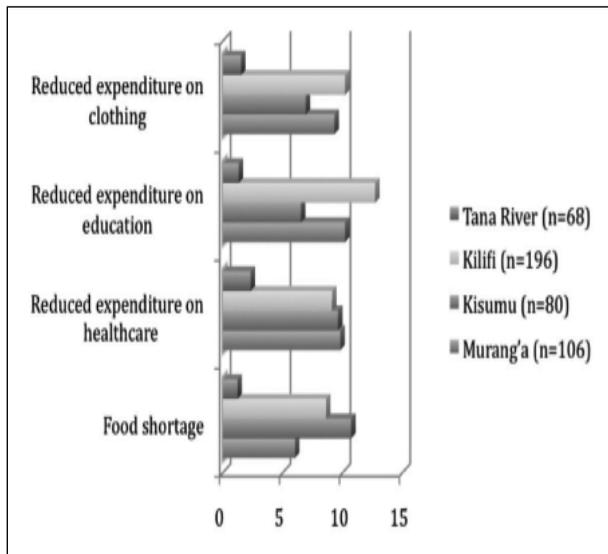
Source: Kenya CBMS, 2009

Table 2 indicates low employment levels in all the sites. This is because most people in the four sites were already unemployed; therefore, they did not feel the impact of GFC on employment. The proportion of children and older persons engaged in income generation was quite low, in general. Youth unemployment was high in all sites, more so in the Tana River district.

The most affected workers were those engaged as casual laborers in farms (Kilifi, Murang’a, and Tana River) and mango plantations in Tana River. In Kisumu, workers who lost jobs were also casual laborers from different sectors (including fishing and small-scale business operations). They attributed the loss of job to “bad economic times.”

**Loss of jobs and access to food and services:** Figure 5 illustrates the impact of job losses on food shortage and household expenditures on healthcare, education, and clothing. It is clear that households that experienced job losses had to cope by cutting their costs on healthcare, education, and clothing. It is also clear that access to food was affected, more so in Kisumu town, where the people depended on cash to purchase food.

**Figure 5. Job Loss and Access to Food and Other Services**



Source: Kenya CBMS, 2009

## Impact Indicators of the GFC

These impact indicators focused on the different dimensions of poverty, including education and income.

**Education:** Table 3 presents the results on school attendance and literacy in the four study sites. The key questions that captured the impact of the GFC were the transfer of children from private to public schools and households that cut back on education expenses. Transfers were minimal in all sites. Meanwhile, Kilifi, recorded the highest proportion of households (23.3%) that cut back on education expenditures.

**Table 3. School Attendance and Literacy**

	Murang'a	Kisumu	Kilifi	Tana River
Proportion of children aged 6-12 years old who are not attending elementary school	n=1129 7.6%	n=605 6.4%	n=2958 10.3%	n=7505 32.8%
Proportion of children aged 13-16 years old who are not attending secondary school	n=627 16.4%	n=252 13.1%	n=1365 10.8%	n=3080 31.5%
Proportion of youth aged 15-24 years who are not literate	n= 1521 2.0%	n=2808 23%	n=10927 43.9%	n=3945 31.3%
Proportion of HHs that transferred at least a child from private to public school	n=1062 5.6%	n=561 4.5%	n=1655 2.4%	n=5308 1.6%
Proportion of HHs that cut back on education expenses	n=1056 5.6%	n=552 11.2%	n=1759 23.3%	n=4274 13.3%

Source: Kenya CBMS, 2009

Tana River had the highest proportion of children aged 6-12 years old not in school compared to the other sites. This is reflected in Tana River's low transition from primary to secondary. This is further substantiated by the low literacy levels among the 15-24 year olds.

**Income:** Income was seen as a major indicator of changes that could impact negatively on households as a result of the GFC. It is clear that a high proportion of households in Tana River (69.3%), followed by Kilifi, Kisumu, and Murang'a, experienced food shortage. Note that by the time this survey was carried out, there had been a nationwide shortage of rain, which adversely impacted the food security, especially of those in the arid and semi-arid areas such as Tana River. Table 4 presents a summary of the results on income.

**Table 4. Income Proxies**

	Murang'a	Kisumu	Kilifi	Tana River	Total
Proportion of households that experienced food shortage	n= 2,245 572 (38.1%)	n=990 377 (38.1%)	n=2,603 1,065 (40.5%)	n=5,830 4,038 (69.3%)	n=11,668 6,042 (51.8%)
Proportion of households that had balanced diet	n=2,257 882 (39.1%)	n=993 629 (63.3%)	n=2,616 914 (34.9%)	n=5,822 1,478 (25.4%)	n=11,688 3,903 (33.4%)
Proportion of households that lost livestock	n=840 87 (10.4%)	n=445 19 (4.3%)	n=1,528 120 (7.9%)	n=5,274 2,060 (39.1%)	n=8,087 2,286 (28.3%)
Proportion of households that lost farm produce	n=840 737 (87.7%)	n=445 150 (33.7%)	n=1,528 1,378 (90.2%)	n=5,274 3,069 (58.2%)	n=8,087 5,334 (66%)

Source: Kenya CBMS, 2009

The high loss of farm produce reported in Murang'a and Kilifi is a result of the drought that affected most parts of the country and the fact that agriculture is the mainstay of the economy in these LAs. Tana River, where a higher proportion of households had livestock (36.1%) compared to the other study sites, experienced the highest loss of livestock.

### Coping Mechanisms with the GFC

The list of coping indicators generated for the survey were intended to capture changes in household behavior within a specified period of time, particularly the households' array of coping strategies in response to income and welfare shocks from the GFC. The coping strategies were captured based on assets, access to credit, and other forms of support including cash transfers.

**Assets and credit:** Table 5 shows that about 9.1 percent of households in the four sites lost savings as a coping strategy. Kilifi recorded the highest proportion of households which used their savings during the period (i.e., 3.7%)

**Table 5. Disposal of Assets and Access to Credit as Coping Mechanisms**

	Murang'a	Kisumu	Kilifi	Tana River	Total
Proportion of HHs that lost savings as a coping strategy	n=823 0.6%	n=320 2.8%	n=347 3.7%	n=563 2.0%	n=2053 9.1%
Proportion of HHs that had access to credit	n=2247 9.7%	n=992 8.7%	n=2603 4.8%	n=5817 4.3%	n=11,659 27.5%

Source: Kenya CBMS, 2009

Low access to credit is a major constraint to households that experience a shock. The area with the highest access recorded a less-than-10 percent access to credit.

**Access to government programs:** To mitigate poverty, the government has put in place a range of products through the constituency development funds (CDF) as well as other measures such as adding extension workers in agriculture, livestock restocking, and relief food. Table 6 indicates that relief food was the main form of support in Tana River while access to all other programs remains fairly limited. Murang'a had a higher access to bursary funds and *kazi kwa vijana* (public works program targeting the youth). Kilifi enjoyed a higher access to CDF compared to the other sites, but only a few households had access to the government's programs.

**Table 6. Proportion of Households that Received Assistance from Government Programs in the Last Six Months**

Government Programs	Murang'a (n=2,265)	Kisumu (n=990)	Kilifi (n=2,619)	Tana River (n=3,357)
Youth Development Fund	1.6	1.7	1.5	3.2
Bursary Fund	11.4	4.2	2.7	4.6
Higher education loan	1.3	1.2	0.7	0.6
Constituency Development Funds (CDF)	6.2	1.5	15.3	1.4
Women Enterprise Funds (WEF)	3.2	1.4	3.0	1.6
Agriculture Extension Services	3.5	0.9	1.6	0.1
Livestock restocking program	2.5	0.6	3.4	0.1
Local Authority Transfer Funds (LATF)	0.6	0	1.9	0.1
Relief Food Services	2.6	0.4	9.6	88.2
Kazi kwa vijana	38.8	4.9	2.9	–
Others	5.8	8.8	0.1	0

Source: Kenya CBMS, 2009

Tana River district's access to government programs mainly involved relief food (88.2%) while the LAs Murang'a (2.6%), Kisumu (0.4%), and Kilfi (9.6%) had low access to the same. Meanwhile, all these sites had limited access to all other government programs. Households in Tana River that experienced food shortage had more access to relief food (77.4%) compared to those in Murang'a (42.8%), Kisumu (42.9%), and Kilifi (36.5%).

**Income quintiles:** As shown above, although a range of government programs aimed at alleviating poverty exist at the local level, the poor have limited access to such programs. Table 7 shows the number of households in different income quintiles relative to access to government programs.

**Table 7. Proportion of Households in Income Quintiles that had Access to Relief Food in the Four Study Sites**

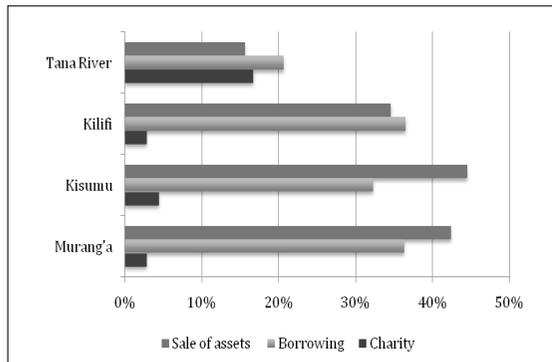
Income Quintiles	Murang'a	Kisumu	Kilifi	Tana River	Total
Lower	n=420 8 (1.9%)	n=197 0 (0%)	n=522 14 (2.7%)	n=731 708 (96.9%)	n=1,870 730 (39%)
Second	n=410 23 (5.6%)	n=196 1 (.5%)	n=527 47 (8.9%)	n=645 581 (90.1%)	n=1,778 652 (36.7%)
Middle	n=449 13 (2.9%)	n=200 2 (1%)	n=522 58 (11.1%)	n=671 571 (85.1%)	n=1,842 644 (35%)
Fourth	n=388 8 (2.1%)	n=200 0 (0%)	n=528 61 (11.6%)	n=609 530 (87%)	n=1,725 599 (34.7%)
Highest	n=414 4 (1%)	n=197 1 (5%)	n=520 71 (13.7%)	n=489 378 (77.3%)	n=1,620 454 (28%)

Source: Kenya CBMS, 2009

Access to government programs was limited to only a few households. Furthermore, the poorer households, i.e., those in the lower and second quintiles, had very limited access to government programs, especially relief food, which was meant to cushion them against hunger. It is plausible that those responsible for distributing relief food end up allocating it to themselves and to those in the same quintile to the disadvantage of the poor.

**Other forms of coping:** the study investigated access to support from other sources such as borrowing and use of savings as means to cope with the shocks. Figure 6 presents these findings.

**Figure 6. Access to Charity, Borrowing and Sale of Assets as Coping Mechanisms**



Source: Kenya CBMS, 2009

The Figure above shows that borrowing as a form of coping was more prevalent compared to getting assistance from charitable organizations, particularly for Tana River and Kilifi.

Note that for a variety of reasons, the poor are often the least equipped to cope with the impact of aggregate shocks. They have fewer assets that they could sell or use as a buffer, have limited or no access to formal credit and insurance markets to help smooth income shocks over time, and often lack the education and marketable skills necessary for successful migration to other economically better areas. Where the consumption of the good or service such as healthcare is necessary, poor households face catastrophic spending burdens that drive them deeper into debt and destitution. Furthermore, many of their coping strategies either are ineffective or create harmful consequences on the welfare of the households, especially the children. A key example is when they allow their children to either drop out of school so as to save on household expenditures, or go to work so as to augment household income.

A comparison between coping mechanisms adopted by households directly affected by the GFC and those not directly affected by the crisis is summarized in Table 8.

**Table 8. Comparison of Households Directly Affected and Those Not Directly Affected by the GFC**

HHs Directly Affected	HHs Not Directly Affected
<ul style="list-style-type: none"> <li>• Reduction of expenditure on education, medication, and clothing</li> <li>• Shifting children from private to public schools</li> <li>• Looking for additional employment</li> <li>• Borrowing money from friends and financial institutions</li> <li>• Use of savings</li> </ul>	<ul style="list-style-type: none"> <li>• Charcoal burning</li> <li>• Hunting and gathering</li> <li>• Migration to the nearby towns in search for jobs</li> <li>• Distress livestock selling</li> <li>• Premature harvesting of crops</li> <li>• Reduction of frequency/quality/quantity of food</li> <li>• Prostitution</li> </ul>

Source: Kenya CBMS, 2009

The Table illustrates that over and above normal coping mechanisms, those directly affected by the crisis engaged in measures aimed at reducing or cutting expenditures. Their choices made, such as withdrawal of children from school and borrowing, reduced these poor's social and economic capital, further impoverishing them.

## DISCUSSION

After the financial crisis started in the United States in 2008, it was anticipated that there would be ripple effects around the globe. America and Europe were expected to feel the brunt more, while developing countries were expected to experience the shocks later in 2008 and 2009 (World Bank 2008). Countries, institutions, and individuals reacted to these projections differently. In Kenya, while the prime minister in 2008 postulated a major impact from the crisis, the Ministry of Finance and Central Bank officials indicated that the impacts would be indirect and most likely small.<sup>8</sup> This study confirms the position taken by the latter group although it illustrates at the same time that for households that are most affected, the shocks had far-reaching consequences on access to food and other services, including healthcare, education, and clothing.

Results show that the study communities experienced limited effects from the GFC due to various factors, including:

- 1) The four sites were not engaged in any major export activity that could have suffered from inflation and currency depreciation. It is notable that although Murang'a used to export coffee, the community members had long uprooted it due to poor economic returns.
- 2) The impact on tourism was not felt directly due to the location of the four sites. Although Kisumu and Kilifi are tourist destinations, the study communities were removed from the mainstream activities.
- 3) Unemployment is a major problem in the country. Approximately 64 percent of young people aged 15-24 years are unemployed. Therefore, any impact at the central level did not spiral to areas out of Nairobi.
- 4) Most of the households engaged in this study did not have savings, either in bank accounts or in the form of shares, and therefore were cushioned from the fall in the stock market. Nyangito (2009) reported that stock markets fell by 27 percent in Kenya, 21 percent in Uganda, and 24 percent in the South Africa between September 1 and November 30, 2008.

<sup>8</sup> Accessed on January 26, 2011. <http://www.odi.org.uk/events/documents/444-gfc-workshop-report.pdf>.

Results illustrate that for households that experienced job losses and decline in remittances due to the GFC, the impact was felt in three critical areas: food, healthcare, and education. For households that are already poor, any shocks that affect their main source of livelihood are hard to cope with. Government interventions were also limited. While food relief was the most accessible, food distribution had been found to be expensive and unsustainable. In some cases, it was unable to reach the neediest members of a target community (Samson 2009).<sup>9</sup> It is important to note that only 36.5 percent of those who experienced food shortages in Kilifi had access to relief food despite the fact that this is one of the sites where the government, together with its development partners, distributes food annually.

The GFC will have minimum impacts on the study communities. However, this could be due to the fact that the study sites represented the poor in the LAs and in Tana River district. As indicated earlier, Kilifi and Tana River rank among the poorest districts in Kenya (with 65% and 72% of the people living below the poverty line, respectively). Although Kisumu and Kilifi attract tourists (one of the GFC channels in Kenya), the population involved in the study were not engaged in the mainstream activities around tourism. This could partly explain why the job losses were minimal in these sites.

## CONCLUSION

The GFC affected a small proportion of households in the study areas in three significant ways: loss of jobs (casual engagements), reduced remittances, and limited access to services. It is clear that when faced by shocks, the people had limited recourse in terms of access to government services and credit. Instead, the options open to the people are mainly borrowings, disposal of assets, and reduced expenditure on key social services (including health, education, and clothing), further entrenching poverty among the already impoverished households.

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<sup>9</sup> Based on a report titled, "Main Messages from the Global SP Learning Forum, Cairo - June 15-18, 2009." <http://www.siteresources.worldbank.org/.../Resources/.../PWConferenceReport.pdf/>

## POLICY IMPLICATIONS

It is clear from the GFC that countries have become intricately linked such that a crisis in one part of the world is bound to have implications in another, if not in all other parts. It is therefore important for governments to put in place measures to safeguard their citizens against such eventualities. Although a few households were directly affected by the impacts of the GFC, it is important for the Kenyan government to invest in poor areas, to create employment opportunities and to provide alternative coping strategies during shocks so that the few assets owned by the poor are not depleted as a coping mechanism.

There appears to be a high dependence on relief food when communities are faced with food shortages. Food distribution has been found to be expensive and it does not often reach the most deserving members of society. It is therefore critical for the government to explore other ways of addressing shocks while at the same time investing in sustainable mechanisms that would eventually reduce the proportion of households dependent on relief food.

Although the country has an array of poverty mitigation funds through devolved funding, these do not seem to reach the people who need them most. Therefore, the government has to strengthen the distribution of these funds to help cushion the general public from the effect of shocks. The introduction of a social protection policy, currently under development by the Ministry of Gender, Children and Social Development, would help refine the targeting mechanisms while also mitigating the impacts of shocks on the society's poor and vulnerable members.

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## ANNEX I

### LPMS Comparative Indicators for Phases I and II

The comparative indicators are based on the CBMS core indicators. Phases I and II of the LPMS study were conducted in three sub-locations of Tana River district (Tarasaa, Laini, and Walesorrhea). About 2,748 and 3,122 households were covered in Phase I and II.

VARIABLES		First Phase 2007-08	Second Phase 2009-10
<b>HEALTH AND NUTRITION</b>			
1	Proportion of HHs with children aged 0-5 years old who died	n=2686 18.2%	n=3057 11.4%
2	Proportion of HHs with women who died due to pregnancy-related causes	n=2690 7.4%	n=3091 5.0%
3	Proportion of HHs with children aged 0-5 years old who are malnourished	n=2721 7.1%	n=2924 5.2%
4	Proportion of HHs with household members who have been sick in the last two weeks (prior to the date of data collection)	n=2744 72.4%	n=3108 56.3%
5	Proportion of HHs with members suffering from preventable conditions e.g. malaria and diarrhea in the last two weeks	n=2744 65.9%	n=3093 44.0%
<b>SHELTER</b>			
6	Proportion of households living in makeshift housing	n=2745 60.4%	n=3116 63.6%
7	Proportion of households that are squatters	n=2748 3.1%	n=3116 2.2%
<b>WATER AND SANITATION</b>			
8	Proportion of households with access to safe water supply	n=2748 68.9%	n=3115 54.9%
9	Proportion of households with access to sanitary toilet facilities	n=2748 27.8%	n=3111 43.6%
10	Average distance covered by women in search of water	Less than 1 Km	Less than 1 Km
<b>EDUCATION</b>			
11	Proportion of children aged 6-12 years old who are not attending elementary school	n=4124 18.3%	n=4087 28.7%
12	Proportion of children aged 13-16 years old who are not attending secondary school	n=1706 24%	n=1674 27%
13	Proportion of youth aged 15-24 years who are not literate	n=3142 29.9%	n=2025 31.2%

<b>INCOME proxies</b>			
14	Proportion of households that experienced food shortage	n=2747 70.9%	n=3114 71%
15	Proportion of households with balanced diet	n=2748 35.7%	n=3111 25%
16	Proportion of households with farmland	n=1521 39.3%	n=3113 54.7%
17	Proportion of household with livestock	n=2737 28.6%	n=3114 39.5%
18	Proportion of households that lost livestock	n=2329 42.4%	n=2813 37.8%
19	Proportion of households that lost farm produce	n=2329 59.0%	n=2813 58.5%
<b>LOCAL EMPLOYMENT</b>			
20	Proportion of persons who are employed	n=2748 13.0%	n=2045 12.3%
21	Proportion of youth aged 15-24 who are not engaged in income generating activities	n=3142 83.4%	n=2025 84.3%
<b>PEACE AND ORDER</b>			
22	Proportion of persons who were victims of crime/conflict	n=2708 14.5%	n=3096 14.7%
<b>GENDER EQUITY</b>			
23	Proportion of women who experienced gender based violence	n=2503 42.8%	n=3084 19.4%
24	Proportion of women who have access to and control of land and other resources	n=2700 32.1%	n=3111 24%
25	Proportion of women who have power to decide family size	n=2538 6.2%	n=3066 2.3%
26	Proportion of women who can bargain for safe sex	n=2515 35.4%	n=3067 18.7%
<b>POLITICAL PARTICIPATION</b>			
27	Proportion of HHs that have eligible members who voted in the last general elections	n=2748 91%	n=3115 89.4%



# Impacts of the Global Financial and Economic Crisis on Poverty: Lao CBMS Sites

Phonesaly Souksavath<sup>1</sup>

## INTRODUCTION

The capacity to assess and monitor poverty is extremely needed in Lao PDR, especially in terms of monitoring poverty at the local level. The previous implementation of the Community-Based Monitoring System (CBMS) in Lao PDR somehow helped address this by training government staffs from the Sepone districts, Toomlane district and 24 villages in the technique and actual process of data collection. Moreover, data from the last CBMS project are very helpful for the staffs in the planning for their own localities. However, a high poverty level still exists in the country, with a poverty rate of 33.5 percent in 2002 and 27.6 percent in 2009 (Anders, Majnus, Nina, Phonesaly, 2009).

The rate of growth of Lao PDR's economy has also been slightly declining since 2007. For instance, in 2006, the growth rate was 8.3 percent but then this went down to 7.9 percent in 2008 (DoS & MPI, 2007). The Government of Lao PDR has tried to maintain a stable growth by encouraging the promotion of more foreign and private investments to induce the growth of its economy and meet the government's target of 7.9 percent growth rate in fiscal year 2008-2009 (DoP & MOI, 2008). With the global financial and economic crisis (GFC) taking place, however, the government is concerned that its impacts may hit the economies of the developing and low-income countries, including that of Lao PDR. As such, it has endeavored to come up with programs and studies that could help in assessing the impact of said global crisis and in addressing and mitigating such impact.

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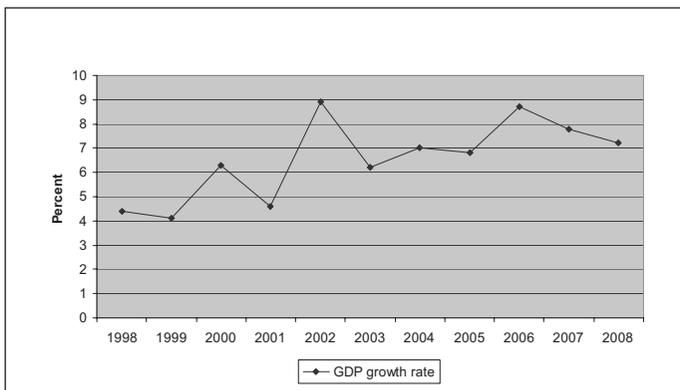
<sup>1</sup> CBMS-Lao PDR Project Director

In this regard, the second phase of the CBMS in Lao PDR was proposed and approved. The project consists of two components, namely: (1) the expansion of the coverage of CBMS, and (2) the monitoring of the impacts of the global financial and economic crisis on Lao PDR's economy and the effects on households and communities. The project also aims to build the country's capacity and skills to monitor poverty.

The significance of the project cannot be overemphasized. In 2008, Lao PDR experienced a food and fuel price crisis, resulting in much suffering for the population as reflected in the high rate of the Consumer Price Index. Fuel prices, for instance, were very high in July 2008, followed two months later in September by a peak in the prices of food products.

Then the global financial and economic crisis, which first hit the United States (US) and eventually led to a collapse of many financial institutions in the US and Europe, began to hit some parts of Asia and the developing and low-income countries. This has inevitably caused a lot of concern for countries like Lao PDR where much of the development is still based on foreign aid and foreign investment. And although the economy was gradually beginning to increase in 2002, the growth rate began to slow down by 2006 (Figure 1). With the global crisis in the horizon, it is feared that this downward trend will continue and the effects on the economy and households will worsen.

**Figure 1. GDP Growth Rate, 1998-2008**



Source: Department of Statistics Discussion Paper

In response to the possible foreseen impacts therefore of the crisis, especially on the village/community population, and to the previous pronouncements of the Lao PDR Prime Minister in 2007 and 2008 regarding the building up and strengthening of the village entity, the second CBMS project was launched. This would help provide socio-economic development data for the local government so that they can use them in their planning work. The results of the project would also be very useful for their later- year planning and budgeting processes. In terms of evaluating the progress in achieving the UN Millennium Development Goals (MDGs) for Lao PDR, this project could also provide the necessary data to be used by local leaders/planners in assessing the level of their own local area poverty. And of course, since the project will be looking at the impacts of the global financial and economic crisis on Lao PDR, the government will be able to have the needed information for it to make timely preparations to address and mitigate whatever negative effects there may be. Preventive policies/measures as well as coping interventions may be thought of and planned by policymakers and all concerned government agencies.

This paper thus looks at these various issues as it documents the results of the project and tries to inform policy by providing critical information and analysis on the impacts of the GFC on household poverty and offering some recommendations on how to possibly address and prepare for them.

## SOME REVIEW OF LITERATURE

Understanding the impacts of the GFC on poverty is very important for the government in its conceptualization and planning of ways to cope with the crisis as well as to help prevent and mitigate its effects. According to the World Bank, the path or channel through which the impacts of the crisis are brought to the household level could be via a vertical line: from macro to micro level. There are four channels through which the impact on household poverty is sent, namely:

1. **Through trade.** Most countries, especially low-income countries, earn revenues through exports of their goods to foreign

countries (International Monetary Fund, 2009). However, if international trade declines as a result of reduced demand from customers in countries affected by the economic downturn, then revenues from trade in exporting countries, in particular, low-income exporting countries, will likely be affected. With lower incomes, affected parties will have to revise their consuming habits and expenditure patterns. They have to cut off their expenditures of luxurious goods and save money for their more basic necessities.

2. **Through inflows of foreign direct investments (FDI).** According to the International Monetary Fund (IMF), the FDI inflows to low-income countries will sharply fall by 20 percent from 2008 to 2009 as a possible result of the GFC. Since FDIs have played a key role in generating jobs and in supporting the macro and micro economies, a fall in their levels will lead to more unemployment among many people. These would put more stress to the Government, with more people suffering from lesser and/or lack of income. Low FDI may affect production and thereupon the level of employment.
3. **Through migrant workers' remittances.** The GFC will have a direct effect on overseas workers' remittances since many migrant workers become unemployed with the closure of factories, enterprises and other sources of work in industrial countries like the US, Japan and Singapore whose economies have suffered a collapse due to the crisis. Unemployment put migrant workers in a vulnerable situation and caused them to cut down on the remittances being sent home. According to a World Bank report in 2008, falling remittances will affect both the macro economic stability and welfare of households. In Lao PDR, many households have relatives or cousins living in the US, Canada and other western industrial countries who regularly send money to their homes as a form of help. The reduction in remittances will definitely affect their welfare.
4. **Through reduction in the value of household assets.** As a consequence of the recession in the global economy, the value of assets held by households becomes lower.

Households generally depend on their fixed assets when the income situation becomes severe. Thus, when the value of assets declines as a result of economic turndown, the stress for households becomes doubly hard.

In terms of debt, since households need to maintain stable income levels during the period of economic shock, poor households may borrow money from other households or financial units. Such response may subsequently increase the debt level of households and have consequent impact on the households' welfare in the long run. The nutrition status of households, especially that of the children, is very vulnerable to the effects of the crisis (Sakiko Fukuda-Parr, 2008), with households tending to consume less because of the reduced monthly income as households try to smooth their expenditure. This inevitably affects their health and nutritional status.

In addition, most poor households are likely to send their children to work in order to help augment the reduced incomes of households brought about by the crisis and to fulfill certain basic needs. This may affect the school attendance rate of children (Mendoza, 2008). On the other hand, in terms of health care, households may limit access to health care services in order to save money for other needed purposes in their households. This might lead to certain diseases and put more burden on the women who will have to take care of the ill themselves instead of having them in hospitals or health care centers.

The consequence of the crisis may thereupon force households to sell their assets such as livestock. If such livestock would be sold, agricultural production might be affected and reduce the volume of rice production.

The coping strategy that households generally use in facing the shock might vary from country to country and may or may not be effective. In response, to cope with reduced incomes due to job losses, households might limit their expenditure on food, travelling, clothes, electricity, gas, communication as well as recreation activities. To help augment their incomes, household members have to work more than one job or even have children work after school. In worse cases, households have to withdraw

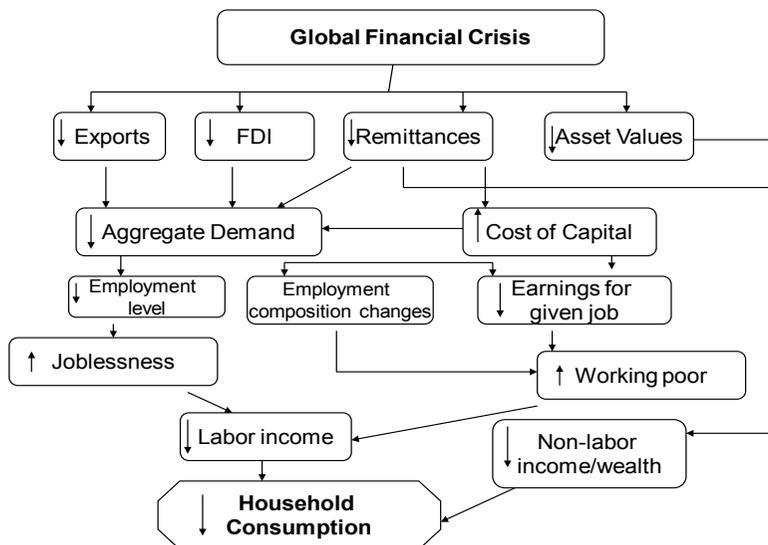
their children from school to be able to work. Some households might limit their health care seeking patterns in order to maintain their level of consumption. Some may also sell their assets in order to add to their income.

In the case of Lao PDR, according to Dr. Bounthavy Sisouphanthong (2009), its economy is small, its financial system and trade are underdeveloped and not yet integrated to the world economy. Thus, its economy will not be fully affected by this crisis in the short term. However, if the crisis can not be quickly solved and recession continues to take a longer time, then some Laotian economic sectors will experience difficulties in the medium to long term.

## Conceptual Framework

The study will focus on the household expenditure consumption, with the hypothesis trying to see how the GFC impacts on immediate outcome variables associated with household expenditure consumption. Household expenditure consumption is identified as the poverty indicator for this study as shown in Figure 2.

Figure 2. Conceptual Framework



Source: The World Bank

# METHODOLOGY

## Data Source and Location of Sentinel Sites

Community-based monitoring system (CBMS) is used as the source of data for this study and monitoring. The project has assigned three CBMS villages (Dansavanh, Phonemuang and Sonmixay) of Savannakhet province as the sentinel sites and included them in the study for the required data in monitoring the impact of the GFC. There are a total of 718 households included in the enumeration for the needed information.

## Data Analysis

Because of the lack of information and technology (IT) facilities at the district and village levels, data analysis is done at the provincial level with the major participation of district staffs and close collaboration of the teams at the provincial and central level. The main focus of the work will be the poverty measurement. Expenditure consumption has been agreed to be used as the welfare indicator in measuring poverty. The poverty line is derived from the national threshold which is 180,000 Lao Kip per person per month for rural areas (Decree number 285/MP); the calculation is based on the Lao Expenditure and Consumption Survey (LECS) which is undertaken every 5 years. The focus is to see whether the global financial crisis affects the household expenditure consumption and how, during and after the shock, the levels of workers' remittance, labor income, jobs, access to health service, access to employment programs, asset loss, and access to credit, all associated with household welfare or poverty level, are affected.

With the objective of examining whether the outcome indicators of the global financial crisis have positive relationship with poverty of the household, the CBMS team established the proximate model for testing these effects. Two models are produced; the first model will test the relationship of some socio-economic variables and poverty only, and then the second model will include some outcome variables from the global financial crisis, with the interest focused at whether the outcome variables of the GFC will give any positive effect on poverty while having the socio-economic status as control factor.

## RESULTS AND DISCUSSIONS

### Socioeconomic Data

The sites have a total of 718 households, 4,153 people, 2,084 males and 2,069 females. The average household size is 5.7 persons per household. Most of the households' sources of livelihood are agriculture-based. The village population all have access to the market which is the source of food and income generation, and also to the health care center (Table 1).

**Table 1. Village General Information**

Villages	Population			Household Size	Number of Households	Agricultural	Household Doing Handicraft	Market	Health Care Center
	Female	Male	Total						
Phonemuang	680	673	1,353	5.7	238	84.5%	3.8%	Yes	Yes
Sonmixay	443	440	883	5.5	161	99.4%	0.6%	Yes	Yes
Dansavanh	946	971	1,917	6.0	319	99.7%	None	Yes	Yes
<b>Total</b>	<b>2,069</b>	<b>2,084</b>	<b>4,153</b>	<b>5.7</b>	<b>718</b>	<b>94.6%</b>			

Source: CBMS Survey

In addition to agricultural production, the people in each village also have diverse work. Most people in each village are engaged in non-farm professions and the unemployment rate is very low (Table 2).

**Table 2. Occupation (in %)**

Village	Farm	Non-farm	Other	Unemployment	Total
Phonemuang	45.2	46.2	8.6	0.0	100.0
Sonmixay	9.3	75.4	14.4	0.9	100.0
Dansavanh	17.3	82.4	0.1	0.1	100.0

Source: CBMS Survey

Most villagers have begun to have improved housing condition as they modify the materials used for their shelter from temporary to more permanent materials. This can be seen in the two villages of Phonemuang and Sonmixay (Table 3). However, in Dansavanh, most of the households still use wooden or bamboo tree houses.

In terms of sanitation, condition has been slightly improved since most of the villagers prefer to shift from the use of pit latrine to the modern one. But still, households with no latrine remain, which affect their health condition in the long run if the problem is not solved (Table 3).

**Table 3. Proportion of Households, by Housing and Sanitation Means**

Village	Housing				Sanitation		
	Concrete	Half Wood	Wooden	Bamboo	Modern Latrine	Dug Latrine	No Latrine
Phonemuang	14.3	16.5	48.1	21.1	60.5	9.7	29.8
Sonmixay	26.3	25.6	44.4	3.8	87.0	5.0	8.1
Dansavanh	18.8	5.0	44.2	32.0	36.7	48.6	14.7

Source: CBMS Survey

The main water sources of these villagers are dug well and bore hole and in Phonemuang and Sonmixay, 100 percent of the villagers use water from said sources. However, in Dansavanh village, almost all of the people depend on the river as source of their water, which is very harmful for the people's health (Table 4).

**Table 4. Water Sources and Energy Used for Cooking (in % of households)**

Village	Water Source				Energy Used for Cooking			
	Water supply	Bore well	River	Other Water Sources	Electricity	Fuel coal	Fire wood	Other energy
Phonemuang	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
Sonmixay	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
Dansavanh	0.0	0.3	99.7	0.0	0.0	0.0	100.0	0.0

Source: CBMS Survey

Meanwhile, rice production is the main source of livelihood for the people which help them escape from hunger. Dansavanh has the highest per capita paddy area among these villages at 0.55 tons per person while the average for other villages is about 0.26 and 0.07 tons per person. Another source of nutritious food is protein which can be obtained from meat and poultry (Table 5). And although this might not be an absolute guarantee for the villagers against hunger, it is nonetheless something that help them make up for the lack of employment and business.

**Table 5. Rice and Other Food Production**

Village	Rice Production (Tons)	Rice Production per Capita (Tons/person)	Big Animal per Capita	Poultry per Capita
Phonemuang	286	0.26	0.57	1.24
Sonmixay	52	0.07	0.54	1.58
Dansavanh	779	0.55	0.63	1.54

Source: CBMS Survey

Besides the occupation patterns of people as shown in Table 2, there are also multiple income-generating activities in the villages which range from business to farm work. Employment with private and state offices tops the list, followed by agricultural and business activities as can be gleaned from Table 6.

**Table 6. Main Sources of Income (in % of households)**

Village	Main Income Sources					
	Agriculture	Employment with Private Offices	State Work	Hunting and Collection of Wood Products	Household Business	Others
Phonemuang	14.7	24.8	16.4	0.0	14.3	29.8
Sonmixay	1.2	14.3	59.6	0.0	12.4	12.4
Dansavanh	13.8	50.2	2.8	0.3	17.6	15.4

Source: CBMS Survey

Most households own the land and house structures in each village. The communication means are also quite high, especially in Sonmixay and Phonemuang villages, which is beneficial in terms of social networking. Another observation is that there has been an increase in the number of cars and pick-up trucks in each village, reflecting an improved economic status of the villagers. The vehicles help facilitate the villagers' transfer of their agricultural produce and support trade at the same time (Table 7).

**Table 7. Property, Vehicle, Media Receivers and Communication Tool Possession of Households (in % of households)**

Village	Land	House building	Car	Motorbike	Bicycle	Tractor	TV	Radio	Mobile Phone
Phonemuang	89.5	99.2	14.7	79.8	57.6	30.3	74.8	33.2	59.7
Sonmixay	98.8	98.8	20.5	95.7	56.5	21.1	94.4	28.6	78.9
Dansavanh	82.1	97.2	16.6	74.3	32.6	2.2	80.3	5.3	18.8

Source: CBMS Survey

Meanwhile, more than one third of the households are living under the national poverty line in these sentinel villages. This figure is quite high and higher than the national estimate. In the two villages of Sonmixay and Dansavanh, the figures are 42.2 and 38.6 percent, respectively, while Phonemuang has a similar figure as the national level (Table 8).

**Table 8. Poverty Level**

Village	Poverty Status		Total
	Non-poor	Poor	
Phonemuang	178	60	238
	74.8%	25.2%	100.0%
Sonmixay	93	68	161
	57.8%	42.2%	100.0%
Dansavanh	196	123	319
	61.4%	38.6%	100.0%
Total	467	251	718
	65.0%	35.0%	100.0%

Source: CBMS Survey

## Some Aspects for Monitoring the Long-Term Impact of the Crisis

According to the survey data, not many of the villagers from these sentinel sites are working abroad, perhaps because the labor market in these villages or nearby areas is adequate and there is no need to work in a different country. As Table 9 shows, only about 0.9 percent of households or the equivalent of two households in Dansavanh village have family members working abroad.

**Table 9. Households with Members Who are Working Abroad (in %)**

Village	Is there any one working abroad in the past 12 months?		Is there any one back from working abroad?		Is there any one currently working abroad?	
	Yes	No	Yes	No	Yes	No
Phonemuang	0.0	100.0	0.0	100.0	0.0	100.0
Sonmixay	0.0	100.0	0.0	100.0	0.0	100.0
Dansavanh	0.9	99.1	0.3	99.7	0.9	99.1

Source: CBMS Survey

Table 10 shows that in terms of remittance or money sent by workers from different countries, only one household each in Phonemuang and Sonmixay villages receives such money. However, the senders are not household members but friends or cousins since none of these village households has a member working abroad. Many household members from these villages also experienced salary cuts, both internally and externally.

**Table 10. Number of Households Which Received Remittances and with Members Who Experienced Salary Cut**

Village	Received Money		Salary Cut	
	Yes	No	Yes	No
Phonemuang	1	6	3	235
Sonmixay	1	96	99	62
Dansavanh	2	3	23	202

Source: CBMS Survey

However, if we look more closely into the data in Table 11 regarding the place of work, they show that almost all household members who are working, are doing so in domestic sites and there are only few members from three households in Dansavanh village who are working abroad (87% vs. 13%).

Meanwhile, the reason given by the respondents for their salary cuts was more due to reduced working time rather than a reduction in the company's income.

The above data are consistent with the real situation in Lao PDR and with the household characteristics, particularly in the rural and

remote areas where almost all households are agriculture-based and daily workers are engaged in farm activities and consume their own products.

As to the nature of employment, Table 11 likewise shows that almost all of the respondents opined that it was fairly good.

**Table 11. Place of Work, Reasons for Salary Cut and Nature of Employment**

Village	Place of Work		Reasons for Salary Cut			Nature of Employment	
	Domestic	Abroad	Reduction in company's income	Reduction in working hours	Others/ Don't know	Good	Fairly good
Phonemuang	3	0	0	0	3	0	3
	100	0	0	0	100	0	100
Sonmixay	99	0	0	14	85	18	60
	100	0	0	14.1	85.9	18.2	60.6
Dansavanh	20	3	0	0	23	2	13
	87	13	0	0%	100	8.7	56.5

Source: CBMS Survey

Regarding the benefits of employed members in households that experienced salary cuts, Table 12 shows that no change has been experienced by the employed members in the three villages during the crisis vis-a-vis the pre-crisis situation. There are only two households in Dansavanh village and three in Phonemuang that experienced some change in benefits. Thus, it could be concluded that there has been no big effect of the crisis in terms of benefits received.

**Table 12. Benefits Received by the Employed Household Members**

Village	Benefits Received by the Employed Members		
	Changed	Did not change	Don't know
Phonemuang	0	3	0
	0	100	0
Sonmixay	3	95	1
	3.0	96.0	1.0
Dansavanh	2	21	0
	8.7	91.3	0

Source: CBMS Survey

In Table 13, it can be seen that almost all of the villages had no experience of a job loss or salary cut or reduction in the number of working hours or days amid the financial and economic crisis. Even in Dansavanh and Sonmixay where the figures show that there are some, the number is very insignificant as to affect any of the households' livelihoods. In the meantime, as per the finding showing some large amounts of borrowings from banks, it was found that these were used more for investments rather than for coping with the crisis.

**Table 13. Job Cut, Reduction in Work Hours and Credit Access**  
(in % of households)

Village	Is there any one who had a job cut in the past 12 months?		Is there any one who had a cut in working hours?		Did you borrow money from the bank?	
	Yes	No	Yes	No	Yes	No
Phonemuang	0.0	100.0	0.0	100.0	14.3	85.7
Sonmixay	0.6	99.4	0.0	100.0	26.1	73.9
Dansavanh	1.3	98.7	0.9	99.1	13.2	86.8

Source: CBMS Survey

In order to track the impact of the crisis on the financial institutions, the respondents were asked whether some household members have savings in banks and whether said money were lost during the crisis. The data indicate that only few households have savings in the bank. In Dansavanh village, there are 32 households that have savings in banks while in Sonmixay, there are only 3. Moreover, almost all of the households with savings noted that they did not experience losing their savings as a result of bank failure. Only one household in Dansavanh village had such experience but the reason was not bank-related (Table 14).

**Table 14. Savings in the Bank and Experience in Losing Money Saved**

Village	Saved Money in the Bank		Loss of Money Saved	
	Yes	No	Yes	No
Phonemuang	1	233	0	1
	0.4	99.6	0	100
Somixay	3	22	0	3
	12.0	88.0	0	100.0
Dansavanh	32	289	1	31
	10.0	90.0	3.1	96.9

Source: CBMS Survey

In terms of experiencing food hunger in the past 12 months, the data in Table 15 indicate that only some of the villagers felt this. Only about 2 percent in Phonemuang and one percent in Dansavanh experienced such, with the period of suffering the hunger not being so long—about 3 and 7 days, respectively.

As to the age of workers, about three percent and one percent, respectively, of people below 15 years old in Dansavanh and Sonmixay, experienced working.

**Table 15. Households Which Experienced Lack of Food and Have Young Members Who are Working (in % of households)**

Village	Lack of Food		Number of Days of Food Hunger Mean (Days)	People Below 15 Who Work	
	Yes	No		Yes	No
Phonemuang	1.7	98.3	3		100
Sonmixay		100.0		0.8	99.2
Dansavanh	0.9	99.1	7	2.6	97.4

Source: CBMS Survey

## Household Coping Mechanisms

In the past 6 months, it is interesting to know whether households have any reaction or response to the situation that they might face both from the world and domestic economies. Since the situation is not severe, only few households are affected in terms of eating behaviors (Table 16). Some households have to change their eating habits in response to the low incomes in their households while in almost all of the households, no change had taken place. Majority of them are more likely to reduce rice, meat and fish consumption rather than other items, the reason being the high prices of those commodities.

**Table 16. Consumption Behaviors (in % of households)**

Village	Eating behavior		If so what is the behavior?		
	Changed	Did not change	Reduced rice consumption	Reduced fish and meat consumption	Reduced vegetable consumption
Phonemuang	1.3	98.7	100.0	0.0	0.0
Sonmixay	2.5	97.5	100.0	0.0	0.0
Dansavanh	7.0	93.0	13.6	81.8	4.5

Source: CBMS Survey

Besides the response in eating behavior, villagers in Phonemuang, Sonmixay and Dansavanh have also made certain changes in the past six months in terms of their expenditure. About 7, 22 and 34 percent, respectively, in these three villages reduced their expenditure. In doing so, majority claimed that they reduced their expenses in order to save while some said that they did so because of the high cost of living (Table 17).

**Table 17. Changes in Household Expenditure During the Past 6 Months (in %)**

Village	Expenditure in the Past 6 Months		Reasons			
	Declined	Did not decline	Reduction in HH income	High cost of living	Want to save	Others
Phonemuang	6.6	93.4	76.9	7.7	7.7	7.7
Sonmixay	21.5	78.5	62.9	2.9	31.4	2.9
Dansavanh	33.8	66.2	87.8	7.1	4.1	1.0

Source: CBMS Survey

With regard to expenditures for health care, most households have their health expenditure reduced in the last six months compared to the previous half year. The reason given is due to no illnesses experienced in the past 6 months rather than to any issue relating to the financial crisis (Table 18).

**Table 18. Changes in Health Expenditure (in % of households)**

Village	Health Expenditure		Reasons	
	Declined	Did not decline	No illness	Got assistance
Phonemuang	28.6	71.4	100.0	0.0
Sonmixay	32.3	67.7	80.0	20.0
Dansavanh	23.9	76.1	67.9	32.1

Source: CBMS Survey

As far as education is concerned, about half of the households in Dansavanh (Table 19) had members who dropped out from school, mainly to help in household work. Other reasons include the fact that they have no money to keep said members in school.

**Table 19. Households with Members Who Dropped Out of School During the Past 12 Months (in %)**

Village	Dropped Out of School in the Past 12 Months		Reasons	
	Yes	No	No fund	Help household work
Phonemuang	0.0	0.0	0.0	0.0
Sonmixay	0.0	100.0	0.0	0.0
Dansavanh	50.0	50.0	30.0	70.0

Source: CBMS Survey

Based on the numbers shown in Table 20, meanwhile, most of the households in all three villages do not borrow or sell or mortgage their assets. For the few who do, the reasons could either be for investment or survival. The highest proportion of households which borrow money is recorded in Sonmixay (19.6%) while the lowest is reported in Phonemuang (3.4%). Meanwhile, among the three villages, selling of assets is most common in Dansavanh (3.2%) while mortgaging asset is most prevalent in Phonemuang (2.5%).

**Table 20. Credit, Asset and Mortgage (in % of households)**

Village	Borrowed Money		Sold Asset		Mortgaged Asset	
	Yes	No	Yes	No	Yes	No
Phonemuang	3.4	96.6	0.4	99.6	2.5	97.5
Sonmixay	19.6	80.4	0.7	99.3	0.0	100.0
Dansavanh	10.3	89.7	3.2	96.8	1.0	99.0

Source: CBMS Survey

As to social assistance, almost all households in Dansavanh have received assistance during the past 6 months while other villages get less. Meanwhile, no assistance has been extended by the government to Phonemuang since the situation in said site is quite stable (Table 21).

**Table 21. Social Assistance (in % of households)**

Village	Received Assistance		Received Assistance from the Government	
	Yes	No	Yes	No
Phonemuang	0.0	100.0	0.0	100.0
Sonmixay	4.4	95.6	3.8	96.2
Dansavanh	97.4	2.6	98.7	1.3

Source: CBMS Survey

Almost all households in the three villages do not have members with more than one job except in Dansavanh village where about 2 percent of the households reported that they have a member who are working in multiple jobs. Hardly any one below 15 years old or over 60 years of age work although a few is seen to do so in Dansavanh (Table 22).

**Table 22. Members with More than One Job and People Below 15 and Over 60 Years of Age Who Work (in % of households)**

Village	More than One Job		People Below 15 Who Work		People Above 60 Who Work	
	Yes	No	Yes	No	Yes	No
Phonemuang	0.0	100.0	0.0	100.0	0.0	100.0
Sonmixay	0.6	99.4	0.0	100.0	1.3	98.7
Dansavanh	1.9	98.1	2.2	97.8	5.4	94.6

Source: CBMS Survey

## Multivariate Results

Based on Table 23, one of the significant factors that impact on poverty is the household size, with a coefficient of positive number 0.516 and odd ratio of 1.657. This means that when the household size increases by one unit, households are twice more likely to live in poverty. Four factors have negative relationship to poverty. One of these include households with non-farm activities or professions which are about 1 time less likely to be poor compared with households whose members depend more on agricultural or farm activities. Another factor refers to households that have better condition of housing. It is found that households with concrete houses are about one third less likely to be poor compared with those households that live in bamboo trees or temporary houses.

Another group more likely not to be poor are households that own cars/pick-up trucks as well as those that own tractors. This could help households earn income and could help them escape from poverty. However, there are other factors found not to be significant.

### *Model 1 summary:*

- Chi-square 241.402 (Sig .000)
- Log likelihood 687.960, R square 0.286

**Table 23. Some Socio-Economic Factors and their Relationship to Poverty**

Factors	B	S.E.	df	Sig.	Exp(B)
HH size	.516	.049	1	.000	1.675
Unemployment	-.071	.418	1	.864	.931
Non-farm occupation	-.100	.034	1	.003	.905
Concrete housing	-1.036	.387	1	.008	.355
Half concrete housing	-.215	.400	1	.591	.807
Wooden housing	-.356	.277	1	.198	.700
Dug latrine	-.511	.296	1	.084	.600
Without latrine	-.139	.293	1	.636	.871
Own land	-.488	.298	1	.102	.614
Own car/pick up	-1.480	.348	1	.000	.228
Own bicycle	-.290	.213	1	.173	.748
Own tractor	-.988	.323	1	.002	.372
Own radio	-.131	.261	1	.616	.877
Own mobile	-.072	.221	1	.743	.930
Paddy per capita	-.077	.087	1	.377	.926
Big animal per capita	.114	.059	1	.052	1.121
Constant	-1.879	.461	1	.000	.153

Source of Basic Data: CBMS Lao PDR; Estimates are based on the author's calculations

Table 24 presents the results of the test when controlling for some socio-economic variables, whether or not the outcome variables or indicators will affect poverty. It is observed that socio-economic variables such as household size, non-farm activities, concrete house, own cars/pick-up trucks and own tractors are significant factors affecting poverty. When controlling for socio-economic variables, it is found that only the household that experienced salary cuts have positive relationship to poverty. This means that households with members having salary cuts are about four times more likely to be poor than those whose members did not experience such cuts. Table 24 also shows the variables found not to be significant on poverty.

#### *Model 2 summary:*

- Chi-square 300.270 (Sig .000)
- Log likelihood 629.092, R square 0.342

**Table 24. Some Socio-Economic Factors Compounding the GFC Outcome and its Relationship to Poverty**

Some factors	B	S.E.	df	Sig.	Exp(B)
HH size	.568	.054	1	.000	1.765
Unemployment	-.158	.481	1	.743	.854
Non-farm occupation	-.127	.038	1	.001	.881
Concrete housing	-1.349	.422	1	.001	.259
Half concrete housing	-.530	.431	1	.219	.589
Wooden housing	-.565	.293	1	.054	.568
Dug latrine	-.628	.340	1	.065	.534
Without latrine	-.040	.316	1	.900	.961
Own land	-.655	.319	1	.040	.519
Own car/pick up	-1.484	.363	1	.000	.227
Own bicycle	-.194	.230	1	.400	.824
Own tractor	-.842	.356	1	.018	.431
Own radio	-.126	.282	1	.656	.882
Own mobile	-.190	.241	1	.432	.827
Paddy per capita	-.096	.095	1	.313	.909
Big animal per capita	.126	.057	1	.028	1.134
HH	21.766	40192.976	1	1.000	283.588
Receive remittance from HH member	-21.959	40192.976	1	1.000	.000
Reduce remittance	23.287	40192.976	1	1.000	12987955441.489
Salary cut	1.300	.299	1	.000	3.670
Job loss	-.519	1.386	1	.708	.595
Work hour reduced	-.046	1.996	1	.982	.955
Lost money from Bank	21.183	22608.066	1	.999	158.671
Lack of food	53.525	21988.148	1	.998	176.000
Length of period having food hunger	-17.662	7329.383	1	.998	.000
People below 15 years old working	.240	1.159	1	.836	1.271
Change eating behaviors	.097	.582	1	.867	1.102
Reduced expenditure	.089	.441	1	.841	1.093
Borrow money	.299	.384	1	.436	1.349
Sell property	.371	.831	1	.656	1.449
Mortgage	-.059	.913	1	.948	.942
More than one job	-.329	1.162	1	.777	.720
People over 60 years old working	-.639	.747	1	.392	.528
Reduce expenditure on electricity	-.439	.345	1	.204	.645
Reduce expenditure on transport	-.114	.400	1	.777	.893
Reduce expenditure on communication	.578	.380	1	.128	1.782
Reduce expenditure on recreation	-.649	.285	1	.023	.523
Constant	-1.858	.535	1	.001	.156

Source of Basic Data: CBMS Lao PDR; Estimates are based on the author's calculations

## CONCLUSION AND POLICY IMPLICATIONS

Based on the information gathered and analyzed with regard to the impact of the global financial crisis (GFC), it is reasonable to conclude that the effects of the GFC on poverty in the sites studied are not significant. There is only one factor as shown in the above analyses that affected poverty and based on this, one can not say that the shock hit the community poverty. The reason may be due to the fact that Laos still has a small economy and its financial and trade systems are not yet integrated into the world economy (Sisouphanthong, 2009). However, as earlier mentioned, if the crisis will last for a long time, it may eventually hit countries like Laos.

Household size is still an issue critical for the poverty eradication program in Lao PDR. As long as the fertility rate in the country remains high, poverty will be more difficult to minimize, as clearly seen from this study, with family size being the main factor leading to more poverty. Therefore, the fertility control program or the fertility policy of Government should be considered and advocated to the local people. Non-farm activities outside agriculture such as manufacturing, industrial work, trade, and business are activities that help households to be non-poor. At the same time, these activities need people who have a certain level of education; thus, there is a need to promote the importance of education to the various households.

Salary cut is one factor that leads households to be poor since the income will be reduced and could affect their consumption, health care access, and education of their children.

Finally, the study sites should be expanded to cover the urban areas or villages where people are more involved in employment and deal with investment and debts so that the effects of the GFC can be clearly tracked.

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# Monitoring the Impact of the Global Financial Crisis on Rural Households in Nigeria

Anthonia I Achike and H.E. Ichoku<sup>1</sup>

## INTRODUCTION

The recent global financial crises (GFC) had differential impacts on various groups of different economies. Households and individuals had also developed different strategies in response to the new social and economic situation brought about by the crisis. Expectedly, the different economic units in Nigeria, especially the households, bore the brunt of the impact and therefore devised adjustment mechanisms.

The resulting international and national spill-over has brought critical challenges to Nigeria's economic planners. This is because the crises came just at the verge of economic recovery. For instance, prior to the crises—and precisely since 2003—the Nigerian economy experienced an average growth of more than 6 percent per annum; improved macroeconomic picture due mainly to increasing oil prices; and non-oil sector growth, particularly agriculture, as well as better non-oil sector performance arising from structural reforms and improvements in government policies. This can be seen in the table below.

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<sup>1</sup> Project Director and member of the research team, respectively, of CBMS-Nigeria

**Table 1. Growth Rate of Non-oil Sector in Nigeria**

Year	2004	2005	2006	2007	2008	2009	2010	2011
Growth in Non-oil Sector (%)	7.8	8.6	9.4	9.6	8.9	8.3	8.4	8.8*

\* projected

Source: National Planning Commission (2008)

However, this improved economic performance was overturned by the global financial crises. Although no official figures on the key macroeconomic variables during the crises period are available, some of the effects can be considered from anecdotal information and newspaper reports on the economy during this period.

**Impact of GFC at the macro level in Nigeria:** Nigeria currently exhibits the features of a mono-product economy, deriving more than 70 percent of her revenue from oil sales. But with the incursion of the global financial crises, oil prices, which reached a peak of US\$147/barrel in 2008, declined to less than US\$50 by December 2008. Thus, Nigeria's oil revenue dropped from a monthly average of US\$2.2 billion in 2008 to US\$1 billion in January 2009. There was also a decline in the Nigerian stock exchange indices: All Share Index declined by 36.9 percent in the first quarter of 2009. The stock market's turnover volume and value fell by 72.3 percent and 89.2 percent, respectively, in the 1<sup>st</sup> quarter of 2009. Indeed, the Nigerian stock market recorded an average loss of more than half the wealth invested. Total foreign exchange inflow in the 2<sup>nd</sup> half of 2009 declined by 31.8 percent and 52.0 percent from the levels in the preceding quarter and corresponding period of 2008, respectively. Total outflow of foreign exchange increased from US\$3.50 billion in September 2008 to US\$7.07 billion in October 2008. This was attributed to divestments from portfolio assets and dividends repatriations by foreign investors. This down and up swings of foreign exchange inflows and outflows resulted in the depreciation of the exchange rate by 6.9 percent and 13.5 percent in the official and alternative markets. Also, there was a decline in total external reserves from US\$65 billion in December 2008 to US\$43 billion in June 2009.

**Impact of GFC at the micro/household levels level:** Since macro-level dynamics can exert micro-level impacts, the CBMS-Nigeria looked at the effects of these global financial crises-

induced conditions on households in rural Nigeria, using Edem in the Nsukka local government area (LGA) of the Enugu state as the project site. This is also because PEP is concerned with macro-level policies and micro-level interventions. The result shows a general decline in household welfare and economic indices. Many households responded to this declining economic wellbeing by devising different coping mechanisms. For instance, children were withdrawn from schools or moved from high quality but more expensive private schools to public schools that were relatively cheaper but lacked the facilities and manpower needed to deliver quality education.

Transmission channels identified for Nigeria include:

- Trade-Oil and Export Earnings
- Stock Markets
- Foreign Exchange Reserves
- Remittances
- Exchange Rate
- Foreign Direct Investment
- Official Development Assistance
- Foreign Credit

However, many of these indicators are slow moving in the sense that their effect take some time to report in official statistics. Therefore, the effects of GFC on the economy through macroeconomic channels are not yet fully analyzed in this report as the official figures were not available as of this writing. However, the unofficial reports, including newspaper coverage, suggest that there had indeed been some decline in key economic figures.

## **METHODOLOGY OF THE STUDY**

Until recently, the monitoring of poverty and social welfare in Nigeria has been done sporadically as well as unsystematically. That is, the effects of policies on social welfare were not systematically evaluated and measured in terms of their impact on outputs and outcomes. For example, in the 1980s and 1990s, a number of household surveys—the National Consumer Surveys—were conducted at irregular intervals. However, these were not consistent,

and the national representativeness of its data was put in doubt. The first major attempt at collecting a comprehensive information on Nigerians' living standards was the baseline survey conducted in 2003-2004. This was the Nigerian Living Standard Survey (NLSS), which was a partnership between the Nigerian Bureau of Statistics (NBS), the World Bank, and the European Union (EU). Data obtained from this process are limited to monetary measures of welfare, which unfortunately was still inadequate to monitor poverty in local communities where incomes are often under-reported or unobtainable due to the nature of their production activities. Another major survey, the Core Welfare Indicators Questionnaire (CWIQ) survey, was conducted in 2006. While the CWIQ is important and crucial for estimating and measuring poverty in Nigeria, it hardly produced the disaggregated data needed to monitor poverty at the community level. Hence the need for a more comprehensive, grassroots-based and participatory poverty analysis technique/methodology. The CBMS methodology aptly satisfied this need.

The CBMS-Nigeria involves a follow-up of a focal community in the context of a participatory research methodology. The CBMS-Nigeria methodology, unlike previous national surveys, is based on complete enumeration of households in the focal community, Edem in the Nsukka local government area. As a first step, a census was done on all households in the selected community/area of study. Individual household enumeration involved eliciting poverty or welfare indicators from the households/individuals. This provided a comprehensive information for poverty targeting at the household level, bearing in mind that households in most rural communities in south-eastern Nigeria are contiguous in terms of poverty spread. The survey also involved obtaining community perceptions on the government's role and efforts in addressing the people's plight. This is important if one were to know the nature of the government's policy directions. Also, this allowed policymakers to determine the gaps that exist between the expectations of the community and the activities of the government.

## Study Sites

The preferred local government area for this study is Nsukka LGA. The choice of the area is based on several factors, including the researchers' familiarity with the culture, economic activities,

and topography of the area. Furthermore, it exhibits almost all the characteristics of the typical LGA in Nigeria: It is characterized by semi-urban and rural environments although the community chosen for the study is completely rural. Many of the communities are poor, lack social facilities and, in the case of rural communities, predominantly into farming and petty trading. Edem is one of the largest communities in Nsukka LGA. Its estimated population was about 31,000 (about 5,000 households) as of 2006. Edem was chosen because of its high level of deprivation and poverty, which are characteristic of most Nigerian rural communities/villages. It also has a fairly stable population in terms of minimal migration and is a homogenous community. Local communities in Nigeria often lack access to safe drinking water as well as access to quality healthcare services. Households in these communities struggle to barely subsist.

The census of all households in the community would provide a comprehensive information on poverty in the area, therefore helping the local government as well as the Enugu state at large in terms of establishing the right policies for their people. The survey involved 4,720 households comprising 20,977 individuals in the Edem community. The questionnaire on the impact of GFC and the community's status in terms of selected socioeconomic indicators, including Education, Health, Employment, Occupation, Remittances, Income and Savings, was pilot-tested and validated. Households in this first phase of the survey were enumerated and will be interviewed again in 2011 for the panel data.

## **RESULTS**

### **Macroeconomic Impact of the GFC**

It was indicated above that the anticipated channels through which GFC was likely to have effects on the Nigerian economy include: Trade-oil and Export Earnings, Stock Markets, Foreign Exchange Reserves, Remittances, Exchange Rate, Foreign Direct Investments, Official Development Assistance, and Foreign Credit. However, the effects of many of these indicators take some time to manifest and be reported in official statistics. Thus, the GFC effects on the economy through macroeconomic channels are not fully analyzed in this report as the official figures were not yet available

at the time of this study. In particular, the official publication of the Central Bank (*Central Bank of Nigeria Statistical Bulletin for 2009*) has not been released as of this writing.

There are, however, unofficial reports and estimates, including newspaper reports, that suggest significant declines in these key macroeconomic indicators. For example, foreign reserve has been reported to fall from US\$63 billion in early 2008 to US\$39 billion as at June 2010. Newspaper reports also indicate that share prices in the Nigerian Stock Market have on average fallen to less than one-third of the values in January 2008, indicating capital flight in the wake of the GFC. The Minister of Finance was also reported to have indicated that foreign capital inflow into the country declined from about US\$11 billion to about US\$6 billion between 2008 and early 2010. Declines in foreign credit were also noted to have affected the operations of most banks in the country. These declines have led to a near-collapse of the country's four major banks that necessitated a bail-out by the Central Bank to the tune of about US\$2 billion. Unlike other macroeconomic variables, the effect of remittances on individual households is reportedly faster and captured by household surveys and therefore analyzed in this report. However, while the effect of remittances on rural households may be direct, the impact of changes in other macroeconomic channels on rural communities may be further mediated through the market, including labor markets. For example, the collapse of share prices in the stock market may not have any direct effects on rural communities that do not invest in stock market. Similarly, the effect of the decline in oil prices may be mediated through higher market prices of goods as the supply of foreign currency will lead to higher import prices of goods, which may further reduce the purchasing power of households. This study has not identified any separate channels of the influence of these macroeconomic channels on rural communities like the one on which this study is based.

## Household Level Survey Results

Generally, the household-level results indicated that the macro level impacts of the GFC were transmitted to the micro/households levels, leading to the adoption of various adjustment/coping mechanisms. The major results are presented below:

## *Effects of the GFC on Children's Education*

The household survey results in Table 2 show that a total of 242 school children in Edem were withdrawn from school by the parents in response to increasing financial difficulties in the six months preceding the survey. Of this total, about 109 (or 45%) were girls. Households' main reasons for withdrawing their children from school, as shown in Table 3, ranged from their inability to cope with school demands (49%) to declining family income (27%) and increased school fees (5%). While school fees may not have increased dramatically as a result of the GFC, it is possible many households felt that the adverse effects of the crises are increasingly giving them difficulties in retaining their children in school. During the same period, about 143 (or 3.3%) of school age children were transferred from private to public schools. This adjustment behavior stems from the fact that private schools usually charge more fees than do public schools. Thus, part of a household's cost-saving measure may be to transfer its children from the high-fee schools to the low-fee public schools.

**Table 2. Effects of GFC on Children's Education**

Indicator	No.	Percentage
Cut school expenditure	1,168	26.84
Children withdrawn from school	242	5.38
Transfer from private to public school	143	3.29

*Source: CBMS-Nigeria Field Survey, 2009-2010*

Those households that either withdrew their children from school or transferred them from private to public schools were found to also consist of unemployed and self-employed parents. For example, about 7 percent and 6 percent of children came from households of unemployed and self-employed parents, respectively, whereas only less than 3 percent came from households of employer-parents.

Furthermore, the dropout rate was compared across five quintiles of the wealth index based on 20 durable goods owned by households. The result shows that 44 percent of all the children that dropped out of school were from the lowest wealth quintile.

Similarly, about 43 percent of children that shifted to the low-fee public schools were also from the lowest wealth quintile. However, the distribution of households that had to cut down on school expenses was more or less even across the various wealth quintiles: 24 percent (quintile 1), 24 percent (quintile 2), 33 percent (quintile 3), 25 percent (quintile 4), and 29 percent (quintile 5).

**Table 3. Reasons why Children were Withdrawn from School**

Reasons	No.	Percentage
Could not cope with school demands (e.g., extra fees)	118	49.17
Family income declined	64	26.67
No reason provided	39	16.25
School fees increased	12	5.00
Other reasons	7	2.92

Source: CBMS-Nigeria Field Survey, 2009-2010

### *Effects on Employment*

Members of 0.31 percent of the surveyed households lost their jobs in the last six months preceding the survey for different reasons, including low pay (59%), sickness (32%), or inability of firms to pay (6%). Only one household reported a loss of job because the firm closed down. Table 4 shows that the industry with most job losses was mining, and since the community had no mining industry, this is likely to refer to employers in the coal mining industry in Enugu, the state capital. The contraction of the mining industry in the state may be associated more with policymakers' preference and emphasis on the oil sector more than any other economic sector. The decline in coal mining in Enugu City started long before the GFC and perhaps is not accountable for the worker layoffs during the period under consideration. In fact, mining in Nigeria in general has declined considerably over the decades and might not be the cause of job losses recorded in the interviews. A plausible explanation for the loss of jobs in the mining industry is likely to be related to the decline in the construction of private houses and other structures, which involved the scooping of sand from flood routes during the rainy seasons and the petty quarrying and stone excavation.

**Table 4. Job Losses by Industry**

Industry	No.	Percentage
Mining & Quarrying	17	56.67
Real Estate	5	16.67
Manufacturing	3	10.00
Agriculture	1	3.33
Construction	1	3.33
Finance	1	3.33
Education/Health Services	1	3.33
Community and Social Services	1	3.33

Source: CBMS-Nigeria Field Survey, 2009-2010

Table 4 also shows other reported cases of job loss in the manufacturing industry (10% of all reported cases), finance (3.3%), real estate (17%), and health/education services (3.3%). In addition to outright job losses, some workers (13 cases) in the community also reported pay-cuts in the six months preceding the interview. Again, the highest percentage of pay-cut occurred in the mining industry (56%), real estate (16%), and manufacturing (10%). Other industries such as wholesale and retail trade, transport, ICT and utilities did not report any pay-cuts. The major reason for the reduced pay was that business shrank.

A survival strategy taken by firms during periods of economic down-turn was to delay the payment of workers' salaries and wages as industries began to experience cash-flow problems. This study reports 68 cases of workers experiencing pay delays in the six months preceding the interview. Again, the mining industry recorded the highest percentage (38%) of people experiencing pay delay. About 29 percent of reported cases of pay delay emanated from the real estate industry, while wholesale and retail trade reported only one case of delay.

Meanwhile, households adapt in times of economic down-turn by mobilizing children (less than 16 years of age) into commercial activities. This phenomenon, otherwise known as child labor, while augmenting household's income, exposes children to risks and compromises their education and future.

The short-run effect of child labor is the high incidence of school dropout/children and unemployed/unskilled young adults. In the long run, such will further reduce the productivity of labor, increase the crime rate, and reduce the security of the area. The survey data, however, show that only four households in the community engaged in this practice in the six months preceding the interview.

In times of food scarcity, households adopt different kinds of coping mechanism to manage their food supply. One such method is to reduce the number of meals members take per day. Such coping mechanism is usually expressed in local parlance as either 1-1-1, which stands for “three square meals per day”. The first “1” implies that breakfast is taken, otherwise it would be 0 (zero); the second 1 implies that lunch is taken, otherwise it is 0. Likewise, the third 1 implies that supper is taken, otherwise it is 0. This generates a series of meal formulas as shown in the second column of Table 5. The survey noted that households had meal formulas for adults ranging from 1-1-1 to 0-0-1. About 46 percent of households still maintain regular three-square meals per day. Only 2 percent of households adopted the adult meal formula 0-1-0, which implies that the household takes only one meal (lunch) per day. The two dominant eating habits in the community are the 1-1-1 and 1-0-1. About 47 percent of households reported the meal formula 1-0-1 (breakfast and supper but no lunch).

**Table 5. Adult and Children Food Coping Mechanism**

	<b>Meal Formula</b>	<b>Children</b>	<b>Adult</b>
1	1-1-1	48.43%	46.48%
2	0-1-0	6.37%	2.21%
3	1-0-1	41.21%	47.25%
4	0-1-1	1.24%	2.53%
5	1-1-0	0.13%	0.09%
6	0-0-1	1.50%	1.01%
7	1-0-0	1.12%	0.45%

Source: CBMS-Nigeria Field Survey, 2009-2010

When comparing the food coping mechanism of adults across the wealth quintile, only the lunch meal was taken by most of those households in the lowest wealth quintile (58%) who tend to eat once a day. Similarly, 50 percent of all households who tend to eat only during supper also belong to the lowest wealth quintile. Table 6 shows that those in wealth quintile 1 skip meals the most, where only 30 percent of its members take three meals a day. Meanwhile, about 59 percent of the highest wealth quintile take three meals a day.

**Table 6. Adult Meal Skipping Formula by Wealth Quintile (In Percentages)**

Quintile	1-1-1	0-1-0	1-0-1
quintile 1	29.8	5.5	60.4
quintile 2	44.4	3.4	48.5
quintile 3	48.9	1.0	46.8
quintile 4	48.7	0.4	46.6
quintile 5	58.6	3.6	34.5

Source: CBMS-Nigeria Field Survey, 2009-2010

While under-nourishment is bad for adults, it can spell disaster for children as this can severely affect their growth and development. The adaptive feeding behavior in adults is also replicated in children in most households as shown in third column of Table 6. The study shows that in rare cases, both children and adults are unable to afford breakfast and lunch, and make do with only supper each day. Another extreme coping mechanism is 1-0-0, which implies that the household takes only one formal meal—breakfast—for the day. It is, however, difficult to say whether these adaptive mechanisms were in response to pre-existing difficult economic condition or were an adaptation method in response to the difficult condition brought about by the GFC. It is possible that some households were already skipping meals before the GFC, and merely increased in number since the onset of GFC.

When comparing the children and adult meal-skipping behaviors, it seems that most adults and children adopt a fairly uniform food adaptation method. For example, while 48 percent of households adopt the 1-1-1 method for children, 46 percent of

households adopt the same pattern for adults. While 41 percent of households have children who adopt the 1-0-1 pattern, 47 percent of the adults adopt the same.

Other household coping mechanisms (Table 7) in the face of food shortages include buying low-quality foods, or preparing food without meat or fish. It also includes using less desirable energy sources for cooking such as firewood instead of kerosene or gas. Survey results show that 56 percent of households eat more *garri*, although a staple household diet is usually considered not as qualitative as other local foods in the same class.

**Table 7. Coping with Difficulties in Meeting Household Consumption Needs**

Indicator	No.	Percentage
Borrow to buy food	2,871	67.13
Buy more inferior food items (eg garri)	2,609	56.52
Spend less on drinks	2,139	46.92

Source: CBMS-Nigeria Field Survey, 2009-2010

Similarly, about 47 percent of households reported cutting down on drinks, just as 67 percent of households reported resorting to credits to buy food.

Table 8 also show that about 97.8 percent of households reported using firewood for cooking while only about 2.1 percent reported using kerosene as source of household cooking energy. Only 0.07 percent reported using gas energy in the last six months preceding the interview.

**Table 8. Household Energy Source Before and After the GFC**

Indicator			No.	Percentage
Household Energy Source before GFC	1	Wood	4,437	97.84
	2	Kerosene stove	95	2.09
	3	Gas	3	0.07
Household Energy Source after GFC	1	Wood	4,327	95.08
	2	Kerosene stove	222	4.88
	3	Gas	2	0.04

Source: CBMS-Nigeria Field Survey, 2009-2010

## *Impact of the GFC on the Health of the Community*

This section looks at specific health indicators so as to assess the impact of GFC on the community's health.

The health indicators include the number of reported household with untreated ill-health (Table 9), number of pregnant women who failed to attend antenatal sessions (Table 10), reported number of women who died while giving birth, and the number of children aged less than 5 years old and who died in the six months prior to the interview.

While it is acknowledged that there is no strong benchmarks for assessing these indicators prior to the study, the indicators nevertheless suggest the extent of deprivation the community suffers in terms of lack of access to social and health services.

Table 9 shows that of all the 4,325 households that responded to the question, 1,053 representing 24.35 percent reported untreated ill-health during the six months prior to the interview. This high rate of unreported ill-health indicates the harsh social economic condition of households. Unreported or delays in the reporting of ill-health could lead to serious complications with possible fatal consequence.

**Table 9. Reported but Untreated Ill-health**

<b>Ill-health Report</b>	<b>No. of Households</b>	<b>Percentage</b>
No untreated ill-health	3,272	75.65
Reported untreated ill-health	1,053	24.35
Total	4,325	100

*Source: CBMS-Nigeria Field Survey, 2009-2010*

As shown in Table 10, around 99 women in the community reported inabilities to seek antenatal care due to financial difficulties. Again, lack of antenatal attendance has been reported by several studies to have led to complications at child birth.

**Table 10. Mother and Child Welfare**

Indicator	No.	Percentage of Total
Children withdrawn from school	242	5.38
Pregnant mothers who could not attend antenatal	99	2.31
Under-5 children who died	90	3.80
Women who died while giving birth	25	0.56

Source: CBMS-Nigeria Field Survey, 2009-2010

Table 10 also shows that 25 women and 90 children who were less than 5 years old (55 were less than 1 year old and 35 between 1 and 5 years old) in about 4,503 households were reported to have died in birth-related circumstances during the period under consideration. It is possible that these high incidents are not all due to the effects of the GFC since the community has been living in poor circumstances even before the crisis, but neither can the effect of the GFC be ruled out yet. The incidence of over-reporting and age-heaping among the dead cannot be discounted as people tend to carry shed memory of the dead rather slowly. The next wave of household surveys in the community will help to establish this fact.

### ***Impact of the GFC on Remittances***

On the effects of global financial crises and coping mechanisms at both individual and household levels, the study found that some households in the community had relations living abroad (outside Nigeria). Remittances have been major sources of income for some households in Nigeria, like in many other developing countries. Migration of skilled, and sometimes unskilled, relations abroad is often considered to be associated with improved economic well-being since it is assumed that the migrated worker will always "think of home". However, when people who have migrated abroad or to some other wealthier cities within the country experience economic hardships, these often impact on their ability to remit money to other household members and relations. This section examined the impact of the GFC on the regularity and volume of remittances from abroad as well as from other cities in Nigeria to

families living in the Edem community. Results of the study show that there were eight reported cases of people living abroad but later returned to the village. These are people whose difficult economic circumstances had forced them to relocate back to the community.

Table 11 shows that about 146 households reported receiving remittances from overseas while 1,560 households reported receiving local remittances (that is, from household members in other cities in Nigeria). The same table shows that the average household remittance from overseas was higher than those from local cities.

**Table 11. Impact of GFC on International and Local Remittances**

Indicator	Obs	Mean	Std Dev	Min	Max
Local remittances	1,560	17520.26	25171.83	1000	500000
Overseas remittances	146	N31027.40	87672.9	1000	800000
Percentage reporting decline in remittances 28.8%					

Source: CBMS-Nigeria Field Survey, 2009-2010

Table 12 shows the mean values of both overseas and local remittances to households. It clearly indicates that these are increasing per wealth quintile.

**Table 12. Distribution of Mean Remittances by Wealth Quintile**

Quintile	Mean Remittances (in Naira) by Wquintile			
	Overseas	Std Dev	Local	Std Dev
quintile 1	8,647	4498	11,852	14842
quintile 2	9,000	1095	13,408	13258
quintile 3	7,333	1966	15,078	16694
quintile 4	22,307	17867	15,824	17193
quintile 5	66,666	28867	21,942	28854

Source of Basic Data: CBMS-Nigeria Field Survey, 2009-2010

Total household remittances from overseas for the six months preceding the interview was ₦4,530,000 (US\$30,200). For the entire community's population, the overseas remittance translates to

₦216 per capita for the six months or about ₦432 per year. The community's total remittance from relations and friends living in other cities in Nigeria was ₦27,331,600. This translates to about ₦1,300 per capita for the entire community for the six months under consideration, or about ₦2,600 per year. The total annual remittance to the residents of the community therefore is ₦2,816 per capita.

While GFC may have adversely affected the level of remittances both from overseas and from local sources, three observations are important here:

- The magnitude of remittance is a function of the level of earnings of the people who migrated abroad or to other Nigerian cities. This, in turn, is a function of the level of market skill they have acquired. Low skill workers living either overseas or in other local cities tend to earn little and, therefore, may not remit large sums of money.
- The level of remittance also depends on the extent of family ties the migrants have with those they left behind. Strong family ties, which often depend on culture, could lead to increased concern for people left behind and, therefore, to higher level of remittance even if the sender bears some reasonable inconvenience.
- It is also to be noted that much of the remittances in the cultural area under study are used for household capital projects such building house or repairing existing ones, and digging borehole or waterholes. But much of it also goes to human capital development such as paying fees for siblings and other relations or paying hospital bills or defraying burial expenses.

Of the households that reported receiving remittances in the six months preceding the interview, 29 percent reported a decline in the amount they used to receive prior to the GFC. Some of the reasons given for the decline include (as shown in Table 11) the sender's loss of job (11%), cuts in earnings (21%), decline in senders' income (63%), and others (4.8%)

**Table 13. Reasons for Decline in Remittances**

Indicator	No.	Percentage
Does not make as much as before	461	62.98
Earning was cut	155	21.17
Sender lost job	81	11.07
Other reasons	35	4.78

Source: CBMS-Nigeria Field Survey, 2009-2010

### ***Impact of GFC on Income, Savings and Wealth, and Household Coping Mechanisms***

All households reported a decline in income and savings as a result of the apparent economic downturn partly due to the GFC. The adaptive behavior among the households in the community included: de-saving, selling or pawning of household durable assets, borrowing from banks and thrift societies, living on charity, government assistance, and cutting down on other household expenditures (Table 14).

**Table 14. Coping Mechanisms Adopted by Households**

Indicator	No.	Percentage
Borrow from thrift neighbors and thrift society	2,414	57.16
De-save	1,384	30.38
Receive charity	261	5.72
Borrow from bank	249	5.85
Asset pawn	178	4.48
New economic activity	162	45.51
Asset sale	151	7.25

Source: CBMS-Nigeria Field Survey, 2009-2010

This table shows that one of the important coping mechanism adopted by some households in the community is de-saving. At least 30 percent of households in the community reported de-saving in the last six months prior to the interview. Because households are drawing down their savings account, such eats up on their business capital and their food reserves. How long this can last is anyone's guess as the financial crises deepens and resonates in the remotest communities.

Households are not just de-saving their cash income; some are also taking extreme survival measures by selling their durable assets. At least 7 percent of households interviewed reported selling their durable assets to finance household consumption. Similarly, 4.5 percent of households reported pawning their assets in order to obtain household consumption goods. But some are also borrowing. The survey results in Table 14 also show that 57 percent of the households have had to borrow from thrift societies or groups and individuals while over 5 percent reported borrowing from banks to cope with the hard times. Another 6 percent reported having received charity while a few others (2.5%) reported having received government assistance.

A simple cross-tabulation of households that de-saved and those that sold productive assets in the six month preceding the interview is presented in Table 15.

**Table 15. Cross-Tabulation of Households that De-saved and Those that Sold Productive Assets**

De-saved	Sold Productive Asset		
	Yes	No	Total
No	89	1,310	1,399
Yes	46	557	603
Total	135	1,867	2,002

*Source of Basic Data: CBMS-Nigeria Field Survey, 2009-2010*

The table indicates that 46 households in the community both de-saved and sold productive assets. About 557 households de-saved only while 89 households sold productive assets only. It seems therefore that households are more likely to de-save before selling their productive assets in times of economic distress.

When households that pawned their assets were compared across wealth quintiles, there is an even distribution of this coping habit among all households. That is, 4.5 percent, 5 percent, 2.3 percent, 3.2 percent, and 5 percent of households in quintiles 1, 2, 3, 4 and 5, respectively pawned their assets. Thus, it seems that asset pawning is not a behavior peculiar to low income households only in times of economic crises.

Another coping mechanism reported in the study was to cut down on certain household needs during difficult times. More than 80 percent of households had to cut down on a household need. Majority (65%) involved in this adjustment behavior had to cut down spending specifically on clothing. About 15 percent reported cutting down on transportation while 3 percent, 2 percent and 4 percent reported cutting down on water, fuel and communication expenses, respectively.

To a community where most are already living in poverty, these adjustment behaviors can only mean that the future health profile of the population is expected to worsen. There is therefore a need for critical intervention programs to alleviate the community's living conditions. The difficult question is: Where shall help come from? The Enugu state and Nsukka local governments, which have primary responsibilities for the community, are already severely resource-constrained. However, greater efficiency and more equitable distribution of resources, particularly in balancing between urban development needs and rural welfare, would perhaps imply freeing greater resources from the urban areas and flowing such toward rural communities.

## **POLICY IMPLICATIONS/RECOMMENDATIONS**

This study has used several indicators to capture the influence of GFC on the welfare of rural populations in Nigeria. The effect has been mediated to remote communities through several channels, including remittances, income and wealth, and other social and macroeconomic variables. These effects have been felt most especially in increased food and financial insecurity, and reduced access to quality education and health services. While the federal and state governments in Nigeria have increased public spending, which led to declines in external reserves and "excess crude account" over the years, the impact of these fiscal expansion on remote rural communities in particular and the population in general have not been altogether discernible. For example, recent reports show that savings resulting from international oil prices rising above the budgetary benchmark in the past years has declined from US\$20 billion in 2008 to a mere US\$1.35 billion

as at June 2010. Similarly, external reserves have declined from US\$60 billion in 2008 to about US\$35 billion as at June 2010 (See reports in *THISDAY*, September 2010).

While there is a need for a follow-up study to ascertain the structure and patterns of fiscal expansion in the country in response to the GFC, the immediate challenge however, is how to address the increased economic and social insecurity and exposure brought by the GFC. It is possible that fiscal expansion has been channeled to public investments that have long-term gestation period or projects without immediate relevance to the majority of the population. However, projects and programs with immediate impact on the population have been neglected.

The situation therefore requires the tiers of government to review their priorities, scale down those projects that benefit only a few privileged citizens and expand social investments that affect the poor and those excluded from benefits. Direct interventions need to be articulated to halt further declines in access to social services, including health and education services. For example, increased subsidies for education and health can be more targeted toward the poor and the vulnerable.

There is also a need to review the country's social risk protection policy inherited from the colonial periods. This is because the inherited social risk protection policy has been directed only toward those employed in the civil service and public sector. These are paid sickness allowances, children allowances, transport, allowance, retirement, and other forms of benefits that are not available to the rest of the population, particularly the unemployed and those employed in the informal sector. Such a review should aim to protect the general population from all forms of exposure to social risks, particularly health and nutrition.

Increased spending on social risks protection will increase access to health services, the lack of which would otherwise lead to worsening indicators such as maternal and child mortalities, reduced nutritional intake, and withdrawal of children from school. It is when the state fails in this respect that households resort to extreme measures for survival such as outright sale or pawning of durable assets, which in turn leads them to further slide into poverty, as this study has clearly shown.

The question that arises now is how the government levels can best channel their intervention so as to reduce the adverse effects of GFC on the population. There have been several intervention programs that were effective in ameliorating social distress. These include work-for-food programs, social health insurance, and conditional cash transfers. Conditional cash transfer is currently being experimented by the government agency as a means to reduce poverty. While it has been found to be an effective tool for social protection, the agency is severely resource-constrained such that its efforts make little impact on the general population. Scaling up these activities at the state and local government levels could go a long way in alleviating the impact of GFC on communities.

Work-for-food programs, on the other hand, enable the unemployed to undertake public work projects in return for food and stipends. Such programs would invariably have direct effect on the target populations and help them tide over the difficult economic period brought by the GFC while the long-term economic and social reforms are still being set in place.

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# The Impact of the Global Financial Crisis on Poverty in the Philippines

Celia Reyes, Alellie Sobreviñas and Jeremy de Jesus<sup>1</sup>

## ABSTRACT

The recent global financial and economic crisis which started in the United States and expanded to other developed countries has, to some extent, affected developing countries as well. Given the vulnerability of most developing countries, it is important to monitor the impact of this global crisis on poverty. This study, therefore, aims to assess the impact of the crisis on poverty in the Philippines. The result of this study would serve as inputs to policymakers in prioritizing mitigating measures that would address the impact of the crisis.

In this study, monitoring is done primarily through the conduct of community-based monitoring system (CBMS) surveys in selected sentinel sites. Household- and community-level data were collected to capture the different dimensions of poverty. In addition to the CBMS core indicators, specific indicators (including the outcome and impact indicators) were monitored to determine the impact of the global crisis. These indicators were identified based on the relevant key transmission channels for the Philippines, including overseas employment and remittances, and local employment.

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<sup>1</sup> Director, Research Associate and Research Assistant, respectively, of the CBMS Philippines Team. The authors are grateful to Steffie Joi Calubayan for her excellent research assistance.

Thirteen (13) barangays all over the Philippines were selected to serve as poverty observatories or sentinel sites for monitoring the impact of the global crisis. Selection of these sites was also based on the relevant transmission channels for the Philippines. Results reveal that although the impact of the crisis is generally minimal, the crisis has affected some specific sectors in the economy and in varying degrees. For instance, workers in the manufacturing sector are most likely to be displaced or could experience reduction in wage or number of working hours. Households that largely depend on remittances as a source of income could also be adversely affected when remittances decline.

In response to the crisis, the affected households adopted various coping strategies, some of which may be detrimental in the long run. There are also discernable differences in the way poor and non-poor households cope with the crisis. The government also implemented several interventions to mitigate the impact of the crisis on these affected sectors and groups of households. Results, however, reveal a recurring problem on program targeting. This is where CBMS data can be useful. In terms of monitoring the impacts of economic shocks (such as the recent global crisis), CBMS data can be used in enriching information in terms of identifying who will be affected. CBMS data can also be used to validate the macro level data, including the results from other sources and vice versa. Indeed, results from CBMS surveys can be used as basis for doing simulations at the national level.

## INTRODUCTION

The recent global financial and economic crisis which started in 2007 in the United States and expanded to other developed countries has, to some extent, affected developing countries as well. In particular, developing countries could be affected by the financial crisis in two possible ways: 1) financial contagion and spillovers for stock and bond markets in emerging markets; and 2) economic downturn in developed countries. Economic downturn in developed countries may have significant impact on developing

countries through the following channels: a) trade and trade prices; b) remittances; c) foreign direct investment and equity investment; d) commercial lending; e) aid; and f) other official flows. Although the economic impact of the global financial crisis would vary across different countries, it is expected that, in general, there would be further pressures on current accounts and balance of payment. The crisis could also result in weaker export revenues, lower investment and gross domestic product (GDP) growth rates, and loss of employment. In terms of social impact, the lower growth would translate into higher poverty and even slower progress toward the Millennium Development Goals (MDGs) (Velde, 2008).

Since some of the Philippines' major trading partners, including the United States, Japan, Taiwan, and Hong Kong,<sup>2</sup> have experienced a recession during the crisis period, it is possible that the country may be affected through reduction in demand for the country's exports to these countries. It is important to note that the Philippines' exports accounted for about 46.7 percent of the country's total GDP in 2008. Characterized by heavy dependence on exports for growth, the Philippines may be considered vulnerable to external demand shocks. During the economic crisis, it is expected that income transfers from workers employed in affected countries would be reduced. Since the Philippines also relies substantially on overseas deployment of workers, the economic slowdown in affected countries could lead to a decline in their demand for foreign workers in order to protect their domestic labor.

Since the Philippines may be one of the vulnerable countries, it is deemed important to determine the potential impact of this global crisis on poverty. This study, therefore, aims to assess the impact of the crisis on poverty in the Philippines. In particular, the study aims to determine which sectors of the economy are affected by the crisis. The study also looks at the different coping mechanisms adopted by the households as well as the programs implemented by the government in response to the crisis. The result of this study would serve as inputs to policymakers in prioritizing mitigating measures that would address the impact of the crisis on poverty. It could help in identifying and designing the necessary social protection programs as well as in refining program targeting

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<sup>2</sup> Annex A presents a list of the Philippines' major trading partners and their economic situation during the period of the crisis.

and in addressing the incidence as well as stimulus of the taxes and expenditures. The need for improved social protection programs had already become clear in the course of the food and energy price rises just preceding the financial crisis and global slowdown.

## REVIEW OF RELATED LITERATURE

The global financial and economic crisis which started in the developed countries may impact on developing countries through several transmission channels, including the following: a) trade and trade prices; b) remittances; c) foreign direct investment and equity investment; d) commercial lending; e) aid; and f) other official flows. Countries which may be more vulnerable to the crisis are those with rapid labor force growth and those whose growth depends greatly on exports to the United States (US) and the European Union (EU).

According to Zaman (2008), the most vulnerable countries to the crisis are those emerging economies which rely heavily on external borrowing and other capital inflows for their economic growth (i.e., remittances). Countries depending more on external consumption will suffer more if their exports are going predominantly to trading partners affected by the crisis. Countries where growth comes from higher oil prices are also vulnerable. Those which are heavily indebted should expect to see their debt financing cost increase, making debt payment more difficult.

Bashkaran, M. and Ghosh, R. (2010) identified several key transmission mechanisms that link Asian economies (including the Philippines) to the G3 economies (US, Japan and EU). They grouped the transmission channels into two phases as follows: 1) immediate impacts; and 2) lagged/indirect impacts. Mechanisms under the immediate impact include portfolio capital flows, credit extension, trade financing, trade, oil/gas prices and commodity prices. Meanwhile, under the second phase, the following transmission mechanisms were identified: 1) financial stresses; 2) trade sector impact; 3) tourism; 4) foreign direct investment; 5) exchange rate changes; 6) protectionism; 7) real estate market dynamics; 8) fiscal dynamics; 9) domestic financial stresses; 10) remittances from urban to rural households within Asian economies; 11) corporate

sector responses; and 12) deflationary process. They mentioned that the fate of Asian economies remains heavily affected by what happens in developed countries which makes it difficult to argue for meaningful decoupling in the overall sense.

As in previous crises, a dramatic increase in unemployment is expected as a result of the global crisis. UNESCAP's (2009) preliminary estimates also indicated that unemployment in Asia-Pacific could increase by 7 to 23 million workers. According to the International Labour Office (ILO, 2010), the number of unemployed worldwide was about 212 million in 2009 as it increased by 34 million compared with the 2007 figures.

The micro-simulation study conducted by Habib, B. et al. (2010) also showed that the global crisis has increased both the level and depth of aggregate poverty. In particular, their estimate for 2009 revealed that headcount rate would increase by 1.45 percent in 2009 and 2.07 percent in 2010. Meanwhile, poverty gap and severity of poverty will slightly increase by 0.71 and 0.1 percent, respectively, in 2009. A higher increase is estimated for 2010, with poverty gap and severity of poverty to increase by 1.02 and 0.59, respectively. They also found out that those at the middle of the income distribution experienced relatively larger income shocks.

Using pre-crisis household data and aggregate outcomes in Eastern and Central Europe, the former Soviet Union and Turkey, Tiongson et al. (2010) estimated that the crisis threatens the welfare of more than 160 million people who are poor or are just above the poverty line in these countries. Simulating the impact of the crisis on households through credit markets, price shocks and income shocks, they estimated that by 2010, some 11 million more people in the region will become poor and more than 23 million additional people will be just above the poverty line due to the crisis.

Son and San Andres' (2009) study revealed that the crisis has a relatively small impact on the economic growth and employment in the Philippines. There was also no apparent shift in employment from industry to either service or agriculture sector although a significant increase (i.e., 2.6%) in agricultural employment was reported in the second quarter of 2009. They also estimated that without the crisis, there could have been an additional 420,000 jobs in the fourth quarter of 2008 and an additional 530,000 jobs during

the first quarter of 2009. Their study also confirmed that the crisis did not have a significant impact on the type of employment in the country. Although a shift toward unpaid family work due to the crisis was recorded, this was statistically insignificant. Among the major sectors, the employment in the industrial sector (which can be considered formal sector) fell.

The food and fuel crisis in 2008 had also caused an increase in poverty incidence. Reyes, C., Sobreviñas, A. and de Jesus, J. (2008) estimated that the simultaneous increase in the prices of rice and fuel would increase poverty incidence by about 2 to 2.5 percentage points. This would mean that about 1.8 to 2.2 million people would be forced to fall below the poverty threshold as a result of the food and fuel crisis. Poverty gap and severity of poverty also worsened as a result of the crisis. The lingering effects of the food and fuel crisis may have also caused some households to continue to adopt some coping strategies.

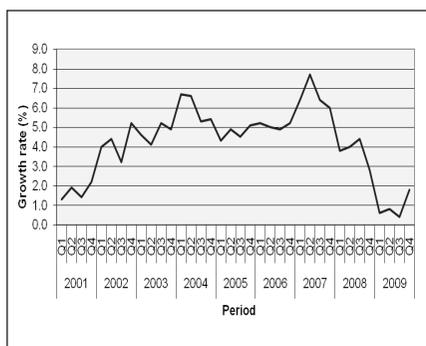
Brahmbhatt et al (2008), Fukuda-Parr (2008) and Ravallion (2008) had also listed some coping strategies adopted by households in times of crisis, most of which, according to the authors, have negative consequences on the well-being of individuals and households and are counter-productive in the long run. According to the reports, in order for households to mitigate the impact of macroeconomic shocks to income, they usually sell key productive assets like livestock or household inventories and reduce food consumption which may lead to weight loss and malnutrition for young children. Besides being harmful for the household's welfare, some of these coping strategies are gender-biased. The most glaring example is having parents pull out their children from school, with a much higher chance of having girls rather than boys withdrawn. Brahmbhatt et al. (2008) also mentioned that plenty of evidence suggest an increase in gender disparities in food consumption during shortages. Fukuda-Parr (2008) also pointed out that households send out children and the elderly to work to augment the family's income. This would mean that in times of crisis, the poor and other vulnerable groups (including women, children and the elderly) are generally the most at risk. The poor generally have limited resources that could absorb some of the impact of the shocks.

## MACRO IMPACTS OF THE GLOBAL CRISIS

The impact of the global crisis<sup>3</sup>, though minimal, has been felt in various sectors of the Philippine economy. The following presents some background on the nature of the Philippine economy and discusses how the country has been affected by the crisis at the macro level.

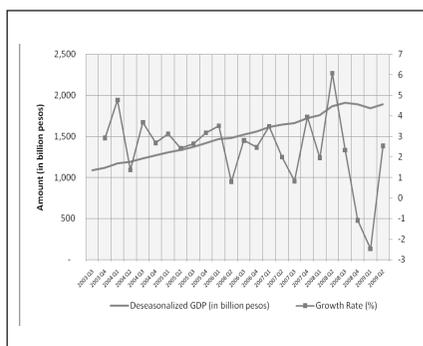
**Slower economic growth.** In terms of economic growth, the Philippines posted an annual rate of 3.8 percent in 2008 which is down from 2007's 31-year high of 7.1 percent (Figure 1). In 2009, the country posted a relatively lower GDP growth at an annual growth of 0.9 percent. In fact, the country posted a GDP growth of less than 1.0 percent for each of the first three quarters in 2009 (0.6%, 0.8% and 0.4%, respectively) although a little bit higher during the fourth quarter at 1.77 percent. Note that the 2009 figures are still lower than the revised official government target of 0.8 to 1.8 percent for the year. Growth targets for the Philippines have been trimmed down due to potentially lower exports and foreign direct investments, among others. The deseasonalized GDP also confirmed that the economy was somewhat affected given the slow growth in GDP since the fourth quarter of 2008 (Figure 2).

**Figure 1. Growth in Real GDP, 2001-2009**



Source: National Statistical Coordination Board (NSCB)

**Figure 2. Deseasonalized GDP, 2003Q3-2003Q1**



<sup>3</sup> Annex B presents some relevant articles on the impact of the global financial and economic crisis.

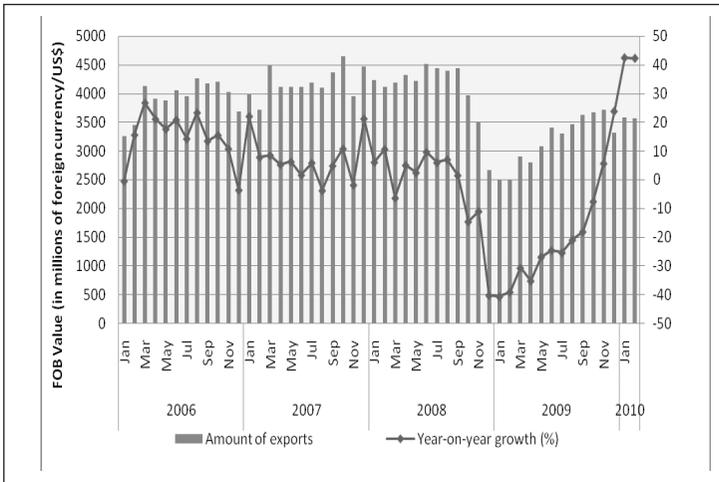
**Decline in total exports.** The US, where the crisis started, is one of the Philippines' major trading partners even before the global crisis. In fact, about 17.1 percent of the Philippines' export income in 2007 was accounted for by the US (Table 1). The country's total exports to the US, however, started to decline in 2007 and saw a significant decrease of 17.4 percent in 2009. Given the fact that the Philippines' exports accounted for a huge proportion of its total GDP, a reduction in the demand for exports in developed countries (particularly for electronics and components which constitutes the country's major export product, accounting for more than half of its total exports), may have also affected domestic labor demand. The share of exports to total GDP declined by 2.8 percentage points and 6.9 percentage points in 2008 and 2009, respectively. The country experienced a negative year-on-year growth in exports starting October 2008 until October 2009 which can be attributed largely to the lower demand from advanced economies (Figure 3). During the period, the largest decline was recorded in January 2009 at 40.6 percent. Positive growth was, however, reported starting November 2009 (5.7%) until February 2010 (42.3%).

**Table 1. Total Philippine Exports, 2007-2009**

Year	2007	2008	2009
Total exports (F.O.B value, in million dollars)	42,509	40,975	32,172
Share to GDP (%) <sup>2</sup>	49.5	46.7	39.8
<b>Exports to US</b>			
Amount (F.O.B value, in million dollars)	8,587	8,205	6,779
Share to Total exports (%)	17.1	16.7	17.7
Growth Rate (%)	-0.2	-4.5	-17.4

Source: National Statistical Coordination Board (NSCB)

**Figure 3. Growth in Exports, 2006-2010**



Source: National Statistics Office (NSO)

Manufacturing sector suffers during the crisis. During the period October 2008 to 30 November 2009, a total of 1,833 establishments were affected by the crisis (Table 2). These establishments either displaced some workers or implemented flexible work arrangements. These establishments represent 5.4 percent of the total establishments covered in the report<sup>4</sup> of the Bureau of Labor and Employment Statistics (BLES). It is important to note that 843 establishments in the manufacturing sector were affected out of the total of 1,833 affected establishments. This represents about 10.3 percent of all establishments covered in the report. Most of the affected industries in the manufacturing sector are those involved in electronics. In fact, more than half of the electronics establishments included in the report were affected by the crisis. Looking at the distribution by industry, it is clear that among all affected establishments, the manufacturing sector recorded the highest proportion of affected establishments at 46.0 percent (Figure 4). This is followed by the Real Estate, Renting and Business Service Activities at 17.1 percent. Among all industries, it seems

<sup>4</sup> The data included in the report are sourced from the Establishment Employment Reports submitted by employers to the Department of Labor and Employment (DOLE) Regional Offices. Establishments of all sizes are required to submit a report on termination to DOLE one month prior to the date of actual retrenchment.

**Table 2. Affected Establishments and Workers, by Industry  
(as of 30 November 2009)**

Industry	Establishments Affected	Total Establishments <sup>1</sup>	Establishments Affected as % of Total
All Industries	1,833	34,153	5.4
Agriculture, Fishery and Forestry	26	2,125	1.2
Mining	49	74	66.2
Manufacturing	843	8,192	10.3
Electronics	149	291	51.2
Garments	78	975	8.0
Metal Components	21	300	7.0
Textile	33	346	9.5
Paper and Paper Products	6	237	2.5
Electrical Machinery and Apparatus	31	208	14.9
Rubber and Plastic Products	43	559	7.7
Wood and Wood Products	21	252	8.3
Mfg. of Motor Vehicles, Trailers & Semi-Trailers	20	148	13.5
Mfg. & repair of Furniture	111	407	27.3
Other Manufacturing	330	4,469	7.4
Electricity, Gas and Water	6	607	1.0
Construction	41	909	4.5
Wholesale and Retail Trade	257	7,325	3.5
Hotel and Restaurants	50	3,954	1.3
Transport, Storage and Communication	137	1,839	7.4
Financial Intermediation	41	1,430	2.9
Real Estate, Renting and Business Service Activities	313	3,166	9.9
Education	21	2,828	0.7
Health and Social Work	15	743	2.0
Other Community, Social, and Personal Service Activities	34	961	3.5

<sup>1</sup>Data from the 2008 BLES Sampling Frame, which covers establishments with 20 or more workers

Source: Bureau of Labor and Employment Statistics (BLES), Department of Labor and Employment (DOLE)

**Displacement of workers and implementation of flexible work arrangements.** Data from the BLES also estimated that there are 213,420 workers in the Philippines who were affected by the global crisis (Table 3) during the period October 2008 to 30 November 2009. This includes workers who are either permanently displaced, temporarily laid off or with flexible work arrangements (i.e., reduction in working hours and/or working days, job rotation). These workers represent about 6.3 percent of the total number of employed<sup>5</sup>. It was reported that many employers have resorted to have flexible working arrangements in order to retain their employees instead of permanently laying them off. In fact, based on the available data, there are at least 123,761 workers who had flexible working arrangements while there are at least 89,659 workers who were displaced amid the global crisis, representing 55.7 percent and 44.3 percent of the total number of affected workers, respectively. Among those who were displaced, about 57.1 percent were terminated permanently while 42.9 percent experienced temporary displacement (Figure 5). Data also showed that as of 30 November 2009, 57.9 percent of the affected workers were rehired, recalled or had their work hours back to normal while 42.1 percent have not been rehired or recalled. The latter represents a total of 89,823 workers.

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<sup>5</sup> Total employment data are based on the 2008 BLES Sampling Frame which covers establishments with 20 or more workers.

**Table 3. Number of Affected Workers in the Philippines by Month  
October 2008 - November 30, 2009**

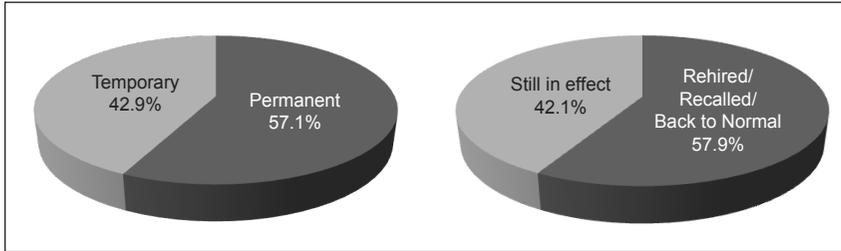
<b>Year/Month</b>	<b>Total Affected</b>	<b>Displaced (Permanent and Temporary)</b>	<b>With Flexible Work Arrangements</b>
2008	35,586	24,310	11,276
October	7,188	4,224	2,964
November	13,101	9,448	3,653
December	15,297	10,638	4,659
2009	152,440	58,190	94,250
January	41,211	13,348	27,863
February	31,087	9,575	21,512
March	32,877	17,802 <sup>a</sup>	15,075
April	12,827	4,016	8,811
May	9,743	2,523	7,220
June	9,660	2,716	6,944
July	10,747 <sup>b</sup>	4,759	5,988
August	2,943	2,143	800
September	587	579	8
October	625	596	29
November	133	133	
No Effectivity Date	25,394	7,159	18,235
<b>TOTAL</b>			
<b>Magnitude</b>	<b>213,420</b>	<b>89,659</b>	<b>123,761</b>
<b>Proportion (%)</b>		<b>44.3</b>	<b>55.7</b>

<sup>a</sup> Upsurge due to inclusion of late reports from DOLE ROs IVA and VII

<sup>b</sup> Upsurge due to inclusion of late reports from DOLE RO III

Source: Establishment Employment Reports submitted by employers to DOLE Regional Offices, Bureau of Labor and Employment Statistics (BLES)

**Figure 5. Distribution of Displaced Workers Due to the Global Crisis by Status (as of November 30, 2009)**



Source: Bureau of Labor and Employment Statistics, DOLE

Based on the available data from BLES, the affected establishments are mostly located in the National Capital Region (NCR), Central Visayas (Region VII) and Calabarzon (Region IVA), with 887, 360 and 304 affected establishments, respectively (Table 4). However, in terms of the number of affected workers, Calabarzon, located at the south of NCR and with one of the highest concentration of export zones and industrial estates in the country, reported the highest number at 71,580, followed by Central Visayas (53,083) and NCR (39,410). Most of the workers had flexible work arrangements which were implemented by their respective employers during the crisis period.

A majority of the affected workers in all sectors experienced flexible work arrangements. In fact, there were 123,761 workers who reported to have flexible work arrangements with their employers while there were about 89,659 workers who were displaced either temporarily or permanently. It is important to note, however, that there are more workers who were permanently displaced (57.1%) as compared to those who were temporarily displaced (42.9%).

**Table 4. Distribution of Affected Establishments and Workers, by Region, October 2008-30 November 2009**

Region	Establishments Affected	Total Workers Affected	Workers Displaced			Flexible Work Arrangements
			Total	Permanent	Temporary	
ALL REGIONS	1,833	213,420	89,659	51,162	38,497	123,761
NCR	887	39,410	15,590	12,224	3,366	23,820
CAR	16	2,654	976	976	-	1,678
Region I	1	14	14	-	14	0
Region II	1	304	304	304	-	0
Region III	120	32,313	9,329	4,894	4,435	22,984
Region IVA	304	71,580	33,539	23,890	9,649	38,041
Region IVB	10	1,262	1,262	1,262	-	0
Region V	18	797	644	606	38	153
Region VI	23	651	591	591	-	60
Region VII	360	53,083	20,900	5,311	15,589	32,183
Region VIII	2	74	-	-	-	74
Region IX	16	1,843	879	79	800	964
Region X	16	1,833	1,369	68	1,301	464
Region XI	3	379	179	-	179	200
Region XII	19	322	269	220	49	53
Caraga	37	6,901	3,814	737	3,077	3,087

Source: Establishment Employment Reports submitted by employers to DOLE Regional Offices; Bureau of Labor and Employment Statistics, DOLE

Data on the number of affected workers also reveal that a majority are working in the manufacturing industry, particularly in the electronics sector. About 82.7 percent of the affected workers in the manufacturing sector as of 30 September 2009 were working in the manufacturing industry (Table 5). This represents a total of 176,522 workers. Moreover, electronics industry is the most affected sub-sector as revealed by the large proportion of affected workers of about 43.6 percent of the total number of affected workers in the manufacturing industry. A majority of the

Table 5. Number of Workers Affected by the Global Crisis, by Industry

Industry	Total Workers Affected		Workers Displaced				Flexible Work Arrangements			
	No.	%	Total		Permanent		Temporary			
			No.	%	No.	%	No.	%		
All Industries	213,420		89,659		51,162		38,497		123,761	
Agri. Fishery & Forestry	909	0.4	429	0.5	147	0.3	282	0.7	480	0.4
Mining	7,158	3.4	4,697	5.2	2,292	4.5	2,405	6.2	2,461	2.0
Manufacturing	176,522	82.7	70,271	78.4	36,356	71.1	33,915	88.1	106,251	85.9
Electronics	77,026	43.6	25,790	36.7	15,223	41.9	10,567	31.2	51,236	48.2
Garments	24,712	14.0	12,968	18.5	5,303	14.6	7,665	22.6	11,744	11.1
Metal Components	8,684	4.9	4,144	5.9	3,510	9.7	634	1.9	4,540	4.3
Textile	3,288	1.9	2,521	3.6	1,766	4.9	755	2.2	767	0.7
Paper & Paper Products	540	0.3	270	0.4	242	0.7	28	0.1	270	0.3
Electrical Machinery and Apparatus	3,382	1.9	915	1.3	424	1.2	491	1.4	2,467	2.3
Rubber & Plastic Products	4,599	2.6	1,871	2.7	1,472	4.0	399	1.2	2,728	2.6
Wood & Wood Products	4,974	2.8	1,691	2.4	123	0.3	1,568	4.6	3,283	3.1
Mfg. of Motor Vehicles, Trailers & Semi-Trailers	5,976	3.4	1,853	2.6	367	1.0	1,486	4.4	4,123	3.9
Mfg. & repair of Furniture	9,353	5.3	4,331	6.2	1,790	4.9	2,541	7.5	5,022	4.7
Other Manuf.	33,988	19.3	13,917	19.8	6,136	16.9	7,781	22.9	20,071	18.9
Elec., Gas & Water	122	0.1	122	0.1	122	0.2	-	-	-	-
Construction	975	0.5	770	0.9	552	1.1	218	0.6	205	0.2
Wholesale & Retail Trade	4,744	2.2	2,348	2.6	2,058	4.0	290	0.8	2,396	1.9
Hotel & Restaurants	1,180	0.6	869	1.0	771	1.5	98	0.3	311	0.3
Transport, Storage & Communication	3,744	1.8	1,775	2.0	1,685	3.3	90	0.2	1,969	1.6
Financial Intermediation	401	0.2	377	0.4	346	0.7	31	0.1	24	0.0
Real Estate, Renting & Business Service Activities	14,424	6.8	7,359	8.2	6,238	12.2	1,121	2.9	7,065	5.7
Education	1,835	0.9	203	0.2	180	0.4	23	0.1	1,632	1.3
Health & Social Work	220	0.1	97	0.1	97	0.2	-	-	123	0.1
Other Community, Social & Pers. Service Activities	1,186	0.6	342	0.4	318	0.6	24	0.1	844	0.7

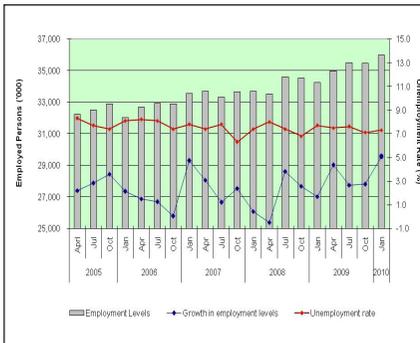
<sup>1</sup> Data from the 2008 BLES Sampling Frame, which covers establishments with 20 or more workers

Source: Bureau of Labor and Employment Statistics, DOLE

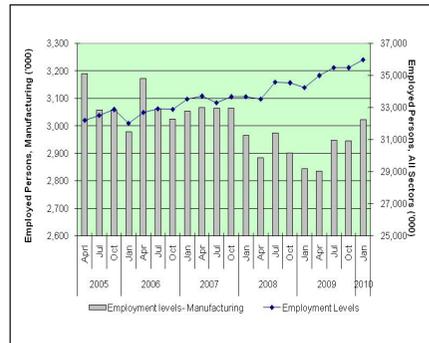
affected workers in the manufacturing sector had flexible work arrangements, representing about 60.2 percent.

**Increase in employment levels but only minor change in unemployment rate.** During the period 2005 to 2010, there was an increasing trend in employment levels (Figure 6). Despite the global crisis, estimates for the 3rd quarter of 2008 revealed that employment level increased by 3.8 percent as compared to the previous year's employment level. However, only a minimal change in the unemployment rate is recorded. Although unemployment rate increased in October 2008 as compared to October 2007, it only rose slightly from 6.3 percent to 6.8 percent.

**Figure 6. Employment Levels and Growth and Unemployed Rate, 2005-2010**



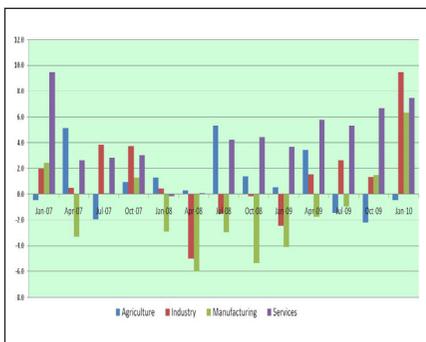
**Figure 7. Employment Levels: Manufacturing and All Sectors, 2005-2010**



Source: National Statistics Office (NSO)

Although the total employment continued to increase, the employment levels in the manufacturing sector experienced a decline from the 4<sup>th</sup> quarter of 2008 until the 2<sup>nd</sup> quarter of 2009 (Figure 7). The reported displacement of workers during the period, particularly in the manufacturing sector, had contributed to the decrease in the employment levels. Looking at the growth in employment levels across major sectors, it can be observed that the manufacturing sector (a component of the industry sector) suffered a negative year-on-year growth from the first quarter of 2008 until the second quarter of 2009 (Figure 8).

**Figure 8. Growth in Employment, by Industry (Jan. 2007-Jan. 2010)**



Source: Bureau of Labor and Employment Statistics (BLES)

**Figure 9. Labor Turnover Rate, 2002-2009**



Source: National Statistics Office (NSO)

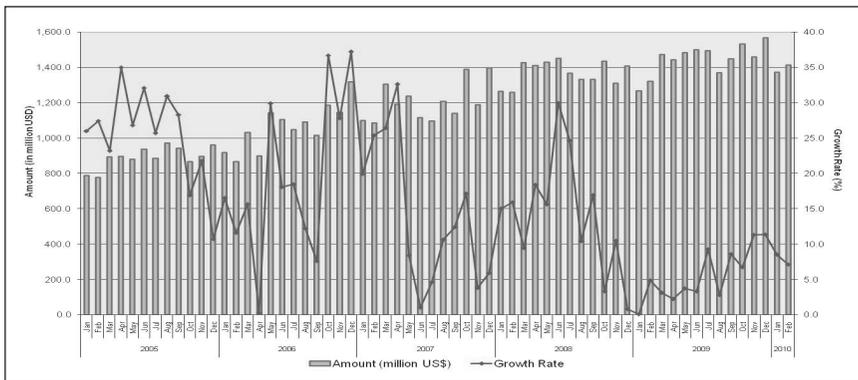
**Decline in labor turnover rates.** Employment growth, measured in terms of labor turnover rates, started to decline significantly for all sectors during the second quarter of 2008 (Figure 9). However, it improved considerably to 2.2 percent in 2009 as compared to the 2008 figure of nearly zero growth rate (0.27%). It is also important to mention that the manufacturing sector recorded a negative labor turnover rate during the first quarter of 2009. This means that in the manufacturing sector, the separation rate (or terminations of employment or quits that occurred during the period) was higher than the accession rate (or the additions to employment)

**Lower growth in remittances from overseas Filipino workers (OFWs).** Based on the 2006 FIES data, about a quarter of Filipino households receive cash assistance from abroad<sup>6</sup>. The total amount of remittances adds up to as much as 10.8 percent of GDP in 2008. According to the reports of the Bangko Sentral ng Pilipinas (BSP), remittances coursed through banks grew by 5.6 percent in 2009. Although the total amount of remittances increased to about US\$17.348 billion, its average growth is lower when compared to the rate of growth in the previous years. For instance, remittances grew by 13.7 percent and 13.2 percent in 2008 and 2007, respectively. Data show that growth in remittances started to slow down in

<sup>6</sup> Cash assistance from abroad includes the following components: 1) cash received from family members who are contract workers; 2) cash received from family members who are working abroad; 3) pensions, retirement, workmen's compensation and other benefits; 4) cash gifts, support relief from abroad; and 5) dividends from investments abroad.

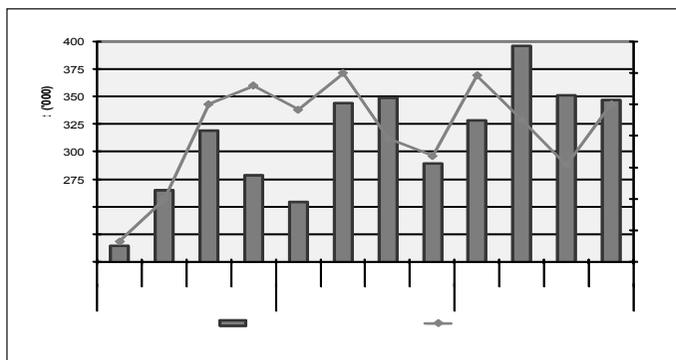
December 2008 when a 0.8 percent growth was recorded (Figure 10). However, it seems that the global crisis has limited impact on remittance flows as the total amount of remittances continued to increase even during the crisis period. Based on the data from the Philippine Overseas Employment Administration (POEA), deployment of OFWs also continued to increase during the period (Figure 11). In particular, a total of 1,236,013 OFWs were deployed in 2008, which is 14.7 percent higher compared to the 1,077,622 in 2007. In 2009, the total number of deployed OFWS still increased by about 15.1 percent as compared to the previous year.

**Figure 10. OFW Remittances, 2005-2010**



Source: Bangko Sentral ng Pilipinas

**Figure 11. Deployment of OFWs, 2007-2009**



Source: Philippine Overseas Employment Administration (POEA)

**Displacement of OFWs in affected countries.** Based on POEA data, at least 6,957 displaced OFWs in 327 companies in 16 countries were affected as of 30 September 2009. Most of the reported displaced workers used to work in Taiwan and the United Arab Emirates (Table 6). There were at least 4,428 displaced workers in Taiwan and about 96.0 percent of them have returned to the Philippines. Most of these workers used to be employed in the manufacturing industry, including electronics, metal works and semi-conductors. There is also a significant number of affected workers in the United Arab Emirates with a record of 1,351 displaced workers who used to work in the service, construction, advertising, architecture and engineering industries. Other countries, including Brunei, Korea, Macau and Canada, also recorded a relatively large number of displaced workers who used to work in the industries of garments, electronics, construction, hotel, and oil and gas. Some of the main reasons provided for the displacement are bankruptcy of the companies, slowdown in operation and suspension of some projects. It should be noted that Taiwan, which has the most number of displaced workers based on the report, plunged into recession as its economy contracted to a record of 8.4 percent in three months in December 2008. This figure is the biggest slump since 1961. In addition, Singapore is reported to be the first Asian country to slip into recession since the credit crisis began.

**Table 6. Number of OFWs Displaced by the Global Crisis  
by Country and Industry (as of 30 September 2009)**

Country	No. of Affected Companies	No. of Displaced Workers		Industry	Reason
		Total	Returned to the Phils.		
Taiwan	93	4,428	4,251	Electronic, metal works, semi-conductor	Bankruptcy and retrenchment
UAE <sup>1</sup>	53	1,357	NR	Service; construction; advertising; architecture; engineering	Operation slowdown; redundancy
Brunei	7	245	NR	Garments	Restructuring
Korea	135	227	6	Electronics	Laid-off/decided to go home
Macau <sup>2</sup>	15	195	126	Construction; hotel	Suspension of construction projects; cost cutting in operational cost
Canada	1	180	NR	Oil and gas	Retrenchment
Australia	2	81	50	Shipbuilding; construction	Redundancy
Saudi Arabia	3	74	2	Construction	Workforce reduction
Greece	5	47	NR	Service; Cruise Vessel	Retrenchment
Malaysia	4	32	25	Garments	Retrenchment
UK	4	20	16	Electrical/telecom	Reduction in workload
Russia <sup>3</sup>	1	19	NR	Building construction	Suspension of construction project
Singapore <sup>3</sup>	1	19	19	Metal work	Retrenchment
Japan	1	14	NR	Information Technology	Retrenchment
Poland <sup>3</sup>	1	11	NR	Metalwork	Retrenchment
Qatar <sup>3</sup>	1	8	NR	Various (e.g., construction, engineering)	Retrenchment
<b>Total</b>	<b>327</b>	<b>6,957</b>	<b>4,495</b>		

<sup>1</sup> Based on report of Mission Team                      NR - no report

<sup>2</sup> Forty (40) hotel workers were promised to be rehired in the company's project in Singapore

<sup>3</sup> Based on recruitment agency report

Source: *Philippine Overseas Employment Administration (POEA)*

## SIMULATION OF THE POTENTIAL IMPACT OF THE CRISIS AT THE NATIONAL LEVEL

As mentioned earlier, the impact of the global financial and economic crisis may have been channeled through remittances and domestic employment. This section attempts to simulate the potential impact of the lower growth in remittances received by households. In addition, a separate simulation was conducted to determine the impact of wage reduction among household heads who were working in the manufacturing sector. The simulation exercises aim to capture only the direct impact on households which passes through the two transmission channels mentioned above.

### Impact through Remittance

Based on the data from BSP, remittances grew by only 5.6 percent in 2009 as compared with the 13.2 percent and 13.7 percent growth in 2007 and 2008, respectively (Table 7). The actual growth in remittances is used in estimating the baseline scenario. On the other hand, the counterfactual scenario assumes remittance growth of 13.7 percent in 2009 (i.e., same as in previous year).

**Table 7. Amount and Growth in Remittances and GDP in the Philippines,  
2006-2009**

Year	Total Remittance		Gross Domestic Product	
	Amount (P)	Growth Rate (%)	Amount (P)	Growth Rate (%)
2006	12,761,308		6,031,164	
2007	14,449,928	13.2	6,647,338	10.22
2008	16,426,854	13.7	7,423,213	11.67
2009	17,348,052	5.6	7,669,144	3.31

*Source: Bangko Sentral ng Pilipinas (BSP) and National Statistical Coordination Board (NSCB)*

Based on the simulation results, it seems that the slower growth in remittance in general has a minimal impact on households in the Philippines. Results show that poverty incidence could have declined by 0.14 percent if the growth in remittances was maintained at 13.7 percent in 2009 (Table 8). This could translate to more or less

120,000 affected population (under the medium assumption for population) or about 25,000 households. Furthermore, the slower growth in remittances leads to a minimal increase in poverty gap and severity of poverty by 0.06 percent and 0.05 percent, respectively.

**Table 8. Results of Counterfactual Simulation: Slower Growth in Remittance**

Change in poor population	~120,000
Change in poverty incidence	0.14
Change in poverty gap index	0.06
Change in poverty severity index	0.05

*Source: Authors' calculations*

### **Impact through Domestic Employment: Wage Reduction**

As discussed earlier, the global crisis may have affected the manufacturing sector more as shown by the relatively large proportion of establishments and workers who were affected by the crisis either by displacement or by having flexible work arrangements. Based on the CBMS survey covering the 13 sentinel sites, workers who experienced wage reduction during the crisis period had an average of 35.2 percent decrease in their wages or salaries. The CBMS data show that about 1.1 percent of the total labor force could be affected by the global crisis through wage reduction.

Furthermore, based on the CBMS data for the 13 sites, about 2.7 percent of the households with wage earners or salaried workers had at least one member who experienced wage reduction. This simulation exercise, therefore, looks at how the 35.2 percent decrease in wages/salaries could have directly affected the poverty situation. This was done by selecting a random sample (2.7%) of all households with income from salaries or wages.

Based on the results of the simulation, wage reduction could lead to an increase in poverty incidence by about 0.22 percent (Table 9). This could translate to approximately 201,000 population or around 40,200 households (under the medium assumption for population). Furthermore, poverty gap and severity could slightly worsen as shown by the increase in these poverty indices by 0.08 percent and 0.01 percent, respectively. It is important to

note that this simulation captures only the direct impact of wage reduction and not the indirect effects that may pass through other channels. Other households may even be affected through the domestic employment channel in terms of having flexible work arrangements.

**Table 9. Results of Counterfactual Simulation: Wage Reduction**

Indicator	Among All Households	Among Households with Income from Wages/Salaries
Change in poor population	~201,000	
Change in poverty incidence	0.22	0.26
Change in poverty gap index	0.08	0.11
Change in poverty severity index	0.01	0.04

*Source: Authors' calculations*

Focusing only on households which rely on wages and salaries as source of income, estimates reveal that poverty incidence among them would increase by 0.26 percent. Other poverty measures also reveal worsening condition as a result of wage reduction. In fact, the poverty gap index among these households could increase by 0.11 percent while severity of poverty may increase by 0.04 percent.

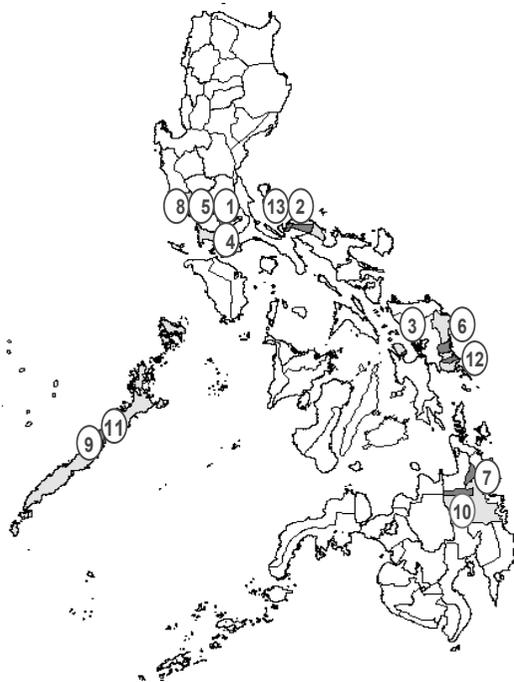
## MICRO IMPACTS OF THE GLOBAL CRISIS

Given the objectives of the study, the impact at the household and community level was analyzed using the data on the different dimensions of poverty obtained from CBMS programs being implemented in the Philippines. Based on the review of the literature and further discussions, the relevant channels by which the impact of the global crisis could affect households were identified. In the case of the Philippines, these channels include overseas employment and remittances, and local employment. Under local employment, there were two categories as follows: 1) entrepreneurial activities; and 2) wage earners and salaried workers. The micro-level study, therefore, focuses only on these channels. These key transmission channels helped in the identification of the poverty observatories or sentinel sites for monitoring the impact of the crisis as well as the additional indicators that were monitored at the household and

community levels. In addition to the existing CBMS core indicators (which are being considered as the impact indicators), specific outcome indicators were monitored to determine how households are affected by the global crisis. Indicators of coping mechanisms were also monitored to determine how households were adopting in response to the crisis.

Under this study, 13 barangays distributed all over the Philippines were selected to serve as poverty observatories or sentinel sites for monitoring the impact of the crisis (Table 10 and Figure 12). These include 8 sites in rural areas, 4 sites in urban areas outside NCR and one site in urban NCR. Consistent with the CBMS methodology, all households in the selected sites were included in the survey. The selected barangays under this study consist of about 4,954 households with 21,454 members. As mentioned earlier, identification of these sites was based on the relevant transmission channels for the country. Note that for this round of data collection, the reference period used is 6 months (i.e., from November 2008 to April 2009).

**Figure 12. Map of Sentinel Sites**



Aside from the CBMS Core questionnaires (*Household Profile Questionnaire and Barangay Profile Questionnaire*), rider questionnaires were prepared and were administered to selected sentinel sites in order to collect the additional information required for monitoring the indicators. The two new rider questionnaires that were developed are as follows: 1) *HPQ Global Crisis Rider* (CBMS Form 5), and 2) *BPQ Global Crisis Rider* (CBMS Form 6). These rider questionnaires were designed particularly to collect information on the indicators of outcome and impact of the crisis as well as the different coping mechanisms adopted by the households in response to the crisis. Since the rider questionnaires contain additional questions, they were pre-tested in a few households and the lessons learned from the pre-test were considered in improving the data collection instruments. As part of the CBMS methodology, a follow-up survey will be conducted within the year to capture information on how households were able to recover from the crisis.

**Table 10. Total Number of Households and Total Population per Barangay**

Barangay	Municipality/ City	Province	Households		Population	
			Magnitude	Proportion	Magnitude	Proportion
<b>Urban NCR</b>			<b>856</b>	<b>17.3</b>	<b>2,941</b>	<b>13.7</b>
1 – 192	Pasay City	NCR-4	856	17.3	2,941	13.7
<b>Urban Outside NCR</b>			<b>1,511</b>	<b>30.5</b>	<b>6,777</b>	<b>31.6</b>
2 – Gumamela	Labo	Camarines Norte	432	8.7	2,060	9.6
3 – Magbangon	Cabucgayan	Biliran	259	5.2	1,230	5.7
4 – Poblacion III	Santo Tomas	Batangas	466	9.4	2,086	9.7
5 – Villa Angeles	Orion	Bataan	354	7.1	1,401	6.5
<b>Rural</b>			<b>2,587</b>	<b>52.2</b>	<b>11,736</b>	<b>54.7</b>
6 – Ando	Borongan	Eastern Samar	174	3.5	892	4.2
7 – El Rio	Sibagat	Agusan Del Sur	244	4.9	1,180	5.5
8 – Maligaya	Mariveles	Bataan	938	18.9	3,661	17.1
9 – Masikap	Puerto Princesa City	Palawan	227	4.5	952	4.4
10 – Piglawigan	Esperanza	Agusan Del Sur	273	5.5	1,452	6.8
11 – Salvacion	Puerto Princesa City	Palawan	237	4.8	1,084	5.1
12 – San Miguel	Llorrente	Eastern Samar	269	5.4	1,372	6.4
13 – San Vicente	Santa Elena	Camarines Norte	225	4.5	1,143	5.3
<b>Total</b>			<b>4,954</b>	<b>100.0</b>	<b>21,454</b>	<b>100.0</b>

## Impact through Overseas Employment and Remittances

**Returning OFWs Due to Retrenchment.** As presented earlier, there were some OFWs in affected countries who were, in some way, affected by the global crisis. The CBMS data confirm that indeed there were some OFWs who were retrenched during the period November 2008 to April 2009. About 499 of the 4,954 surveyed households have at least one member who was previously working abroad which translates to about 10.1 percent of all households interviewed. Although 212 households or 42.5 percent of the respondents with OFW reported that they had an OFW who returned during the period, only 25 households (or about 11.8%) were affected through OFW retrenchment. This translates to a total of 29 OFWs who pointed to retrenchment or lay-off as the reason for the homecoming.

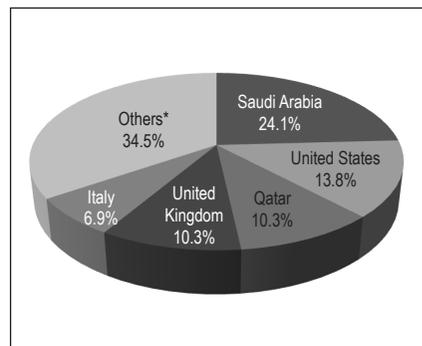
A large proportion of retrenched OFWs used to work in crisis-affected countries. Data for the thirteen sentinel sites reveal that about 24.1 percent of OFWs who were retrenched came from Saudi Arabia, followed by the United States with 13.8 percent. Data disaggregation also reveal that most of the retrenched OFWs are male (72.4%) as can be seen in Table 11 and Figure 13.

**Table 11. Distribution of Retrenched OFWs, by Country**

Country	No. of Retrenched OFWs
Saudi Arabia	7
United States	4
Qatar	3
United Kingdom	3
Italy	2
Others*	10
<b>Total</b>	<b>29</b>
Male	21
Female	8

\*includes Australia, Austria, Central African Republic, Israel, Japan, Kuwait, Mexico, Oman, and Singapore  
 Source: CBMS Survey, 2009

**Figure 13. Distribution of Retrenched OFWs, by Country**



Source: CBMS Survey, 2009

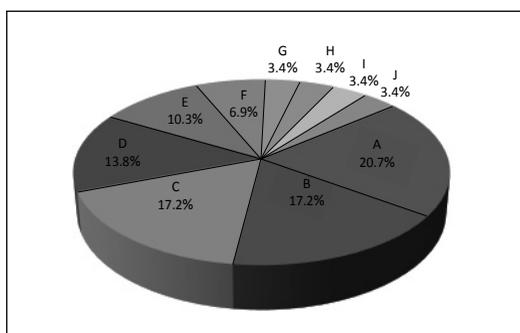
Most of the retrenched OFWs used to work in private households with employed persons. In fact, these workers represent about 20.7 percent of the retrenched OFWs (Table 12 and Figure 14). A relatively large proportion of retrenched OFWs came from health and social work (17.2%), and financial intermediation (17.2%) sectors. The manufacturing sector also recorded a relatively high percentage at 13.8 percent.

**Table 12. Retrenched OFWs and Persons by Industry**

Industry	Total	
	No.	%
A. Private households with employed persons	6	20.7
B. Health and social work	5	17.2
C. Financial intermediation	5	17.2
D. Manufacturing	4	13.8
E. Transport, storage, and communication	3	10.3
F. Real estate, renting and business activity	2	6.9
G. Hotel and restaurants	1	3.4
H. Wholesale & retail trade, repair of motor vehicles, motorcycles, and personal household goods	1	3.4
I. Other community, social and personal service activities	1	3.4
J. Construction	1	3.4
<b>Total</b>	<b>29</b>	<b>100.0</b>
Male	21	72.4
Female	8	27.6

Source: CBMS Survey, 2009

**Figure 14. Retrenched OFWs by Industry**



Source: CBMS Survey, 2009

**Wage Reduction among OFWs.** Rather than going back home to the Philippines, some OFWs agreed to wage cuts during the reference period. About 8.6 percent of the households (or 43 households) with OFW reported that their OFW experienced wage reduction during the period November 2008-April 2009. This represents 44 OFWs who experienced a reduction in wage. Some of the major reasons mentioned by the OFWs for the decrease in wage are the following: 1) reduced working hours (31.8%); 2) the firm where the OFW works is cutting costs (27.3%); and 3) the firm where the OFW works is incurring losses (13.6%).

Most of the OFWs who experienced wage reduction are working in Asian and Middle East countries. In particular, about 36.4 percent of the affected OFWs are working in Saudi Arabia. This was followed by the US (9.1%) and Hong Kong SAR (9.1%). Disaggregation by sex reveals that male workers dominate the group of OFWs who experienced a reduction in wage or salary (Table 13).

**Table 13. OFWs Who Experienced Wage Reduction, by Country**

Country	Total		Male		Female	
	No.	%	No.	%	No.	%
Saudi Arabia	16	36.4	15	93.8	1	6.2
United States	4	9.1	4	100.0	0	0.0
Hong Kong SAR	4	9.1	1	25.0	3	75.0
Qatar	3	6.8	2	66.7	1	33.3
Singapore	2	4.5	2	100.0	0	0.0
Others*	11	25.0	6	54.5	5	45.5
Unspecified**	4	9.1	3	75.0	1	25.0
<b>Total</b>	<b>44</b>	<b>100.0</b>	<b>33</b>	<b>75.0</b>	<b>11</b>	<b>25.0</b>

\*includes Australia, Brazil, China, Italy, South Korea, Malaysia, Mexico, Norway, and Spain

\*\*one observation for validation

Source: CBMS Survey, 2009

Most of the OFWs who experienced wage reduction are service workers and shop and market sales workers (Table 14). About 29.5 percent of affected OFWs work in this type of job. This is followed by those who work in trade and related work (13.6%), technicians and associates (13.6%), and laborers and skilled workers (13.6%). The rest work in other types of occupation. Male workers still dominate the group of affected workers.

**Table 14. OFWs Who Experienced Wage Reduction, by Occupation**

Type of job	Total		Male		Female	
	No.	%	No.	%	No.	%
All Occupations	44	100.0	33	75.0	11	25.0
Service workers and shop and market sales workers	13	29.5	9	69.2	4	30.8
Trade and related workers	6	13.6	5	83.3	1	16.7
Technicians and associate professionals	6	13.6	5	83.3	1	16.7
Laborers and skilled workers	6	13.6	4	66.7	2	33.3
Plant and machine operators and assemblers	5	11.4	4	80.0	1	20.0
Professionals	3	6.8	2	66.7	1	33.3
Officials of government and special interest organization, corporate executives, managers, managing proprietors and supervisors	2	4.5	2	100.0	0	0.0
Farmers, forestry workers and fisherfolk	1	2.3	1	100.0	0	0.0
Special occupations	1	2.3	1	100.0	0	0.0
Unspecified	1	2.3	0	0.0	1	100.0

Source: CBMS Survey, 2009

**Decline in the Amount and Frequency of Remittances Received.** Data from the BSP indicate that remittances continue to increase although the pace slackened. Based on the CBMS data, however, not all of the households with an OFW actually received remittances during the 6-month period covered by the study. In fact, about 24.2 percent of them reported that they did not receive remittance. In addition, about 12.1 percent of the households with an OFW experienced reduction in the amount of remittances received during the period (Table 15). An estimated 9.1 percent of all households experienced a decline in the frequency of receipt of remittances.

The largest proportion of households which experienced a decline in the amount and frequency of receipt of remittance is recorded for urban NCR. About 18.3 percent of households with an OFW in urban NCR experienced a decline in the amount of remittance they received during the period. This is higher

compared with the reported figures for households in rural and urban areas outside NCR which amount to 5.8 percent and 8.3 percent, respectively.

**Table 15. Households Affected by the Crisis through Remittances**

Indicator	Total		Rural		Urban NCR		Urban Outside NCR	
	No.	%	No.	%	No.	%	No.	%
<b>Households</b>	<b>4,954</b>		<b>2,587</b>		<b>856</b>		<b>1,511</b>	
HHs with OFW	499	10.1	151	5.8	71	8.3	277	18.3
Received remittances during the past 6 months	372	74.5	105	69.5	54	76.1	219	79.1
Experienced a decline in amount of remittances received	45	12.1	16	10.6	13	18.3	16	5.8
Experienced a decline in frequency of receipt of remittances	34	9.1	7	4.6	9	12.7	18	6.5

Source: CBMS Survey, 2009

Deriving the proportion of remittances received to total income can give information on the dependency of households on remittances. Results show that the proportion of remittance to total income among the households is, on the average, more than 47 percent. About 34.9 percent of households derived at least 61 percent of their income on remittances alone (Table 16). This situation makes them vulnerable and less able to hedge against changes in income. The higher the dependence of households on remittances, the greater risk for the household to lose a substantial part of its income because of OFW wage reduction or retrenchment. This has implications on households in terms of overall welfare. For a typical household, income from remittances is an important source of income usually used to finance daily household expenses, education of children, and purchase of durable goods.

**Table 16. Dependency of Households on OFW Remittances**

Remittances as Proportion of Income*	Magnitude	Proportion
1-20	209	25.6
21-40	162	19.9
41-60	160	19.6
61-80	120	14.7
81-100	165	20.2
<b>Total</b>	<b>816</b>	<b>100.0</b>

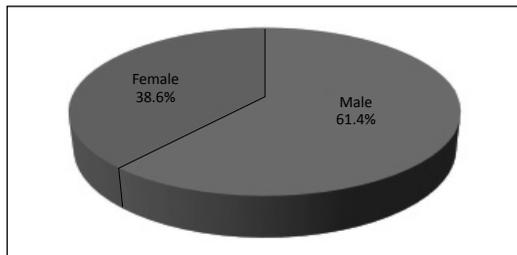
\*Calculated by multiplying the quotient of total remittances to total income by 100

Source: CBMS Survey, 2009

## Impact through Local Employment

The study also tried to determine how households were affected through local employment by looking at those who are involved in entrepreneurial activities and those who are wage earners and salaried workers. Based on the CBMS data, there are 8,047 members of the labor force, 88.4 percent of whom are employed during the reference period (Table 17). This translates to an unemployment rate of 11.6 percent. Also notable are the higher labor force participation rate and employment rate among the male population as compared with the female population, with 61.4 percent of the employed individuals being male (Figure 15).

**Figure 15. Distribution of Employed Population by Sex**



Source: CBMS Survey, 2009

**Table 17. Labor Force Statistics by Sex (13 Sites)**

Statistics	Total		Male		Female	
	No.	%	No.	%	No.	%
Proportion of population 15 years old and above	14,619	68.1	7,128	66.5	7,491	69.8
Labor force participation rate	8,047	55.0	4,845	68.0	3,202	42.7
Employment rate	7,114	88.4	4,365	90.1	2,749	85.9
Unemployment rate	933	11.6	480	9.9	453	14.1

Source: CBMS Survey, 2009

### *Entrepreneurial Activities*

#### **Opening of New Business and Closing of Existing Business.**

Only a few households engaged in a new business during the period (Table 18). Results show that a meager 2.4 percent of the households surveyed actually engaged in new entrepreneurial activity during the 6-month period. This translates to 116 new businesses set up in all the barangays covered by the study. A majority ( about 49.3%) of these new businesses are related to wholesale and retail trade and repair of motor vehicles. However, most of the households which engaged in a new business are those living in urban areas. A few households also closed their existing business during the period, with, in fact, 28 households (or 1.1%) reporting that they closed their business during the period. These results confirm the minimal effect of the crisis in the selected sites in terms of households' engagement in a business or entrepreneurial activity.

**Table 18. Outcome Indicators: Entrepreneurial Activities, 2009**

Indicator	Magnitude	Proportion
HHS engaged in new entrepreneurial activity	116	2.4
HHS engaged in an entrepreneurial activity	2548	51.4
HHS which closed business	28	1.1
HHS with significant change in the monthly income from business	169	6.6
Increase	35	20.7
Decrease	134	79.3
HHS with significant change in the no. of employed persons in the business*	8	0.3
Increase	4	50.0
Decrease	3	37.5

\*Disaggregation do not sum up to total because of missing value

Source: CBMS Survey, 2009

**Change in the Number of Employed Persons and Amount of Monthly Income from the Business.** About 6.6 percent (or 169) of households engaged in entrepreneurial activity experienced a significant change in their monthly income from their business (Table 18). A majority of these households reported a decline in their monthly income from the business. In particular, 79.3 percent of these households reported that they suffered a decrease in income while the remaining 20.7 percent experienced an increase in income from their business. Most of the households which suffered a decline in the monthly income from a business are located in the rural areas (56.6%) while about 43.4 percent are found in the urban areas. Meanwhile, a meager 0.3 percent of households engaged in at least one entrepreneurial activity reported a significant change in the number of employed persons in their business. Of this, 50.0 percent said that they decreased the number of their employees during the period covered by the study.

### *Wage Earners and Salaried Workers*

**Loss of Job.** The global crisis could have potentially affected local employment given the reduction in exports, including those of electronics. Unemployment rate, using the data from NSO, went up while the employment level in the manufacturing sector declined. Based on the CBMS data, 98 households reported a job loss of at least one of their members during the period November 2008 to April 2009, representing 2.0 percent of all households surveyed (Table 19). This translates to a total of 115 persons who lost their job during the period. This means that about 1.6 percent of the employed persons were displaced. Most of the affected individuals used to work as service workers and shop and market sales workers, accounting for 23.5 percent of all affected members (Table 20). In addition, many of the affected individuals used to work in the manufacturing industry which account for about 19.1 percent of the total number of persons who lost their job (Table 21). This supports the earlier observation that the manufacturing sector could potentially be affected by the crisis through the employment channel. Note that no individual from the agriculture sector had lost his/her job due to the crisis.

**Table 19. Outcome Indicators, Wage Earners and Salaried Workers**

Indicator	No.	%
HH with member who lost job	98	2.0
Members who lost job	115	1.6
HH with member who experienced wage reduction	79	1.6
HH with member who experienced reduction in number of working hours	72	1.5
HH with member who experienced reduction in employment benefits	8	0.2

Source: CBMS Survey, 2009

**Table 20. Members Who Lost Job, by Occupation**

Type of Job	No.	%
Service workers and shop and market sales worker	27	23.5
Professionals	21	18.3
Laborers and skilled workers	21	18.3
Plant and machine operators and assemblers	15	13.0
Technicians and associate professionals	8	7.0
Clerks	8	7.0
Others	15	13.0
<b>Total</b>	<b>115</b>	<b>100.0</b>

Source: CBMS Survey, 2009

**Table 21. Members Who Lost Job, by Industry**

Industry	No.	%
Manufacturing	22	19.1
Private households with employed person	15	13.0
Education	12	10.4
Other community, social and personal service activities	10	8.7
Wholesale & retail trade, repair of motor vehicles, motorcycles, and personal household goods	10	8.7
Hotel and restaurants	8	7.0
Transport, storage, and communication	8	7.0
Public administration and defense; compulsory social security	7	6.1
Financial intermediation	5	4.4
Health and social work	5	4.4
Construction	5	4.4
Electricity, gas and water supply	3	2.6
Mining and quarrying	2	1.7
Real estate, renting and business activities	2	1.7
Extra-territorial organizations and bodies	1	0.9
<b>Total</b>	<b>115</b>	<b>100.0</b>

Source: CBMS Survey, 2009

**Reduction in Wage, Number of Working Hours and Employment Benefits.** Some of the employed individuals also experienced a reduction in wage, number of working hours and employment benefits (Table 22). These employed persons would prefer working in the same job despite these reductions rather than moving to another job or being unemployed. Based on the responses given during the survey, about 1.2 percent (or 88 persons) suffered a decline in wage. In addition, 80 persons experienced a reduction in working hours while 8 persons suffered from a reduction in benefits. Although there are more employed men than women, the reported proportion of employed women affected through reduced wage (1.3%) and working hours (1.5%) is slightly higher than that of the men (with 1.2 percent and 0.9 percent, respectively).

**Table 22. Members Who Experienced Reduction in Wage, Working Hours or Employment Benefits**

	No. of Employed Persons	With Reduced Wage		With Cut in Working Hours		With Reduced Benefits	
		No.	%	No.	%	No.	%
Male	4,365	52	1.2	40	0.9	5	0.1
Female	2,749	36	1.3	40	1.5	3	0.1
<b>Total</b>	<b>7,114</b>	<b>88</b>	<b>1.2</b>	<b>80</b>	<b>1.1</b>	<b>8</b>	<b>0.1</b>

Source: CBMS Survey, 2009

Looking at the sectoral distribution, results show that most of the workers who experienced reduction in wages and/or working hours are in the manufacturing sector. In fact, 64.1 percent of the total number of workers with wage reduction were working in the manufacturing sector, followed by the transportation, storage and communication sector with 10.2 percent (Table 23). The same trend is observed for those who suffered reduction in the number of working hours. In particular, among those workers with reduced working hours, about 67.5 percent were working in the manufacturing sector followed by the transportation, storage and communication sector (10.0%).

**Table 23. Distribution of Workers Who Experienced Wage and Working Hours by Sector**

Sector	Wage Reduction		Reduction in Working Hours	
	Magnitude	Proportion	Magnitude	Proportion
Manufacturing	54	61.4	54	67.5
Transportation, Storage & Communication	9	10.2	8	10.0
Wholesale and Retail Trade, Vehicle Rep	5	5.7	3	3.8
Hotel and Restaurants	3	3.4	2	2.5
Other community, Social or Personal Act	3	3.4	3	3.8
Private Households with Employed Person	3	3.4		
Electricity, Gas and Water Supply	2	2.3	1	1.3
Real Estate, Renting and Business Activities	2	2.3	2	2.5
Construction	1	1.1	1	1.3
Public Administration & Defense	1	1.1	1	1.3
Health and Social Work	1	1.1		
Education			1	1.3
Agriculture, Mining & Forestry			1	1.3
Unspecified	4	4.5	3	3.8
<b>All Sectors</b>	<b>88</b>	<b>100.0</b>	<b>80</b>	<b>100.0</b>

Source: CBMS Survey, 2009

## Profile of Affected Households

Based on the CBMS results, only 375 households in 13 sites were directly affected by the global financial crisis through the two major transmission channels identified earlier. This represents about 7.6 percent of all households covered by the survey. Data show that the directly affected households are characterized by a relatively larger household size (4.6 persons per household) compared with those that are not directly affected (Table 24). The higher average per capita reported among the affected households is also observed which can partly be explained by the fact that in general, they have more employed members. In addition, there are more OFWs in this group of households. In fact, the proportion of income derived from remittances is higher among them as compared with those that are not affected. As mentioned earlier, the affected households are not very dependent on agricultural as a source of income. Furthermore, as confirmed earlier, the affected households could be those that

rely on remittance as a major source of income. The dependency ratio or the proportion of members 15 years old and below is also slightly higher for those affected by the crisis. Having a higher dependency ratio may mean increased vulnerability to the adverse impacts of the crisis. The following sections further discuss the characteristics of the affected households.

**Table 24. Characteristics of the Affected Households**

Characteristics	HHs Directly Affected <sup>1</sup>	Other Households <sup>2</sup>
Average household size	4.6	4.3
Mean per capita income	Php 61,327	Php 53,290
Proportion of income derived from agricultural activities to total income*	6.3% (ave.)	12.6% (ave.)
Proportion of income derived from remittances to total income*	18.4% (ave.)	7.0% (ave.)
Urbanity	Most likely in urban	Most likely in rural
Dependency ratios	0.30	0.27

<sup>1</sup> Includes those that are directly affected through the two major transmission channels

<sup>2</sup> Includes those that are not affected directly but could be affected indirectly or even through other transmission channels

\*difference is statistically significant

Source: CBMS Survey, 2009

### **Agriculture vs. Non-Agriculture-Dependent Households.**

As mentioned earlier, this study focused only on the direct impact of the global crisis through overseas employment and remittances, and domestic employment. Among all sites included in the study, Villa Angeles (Orion, Bataan) recorded the highest proportion of households affected by the global financial crisis (Table 25). In particular, about 22.3 percent of the households living in Villa Angeles were affected by the crisis channeled either through overseas employment and remittance or through local employment. Note that only 5.4 percent of households in the barangay are engaged in an agricultural activity. Disaggregation of affected households in the barangay revealed that most of the affected workers in the barangay are employed or used to be employed in the manufacturing sector, representing about 19.7 percent of all the affected workers. Factory workers accounted for about 46.2 percent of the affected individuals in the manufacturing sector. The rest are working as laborers, accountants and welders, among others.

The results for each site imply that those which are mostly agriculture-based may have been insulated from the direct impact of the global crisis. For instance, the very low proportion of affected households in San Miguel may be partly due to the fact that about 69.9 percent of its households are engaged in an agricultural activity. Meanwhile, the high proportion of affected households in Villa Angeles can be partly explained by the small share of households involved in agriculture (5.4%) within the barangay. In other words, about 94.6 percent of its households are engaged in non-agricultural activity, making them more vulnerable to the impact of the crisis.

The abovementioned results are further supported by the fact that no individual from the agriculture sector has lost his/her job due to the crisis. Out of the 4,954 households included in the survey, 1,408 (28.4%) were involved in the agriculture sector. Only 29 (of the 1,408 households involved in agriculture) or 2.1 percent reported a decline in their income from their agricultural business. The decrease is mainly due to damages caused by natural calamities or inclement weather and not necessarily related to the global crisis.

**Urban vs. Rural.** Results further reveal a higher proportion of affected households in urban areas than in rural areas. The urban poor, who usually cannot rely on subsistence farming like their rural counterparts, could be the most vulnerable. Urban barangays, particularly Villa Angeles and Poblacion III, recorded the highest proportions of affected households with 22.3 percent and 14.6 percent, respectively (Table 25). Meanwhile, Maligaya, which is one of the rural barangays, is the least affected in terms of proportion of affected households with only 1.2 percent. The highest proportion of households affected through overseas employment and remittance is reported in Villa Angeles while no cases were reported in Salvacion. In terms of the employment channel, Villa Angeles remains to be the most affected while San Miguel is the most immune from the crisis.

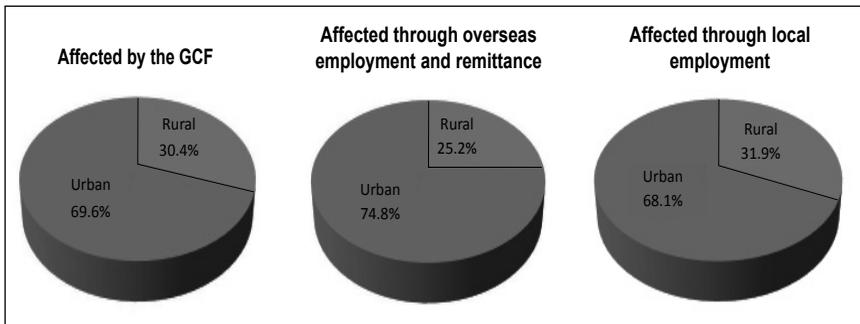
**Table 25. Households Affected by the Global Financial Crisis (GFC) through Overseas Employment and Remittance, and Local Employment, by Site**

Barangay	Affected by the GFC		Affected through Overseas Employment and Remittance		Affected through Local Employment		HHs Engaged in any Agriculture Activity	
	No.	%	No.	%	No.	%	No.	%
Urban NCR								
Barangay 192	65	7.6	22	2.6	46	5.4	3	0.4
Urban Outside NCR	196	8.3	64	2.7	138	5.8	244	10.3
Villa Angeles, Orion, Bataan	79	22.3	33	9.3	50	14.1	19	5.4
Poblacion III, Sto. Tomas, Batangas	68	14.6	17	3.6	52	11.2	8	1.7
Gumamela, Labo, Camarines Norte	39	9.0	12	2.8	28	6.5	78	18.1
Magbangon, Cabucgayan, Biliran	10	3.9	2	0.8	8	3.1	139	53.7
Rural	114	4.4	29	1.1	86	3.3	1161	44.9
Masikap, Puerto Princesa City, Palawan	27	11.9	7	3.1	20	8.8	10	4.4
San Vicente, Sta. Elena, Camarines Norte	13	10.2	1	0.4	12	5.3	155	68.9
Salvacion, Puerto Princesa City, Palawan	23	5.5	0.0	0.0	23	9.7	213	89.9
El Rio, Sibagat, Agusan del Sur	13	5.3	1	0.4	12	4.9	199	81.6
Maligaya, Mariveles, Bataan	11	1.2	3	0.3	8	0.9	48	5.1
San Miguel, Llorente, Eastern Samar	11	4.1	10	3.7	1	0.4	188	69.9
Piglawigan, Esperanza, Agusan del Sur	10	3.7	3	1.1	8	2.9	223	81.7
Ando, Borongan, Eastern Samar	6	3.4	4	2.3	2	1.1	125	71.8
<b>TOTAL</b>	<b>375</b>	<b>7.6</b>	<b>115</b>	<b>2.3</b>	<b>270</b>	<b>5.5</b>	<b>1408</b>	<b>28.4</b>

Source: CBMS Survey, 2009

Among all households covered by the 2009 CBMS survey, 52.2 percent are living in the rural areas while 47.8 percent are in the urban sites. Looking at the distribution of affected households based on urbanity, the CBMS data confirm that the global crisis may have affected more those in the urban areas, with about 69.9 percent of affected households found in the urban sites and only 30.4 percent in the rural areas (Figure 16). The same trend can be observed with households affected by a specific transmission channel. These results may reflect that the crisis could have a greater effect on households located in the urban areas where manufacturing industries are mostly located. About 91.3 percent of the displaced workers during the period are in the urban areas. The urban areas have a relatively higher proportion of households with OFWs at 14.7 percent compared with the rural areas at only 5.8 percent. This might also explain the larger impact on urban households than on rural households. Furthermore, about 19.1 percent of the displaced workers and 63.5 percent of workers who suffered wage reduction came from the manufacturing sector.

**Figure 16. Distribution of Affected Households by Urban-Rural**

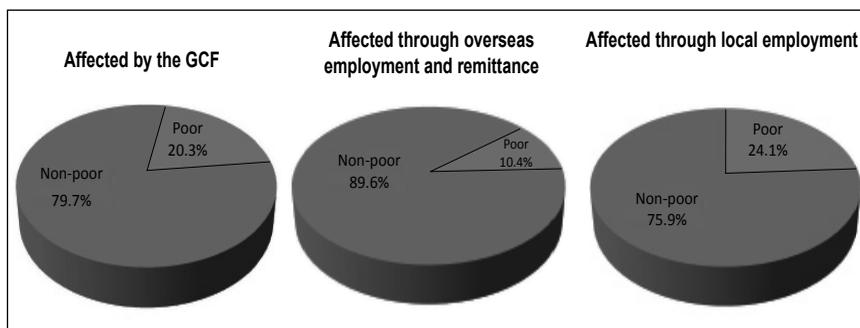


Source: CBMS Survey, 2009

**Poor vs. Non-poor.** As mentioned earlier, a total of 375 households in 13 sites, representing about 7.6 percent of all households covered, were directly affected by the global financial crisis through the two major transmission channels identified earlier. Ten of the households were affected through the two channels. Only 2.3 percent of households were affected through overseas employment and remittances alone while about 5.5 percent were affected through local employment alone. It is also important

to note that about 20.3 percent of the affected households are considered income poor. Furthermore, about 24.1 percent of those households affected through local employment are poor while only 10.4 percent of households affected through overseas employment and remittance are income poor (Figure 17). The lower proportion for the latter may also be related to the fact that most of the households with OFWs are already non-poor. In fact, among all households with OFWs, 89.0 percent are non-poor.

**Figure 17. Distribution of Affected Households by Poverty Status**



Source: CBMS Survey, 2009

## Impact on Women and Children

The crisis could affect men and women differently. As shown by the CBMS results, a relatively higher proportion of women were affected through the local employment channel than men, particularly in terms of reduction in wage and working hours. About 1.3 percent of employed women suffered a decline in wages which is slightly higher than the men's record of 1.2 percent (Table 26). Women are also relatively more prone in terms of reduction in working hours than men. In fact, about 1.5 percent of them suffered a cut in working hours, which may also mean a slightly higher underemployment rate among them than men.

**Table 26. Affected Men and Women and Children**

	Male	Female	Total
Local employment			
With reduced wages	1.2	1.3	1.2
With cut in working hours	0.9	1.5	1.1
With reduced benefits	0.1	0.1	0.1
Women			
Overseas employment			
Retrenched OFWs	6.2	3.4	5.0
OFW wage reduction	9.7	4.6	7.6
Affected children			
Children 6-16 years old withdrawn from school			0.6
Children 6-16 years old to be withdrawn from school in the coming school year			0.4
Children transferred from private to public school			1.6
Children to be transferred from private to public school in the coming school year			0.4

Source: CBMS Survey, 2009

In terms of overseas employment, however, CBMS data reveal a higher proportion of affected male OFWs as compared with female. This might be due to the fact that men are usually the ones who work abroad. The CBMS survey shows that 58.9 percent of OFWs are male while 41.1 percent are female.

The global crisis could also impact women and most specially the children in terms of their health and nutrition. The CBMS data reveal that 89.3 percent and 62.4 percent of the households modified their food and health expenses, respectively, in order to cope with the crisis. Households resorting to cutting back the quantity or quality of food could mean poorer nutrition among its members, including children. Poorer nutrition in children could have permanent effects on their intellectual capacity, which in the long run could also mean lower educational completion rates for children. In terms of health, some households (about 5.4%) did not even seek medical treatment when sick. These actions could have negative consequences on their well-being in the long run.

Children could also be affected when households decide on modifying their educational expenses. Some households which are affected through reduced remittances and/or wages would have to cope by reducing their expenses, including expenses on education. For instance, about 1.6 percent of enrolled children of affected families/households were withdrawn from school during the reference period. About 0.4 percent of the children of affected households were also to be transferred from private to public school in the next school year following the survey period. This decision by the households is usually done in order to cope with the increasing prices of school fees, particularly in private schools. Private schools, in general, charge higher fees than public schools in exchange for better facilities and better quality education (although not in all cases). More worrisome, however, is the withdrawal of children from school which is estimated to be about 0.6 percent during the period. Meanwhile, about 0.4 percent of the children of affected households were to be withdrawn from school in the coming school year.

If no appropriate response is given, these crisis consequences on women and children could reverse the progress in the MDGs, particularly in terms of gender equality and women empowerment as well as in achieving universal primary education. This, in the long run, could also increase poverty. Hence, policy responses focusing on women's empowerment and child's well-being could greatly help in mitigating these negative effects.

## **Impact on Poverty Situation**

Annex C shows the CBMS core indicators reflecting the potential impact of the global crisis (and possibly of other shocks) on poverty in the 13 selected GFC sites. However, out of the 13 sites covered, baseline data are available only for 10 sites, including the following barangays: 1) Barangay 192 (Pasay City); 2) Villa Angeles (Orion, Bataan); 3) Magbangon (Cabugcayan, Biliran); 4) Gumamela (Labo, Camarines, Norte); 5) El Rio (Sibagat, Agusan del Sur); 6) Piglawigan (Esperanza, Agusan del Sur); 7) Maligaya (Mariveles, Bataan); 8) San Vicente (Sta. Elena, Camarines Norte); 9) Ando (Borongan, Eastern Samar); and 10) San Miguel (Llorente, Eastern Samar).

Results for the 10 sites show that poverty incidences in most of the sites have increased in 2009 as compared with their previous CBMS round. For instance, an increase in the proportion of income-poor households was observed in Brgy. Piglawigan (Esperanza, Agusan del Sur) from 56.4 percent in 2005 to 79.1 percent in 2009, translating to 22.7 percentage points increase. There was also a significant increase in income poverty in Magbangon (Cabugcayan, Biliran) from 42.2 percent in 2005 to 56.8 percent in 2009, a jump of 14.6 percentage points. Increase in income poverty incidence is also observed in San Vicente (5.6 percentage points), in Maligaya (3.9 percentage points) and in Ando (2.6 percentage points) when compared with the baseline period.

In terms of employment, four of the sites (i.e., Maligaya, San Vicente, San Miguel and Piglawigan) recorded an increase in unemployment rate, which may be partly due to the impact of the crisis on local employment. Results also show a worsening of the poverty situation in terms of other dimensions, including health and nutrition, shelter, and water and sanitation, among others. Although the change in the poverty indicators could not be attributed solely to the global crisis, the interactions of different shocks which the households faced in between periods have definitely contributed to the worsening condition, and hence, increasing poverty. It should also be noted that these estimates do not necessarily include the same set of households, primarily because of attrition.

Considering the 10 sites for which baseline data are available, results generally show an increase in income poverty and subsistence poverty. In particular, income poverty incidence increased by 2 percentage points while food poverty incidence increased by 5.2 percentage points. There was also a worsening condition in terms of the proportion of households which are squatters and the proportion of households living in makeshift housing which increased by 1 and 5.7 percentage points, respectively. There was also a deterioration in terms of the education dimension. Estimates suggest an increase in the proportion of children 6 to 12 years old who are not attending elementary school and the proportion of children 13 to 16 years old who are not attending secondary school during the reference period.

## COPING MECHANISMS ADOPTED BY HOUSEHOLDS

Households usually cope with shocks (e.g., the global crisis) by increasing receipts, reducing consumption or shifting to cheaper substitutes. During the period covered by the study, a majority of the affected households (89.3%) reported that they modify their consumption of food (Table 27). In particular, most of the households tried to reduce consumption of relatively expensive food items. Another common strategy adopted by the households is to buy food in retail and smaller portions/packages. Next to food, clothing is another major expense affected when households try to cope with shocks.

Still another major coping strategy adopted by households is in terms of tapping various fund sources. About 49.1 percent of the affected households reported that they borrowed money from various fund sources while 23.2 percent said that they used their existing savings. Another 11.7 percent of the households either pawned or sold their assets. Furthermore, another major strategy of households is to seek additional source of income, with about 13.9 percent of households saying that at least one member of their household looked for work in addition to his/her existing job. However, not all were able to find and do the additional job. In fact, only 8.3 percent of the households reported that at least one of their members actually did additional work during the period. A few households, representing 2.9 percent of the affected households, also reported that at least one member of their household not previously working got a job in order to cope with the crisis. Some also tried to look for work abroad (4.0%).

However, comparing the results, the impact of the global crisis is not as severe as that seen as a result of the food and fuel price shocks. Annex D presents some details of the different coping strategies adopted by the households by location. Note that some of the coping strategies adopted by the households may differ by location. For instance, in terms of health, a majority of households in the rural areas and urban areas outside the NCR adapted by using medicinal plants or herbal medicines while more households in urban NCR shifted to generic brands or cheaper drug brands. In terms of education, more households in the rural areas and urban

areas outside NCR reduced the allowance for members who are studying while a large share of households in urban NCR used second-hand uniforms or shoes.

**Table 27. Coping Strategies Adopted by Affected Households**

<b>Coping Strategy</b>	<b>No.</b>	<b>%</b>
<b>1) Modified the ff. types of expenses</b>		
Food	335	89.3
Clothing	324	86.4
Electricity	321	85.6
Communication	281	74.9
Fuel	268	71.5
Health	234	62.4
Water	209	55.7
Transportation	176	46.9
Recreation	163	43.5
Education	90	24.0
<b>2) Tapped various fund sources</b>		
Borrowed money	184	49.1
Used savings	87	23.2
Pawned assets	29	7.7
Sold assets	15	4.0
<b>3) Sought additional source of income</b>		
Looked for additional work	52	13.9
Did additional work	31	8.3
Employed member not previously working	11	2.9
Looked for work abroad	15	4.0

Source: CBMS Survey, 2009

## Household Coping Strategies among Poor and Non-Poor Households

In times of crisis, do poor and non-poor households adopt different sets of coping strategies? Based on the results of the CBMS survey, it suggests that there are indeed discernable differences in the way poor and non-poor households cope with crisis. In this section, analysis of each coping strategies clustered into categorical groups had been carried out and patterns had been identified indicating that different types of households (i.e., based on income) tend to adopt certain coping mechanisms.

## Food Purchase, Preparation, and Consumption

Table 28 summarizes disaggregated information on the coping strategies adopted by households in relation to food purchase, preparation, and consumption based on income. Results show that poor households (those belonging to the bottom 40%) have the tendency to reduce food consumption levels and substitute cheaper food products. On the other hand, non-poor households (those belonging to the top 60%) tend to reduce expenses on food but not necessarily on consumption level. Unsurprisingly, the most common strategy adopted by poor households is substituting cheaper foodstuff, with 43.3 percent reporting doing so in the period November 2008 to April 2009. Meanwhile, an equal proportion of non-poor households cut the amount of expensive food consumed during the reference period.

**Table 28. Adoption of Coping Strategies Related to Food Consumption, by Income Group and Quintile<sup>a</sup>**

Coping Strategy	Total	Income Group		Income Quintile <sup>b</sup>				
		Top 60	Bottom 40	1	2	3	4	5
Reduced expensive food	42.4	43.3	40.7	39.3	42.0	42.2	45.7	42.1
Recooked/reheated leftovers	40.3	38.7	42.9	41.0	44.5	38.6	42.3	35.2
Shifted to cheaper food	37.2	33.6	43.3	42.4	44.1	38.3	35.0	27.3
Consumed staple food only	24.9	21.3	30.8	30.2	31.4	25.1	20.9	18.1
Bought from government stores	23.8	19.3	31.4	27.9	34.6	25.7	18.0	14.1
Bought in retail	22.6	20.4	26.5	25.9	27.0	21.9	21.1	18.1
Consumed same dish for days	22.6	20.0	27.1	27.5	26.8	21.3	21.9	16.6
Lessened dining out	21.8	25.0	16.2	11.4	20.5	22.4	24.4	28.3
Combined meals	21.4	19.8	24.2	26.7	21.8	22.6	20.2	16.4
Reduced portion	20.8	19.1	23.6	27.5	20.1	20.8	19.7	16.9
Consumed own harvest	16.6	10.6	26.8	31.8	22.4	14.7	9.5	7.3
Skipped meals	10.4	9.4	12.2	12.9	11.5	11.0	9.1	8.0
Reduced parents' share	7.6	6.2	10.1	11.4	8.9	7.8	5.6	5.3

<sup>a</sup> - Percentage of households using them in each group or quintile

<sup>b</sup> - difference between quintiles is significant at 5% level

Source: CBMS Survey, 2009

There are striking differences between income quintiles and consequently income groups when it comes to consuming own harvest (16.2%), buying from government-run stores (12.1%), shifting to cheaper food products (9.7%), having only staple food for a meal (9.5%), and cutting expenses on food eaten outside of home (8.8%).

The information suggests that poor households are utilizing existing household resources to compensate for lower income to buy food (e.g., eating vegetables harvested from backyard), maximizing the benefits of lower food prices offered in government-run stores, rationalizing food choices based on prices, and to a lesser extent prioritizing hunger over nutrition—calorie intake over nutritional intake. Regarding the last point, this is particularly worrisome because pregnant women and young children in poor households become increasingly vulnerable to health complications and other negative health outcomes as a result of malnutrition.

### **Clothing**

Based on CBMS data, results suggest that poor households are not willing to spend money on clothing and if they have the money, it will be spent on *ukay ukay* (cheap second-hand clothes) as shown in Table 29. On the other hand, non-poor households are still buying clothes but they are more conscious about the price tag and how often they purchase clothes.

Substitution of cheaper clothes is a prevalent coping strategy among poor and non-poor households. Among poor households, 42.2 percent said that they shifted to purchasing second-hand clothes while 47.7 percent of non-poor households reported that they shifted to cheaper brands of clothes.

Significant differences between poor and non-poor households had been observed in several coping mechanisms, namely, repairing old clothes (12.7%), foregoing purchase of clothes (11.5%), buying clothes during sales (9.3%), and shifting to cheaper brands (7.5%).

**Table 29. Adoption of Coping Strategies Related to Clothing, by Income Group and Quintile<sup>1a</sup>**

Coping Strategy	Total	Income Group		Income Quintile <sup>b</sup>				
		Top 60	Bottom 40	1	2	3	4	5
Shifted to cheaper brands	44.9	47.7	40.2	37.6	42.6	48.2	48.8	46.1
Shifted to ukay ukay (second-hand clothes)	40.8	39.9	42.2	39.4	44.9	42.0	42.9	34.6
Lessened frequency of buying	35.5	37.3	32.3	29.1	35.1	34.9	38.7	38.4
Did not buy clothes	27.5	23.3	34.8	38.1	31.9	27.4	23.7	18.7
Repaired old clothes	27.4	22.7	35.4	39.5	31.8	26.4	23.2	18.6
Purchased clothes during sales	20.6	24.0	14.7	14.3	15.1	19.9	23.9	28.4
Made own clothes	6.6	4.6	10.0	12.2	8.2	6.0	5.2	2.6

<sup>1a</sup> - Percentage of households using them in each group or quintile

<sup>1b</sup> - difference between quintiles is significant at 5% level

Source: CBMS Survey, 2009

### *Cooking Fuel and Utilities*

In general, more non-poor households had made changes in their cooking fuel, electricity, and water consumption compared with poor households during the period November 2008-April 2009 (Table 30). The most common coping strategies adopted by non-poor households are unplugging appliances that are not being used (80.7%), turning off lights (71.4%), lessening the frequency of cooking food (50.5%), cutting use of appliances (44.4%), using water storage containers (43.0%), and cutting time allotted to activities consuming water (32.0%). Likewise, the mentioned coping mechanisms were the top choices for poor households.

Tabulations reveal that considerable differences between poor and non-poor households had been observed for several coping strategies related to consumption of cooking fuel, electricity, and water consumption. These include the cutting of the number of times in washing clothes (19.5%), using containers to store water (15.1%), reducing the number of times in cooking food (10.2%), and cutting the use of appliances (9.9%). However, there are no significant differences observed between poor and non-poor households in terms of replacing bulbs with lower wattage, disconnecting electricity services, cutting use of water from faucet, recycling water, and skipping baths.

### *Education and Health*

- Broadly speaking, more poor households had made adjustment in their education and health-related expenses compared with non-poor households during the reference period (Table 31). Results reveal that the most common strategies adopted by poor households in terms of education-related expenses are using second-hand uniforms and shoes (37.7%), using second-hand books (28.6%), and reducing allowances of members who are going to school (28.6%). Similar coping mechanisms were also common among non-poor households. In addition to changes made in education-related expenses, poor households also implemented changes in their health-seeking behavior and expenses on health. For instance, 43.5 percent of poor households reported using medicinal plants/herbal medicine to cut costs. Furthermore, 37.7 percent of poor households said they shifted to government health centers and hospitals to seek

medical attention. There is also a significant proportion (21.2%) of poor households which shifted to alternative medicine (*albularyo* or quack doctor, faith healer, etc.). In contrast, 44.6 percent of non-poor households shifted to generic/cheaper branded drugs as a coping strategy. Moreover, 31.3 percent used medicinal plants or herbal medicines. A sizable proportion (28.1%) shifted to government-run health centers or hospitals and 23.2 percent resorted to self-medication.

**Table 30. Adoption of Coping Strategies Related to Cooking Fuel and Utilities, by Income Group and Quintile<sup>1a</sup>**

Coping Strategy	Total	Income Group		Income Quintile				
		Top 60	Bottom 40	1	2	3	4	5
<b>Cooking Fuel</b>								
Reduced times cooking food	46.9	50.5	40.3	38.5	41.9	48.9	53.0	49.6
Reduced times heating water	29.7	31.8	25.8	25.1	26.5	30.3	33.0	32.2
Bought cooked food	21.4	24.1	16.6	12.5	20.2	20.8	23.4	28.0
Shifted to alternative cooking fuel	17.5	18.4	15.9	12.5	18.9	20.6	20.2	14.3
<b>Electricity</b>								
Unplugged appliances when not being used	78.2	80.7	72.9	70.4	74.6	78.7	83.9	79.4
Turned off lights	70.4	71.4	68.4	65.2	70.7	70.0	74.1	70.0
Lessened use of appliances	41.3	44.4	34.5	26.2	40.3	43.3	47.5	42.4
Replaced bulbs with lower wattage	26.2	26.5	25.5	23.4	27.0	26.9	27.1	25.6
Had electricity disconnected	5.0	5.4	4.0	3.4	4.4	5.2	5.9	5.2
<b>Water</b>								
Used water containers	38.3	43.0	27.9	22.6	32.7	39.1	43.0	46.7
Lessened times of washing clothes	33.7	39.9	20.4	13.5	26.6	36.3	42.4	40.7
Shortened time allotted to activities using water	29.1	32.0	22.7	18.9	26.1	34.4	32.6	29.3
Lessened use of water from faucet	22.8	22.6	23.3	21.3	25.4	27.9	21.4	18.8
Used water from washing dishes to plants	14.0	13.6	14.7	14.6	14.7	14.1	13.5	13.3
Used rainwater	13.3	11.0	18.3	21.4	15.4	12.8	10.4	10.1
Lessened times bathing/skipped bathing	4.0	4.5	3.1	2.7	3.4	4.3	4.7	4.4

<sup>1a</sup> - Percentage of households using them in each group or quintile

Source: CBMS Survey, 2009

There are additional findings that are worth mentioning in relation to education. Pulling of children out of school and planning to withdraw children from school were mostly reported by poor

households (2.0% and 1.8%, respectively). In contrast, transferring of children from private to public school and planning to do so were typically reported by non-poor households (1.3% and 1.0%, respectively).

No significant differences were discerned between poor and non-poor households and income quintiles in terms of shifting from private vehicle/school bus to commuting, discontinuing intake of prescribed medicine, and lessening availment of medical treatment. However, completely opposite results were observed in reference to reducing allowances of members studying (14.1%), using medical plants or herbal medicines (12.2%), shifting to alternative medicine (10.9%), and shifting to government health centers or hospitals (9.6%).

**Table 31. Adoption of Coping Strategies Related to Education and Health, by Income Group and Quintile<sup>la</sup>**

Coping Strategy	Total	Income Group		Income Quintile <sup>lb</sup>				
		Top 60	Bottom 40	1	2	3	4	5
<b>Education</b>								
Used second-hand uniforms/shoes	34.3	31.7	37.7	40.6	34.9	32.4	35.1	26.0
Used second-hand books	26.9	25.7	28.6	31.6	25.8	26.0	29.4	20.2
Reduced allowance	20.7	14.5	28.6	35.3	22.0	16.5	14.6	11.5
Shifted from private/school bus to commuting	2.9	2.5	3.5	2.8	4.2	3.3	1.8	2.2
Planned to withdraw children from school	2.6	1.7	3.8	4.4	3.1	2.2	1.4	1.4
Withdrawn children from school	1.5	1.1	2.0	2.6	1.4	1.8	1.0	0.3
Members skipped classes	1.4	1.1	1.8	3.5	0.2	1.9	0.6	0.8
Transferred children from private to public	0.8	1.3	0.2	0.0	0.4	0.7	1.4	1.9
Planned to transfer children from private to public	0.7	1.0	0.3	0.3	0.3	0.5	0.6	2.2
Transferred children from daycare to homecare	0.7	0.4	1.0	2.0	0.2	0.4	0.8	0.0
<b>Health</b>								
Shifted to generic drugs/cheaper drug brands	42.9	44.6	39.9	38.5	41.1	41.7	48.0	44.2
Used medicinal plants/herbal medicines	35.8	31.3	43.5	49.8	37.7	34.2	31.1	28.3
Shifted to government health centers and hospitals	31.7	28.1	37.7	37.6	37.9	33.3	29.4	21.1
Resorted to self-medication	21.3	23.2	17.9	16.7	19.1	22.0	22.8	24.9
Did not buy medicine	15.2	14.9	15.8	17.3	14.6	18.2	14.0	12.4
Shifted to alternative medicine	14.2	10.3	21.2	23.6	19.1	13.8	10.3	6.5
Discontinued intake of prescribed medicine	6.5	6.7	6.2	6.5	5.9	7.3	6.1	6.6
Lessened the availment of medical treatment	6.0	6.1	5.9	5.5	6.2	7.2	6.1	5.1
Reduced prescribed drug intake	6.0	5.5	6.9	6.0	7.7	6.8	5.6	4.0
Did not seek medical treatment	5.4	4.7	6.5	8.1	5.1	5.4	5.4	3.3

<sup>la</sup> - Percentage of households using them in each group or quintile

<sup>lb</sup> - difference between quintiles is significant at 5% level except for items D, Q, and R

Source: CBMS Survey, 2009

## Transportation and Communication

In terms of changes in transportation-related expenses, 32.7 percent of households reported they shifted to cheaper mode of transportation during the reference period (Table 32). Not surprisingly, results show that more non-poor households are adopting this certain strategy than poor households, the difference being 5.3 percent. More than 47 percent of households that reported shifting to cheaper means of transportation were previously using public transportation (jeepney, bus, tricycle, pedicab, MRT/LRT) but are now going to work or school by bicycle or on foot. Furthermore, 13 percent of this same set of households said that they used to take taxicabs or their cars to work or school but had now shifted to public transportation.

Unexpectedly, it also appears that more non-poor households had made changes in communication-related expenses than poor households. A larger proportion (70.7%) of non-poor households reported subscribing to call and text promotional services. Moreover, 60.1 percent of non-poor households said they now send text messages less frequently. On the part of the poor households, however, 23.4 percent said that they had foregone cell phone loads; this is 3.3 percentage points higher than non-poor households.

**Table 32. Adoption of Coping Strategies Related to Transportation and Communication, by Income Group and Quintile<sup>a</sup>**

Coping Strategy	Total	Income Group		Income Quintile <sup>b</sup>				
		Top 60	Bottom 40	1	2	3	4	5
<b>Transportation</b>								
Shifted to cheaper mode of transportation	30.9	32.7	27.4	26.8	27.9	32.8	33.7	31.7
Lessened consumption of fuel for vehicle	11.0	12.0	8.9	7.9	9.7	12.1	12.8	11.2
Shifted to cheaper fuel	3.2	3.7	2.2	1.8	2.5	2.5	4.1	4.3
<b>Communication</b>								
Subscribed to promotions	66.9	70.7	57.5	55.0	59.5	67.6	71.4	72.9
Lessened frequency of texting	58.7	60.1	55.1	52.2	57.4	59.2	61.8	59.4
Stopped buying load	21.1	20.1	23.4	26.0	21.4	21.4	21.4	17.9
Shifted from postpaid to prepaid	11.5	10.9	13.0	13.5	12.6	10.7	11.1	11.0
Reduced number of phone lines	6.0	6.3	5.1	4.2	5.8	7.0	6.7	5.3
Shifted to cheaper phones	5.2	5.2	5.2	4.9	5.5	6.2	6.4	3.2
Lessened use of internet	4.1	4.5	3.1	3.1	3.2	3.6	4.9	5.0
Disconnected service	3.3	3.2	3.3	2.1	4.2	3.4	3.4	3.0

<sup>a</sup> - Percentage of households using them in each group or quintile

<sup>b</sup> - difference between quintiles is significant at 5% level except for items G, H, J, and K. Items A and B are significant at 10%

Source: CBMS Survey, 2009

## Recreation and Vices

Among non-poor households, almost half of them said recreational activities of the household had become less frequent (Table 33). In addition, 37.8 percent of non-poor households had postponed a planned trip or vacation during the period November 2008-April 2009. Results show that more non-poor households are coping in terms of recreation than poor households. The reason may be attributed to the difference in income and expenditure pattern. Poor households do not have the money to spend on recreational activities and view this kind of expenditure as a luxury and not a necessity. An equally interesting finding is the degree to which poor households consider cutting their expenses for alcoholic beverages and gambling as a coping strategy.

## Tapping Various Fund Sources

About 39.7 percent of poor households reported that they borrowed money during the period November 2008-April 2009. Poor households sourced their loans from relatives (31.3%), friends (28.3%), and neighbors (27.4%) as seen in Table 34. During the same period, 15.5 percent of poor households have made use of their savings and 3.6 percent of poor households sold their properties or assets. It is important to note that among the poor households who sold properties, 33.9 percent reported selling their farm animal. Bearing in mind that farm animals are productive assets, especially for rural poor households, selling these assets has a significant impact on households.

**Table 33. Adoption of Coping Strategies Related to Recreation and Vices, by Income Group and Quintile<sup>a</sup>**

Coping Strategy	Total	Income Group		Income Quintile <sup>b</sup>				
		Top 60	Bottom 40	1	2	3	4	5
<b>Recreation</b>								
Lessened times doing recreation	45.4	49.9	32.6	27.0	36.8	47.8	49.8	51.6
Postponed vacation	35.5	37.8	29.3	26.9	31.1	38.7	37.5	37.3
Shifted to cheaper activities	12.4	14.3	7.0	3.5	9.6	14.3	14.9	13.7
Disconnected cable services	9.5	10.6	6.3	4.2	7.8	10.6	10.3	10.9
<b>Vices</b>								
Cut expenses for alcoholic beverages	42.5	38.2	46.7	48.9	44.5	40.2	38.8	34.0
Cut expenses for gambling	39.5	32.5	46.3	48.5	43.5	38.5	28.4	27.8
Cut expenses for cigarettes	34.7	36.4	32.9	35.1	30.6	37.6	39.0	31.1

la - Percentage of households using them in each group or quintile

lb - difference between quintiles is significant at 5%

Source: CBMS Survey, 2009

**Table 34. Adoption of Coping Strategies Related to Tapping Various Fund Sources, by Income Group and Quintile<sup>1a</sup>**

Coping Strategy	Total	Income Group		Income Quintile <sup>1b</sup>				
		Top 60	Bottom 40	1	2	3	4	5
Borrowed money	37.1	35.4	39.7	37.8	41.5	37.9	39.6	28.5
Used savings	13.8	12.7	15.5	16.4	14.6	13.0	12.7	12.6
Pawned assets	4.1	4.8	3.0	2.1	3.9	4.7	5.6	4.1
Sold assets	2.6	1.9	3.6	3.6	3.6	2.2	1.9	1.5

<sup>1a</sup> - Percentage of households using them in each group or quintile

<sup>1b</sup> - difference between quintiles is significant at 5% except for item A which is significant at 10

Source: CBMS Survey, 2009

### *Seeking Additional Sources of Income*

When it comes to seeking jobs as a coping strategy, a higher proportion of poor households said that they have additional job seekers compared with non-poor households (Table 35). The same trend had also been observed for carrying out an additional job and having previously unemployed members work. However, seeking work outside the country as a coping strategy is more prevalent among non-poor households.

**Table 35. Adoption of Coping Strategies Related to Employment, by Income Group and Quintile<sup>1a</sup>**

Coping Strategy	Total	Income Group		Income Quintile <sup>1b</sup>				
		Top 60	Bottom 40	1	2	3	4	5
Looked for additional work	5.6	4.5	7.2	5.7	8.7	5.3	5.2	3.1
Did additional work	4.5	3.6	5.9	4.7	7.0	4.9	3.6	2.2
Employed members not previously working	1.6	1.3	2.1	1.7	2.6	1.1	1.8	0.8
Looked for work abroad	1.4	1.8	0.7	0.6	0.7	1.5	1.6	2.3

<sup>1a</sup> - Percentage of households using them in each group or quintile

<sup>1b</sup> - difference between quintiles is significant at 5%

Source: CBMS Survey, 2009

## Summary of Results on Specific Coping Strategies

A summary of the major coping mechanisms adopted by households based on income in response to the recent shocks is presented in Table 36. Note that energy-saving strategies are the most common coping strategy among households. About 78.2 percent of the surveyed households resorted to unplugging of

**Table 36. Specific Coping Strategies Adopted by Households, by Income Group and Quintile**

Coping Strategy	Total	Income Group		Income Quintile				
		Top 60	Bottom 40	1	2	3	4	5
Unplugged appliances when not being used	78.2	80.7	72.9	70.4	74.6	78.7	83.9	79.4
Turned off lights	70.4	71.4	68.4	65.2	70.7	70.0	74.1	70.0
Subscribed to promotions (communication)	66.9	70.7	57.5	55.0	59.5	67.6	71.4	72.9
Lessened frequency texting	58.7	60.1	55.1	52.2	57.4	59.2	61.8	59.4
Reduced times cooking food	46.9	50.5	40.3	38.5	41.9	48.9	53.0	49.6
Lessened times doing recreation	45.4	49.9	32.6	27.0	36.8	47.8	49.8	51.6
Shifted to cheaper brands (clothing)	44.9	47.7	40.2	37.6	42.6	48.2	48.8	46.1
Shifted to generic drugs/cheaper drug brands	42.9	44.6	39.9	38.5	41.1	41.7	48.0	44.2
Reduced expensive food	42.4	43.3	40.7	39.3	42.0	42.2	45.7	42.1
Lessened use of appliances	41.3	44.4	34.5	26.2	40.3	43.3	47.5	42.4
Shifted to ukay ukay	40.8	39.9	42.2	39.4	44.9	42.0	42.9	34.6
Recooked/reheated leftovers	40.3	38.7	42.9	41.0	44.5	38.6	42.3	35.2
Used water containers	38.3	43.0	27.9	22.6	32.7	39.1	43.0	46.7
Shifted to cheaper food	37.2	33.6	43.3	42.4	44.1	38.3	35.0	27.3
Borrowed money	37.1	35.4	39.7	37.8	41.5	37.9	39.6	28.5
Used medicinal plants/herbal medicines	35.8	31.3	43.5	49.8	37.7	34.2	31.1	28.3
Postponed vacation	35.5	37.8	29.3	26.9	31.1	38.7	37.5	37.3
Lessened frequency of buying	35.5	37.3	32.3	29.1	35.1	34.9	38.7	38.4
Used second-hand uniforms/shoes	34.3	31.7	37.7	40.6	34.9	32.4	35.1	26.0
Lessened times of washing clothes	33.7	39.9	20.4	13.5	26.6	36.3	42.4	40.7
Shifted to government health centers and hospitals	31.7	28.1	37.7	37.6	37.9	33.3	29.4	21.1
Shifted to cheaper mode of transportation	30.9	32.7	27.4	26.8	27.9	32.8	33.7	31.7
Reduced times heating water	29.7	31.8	25.8	25.1	26.5	30.3	33.0	32.2
Shortened time allotted to activities using water	29.1	32.0	22.7	18.9	26.1	34.4	32.6	29.3
Used second-hand books	26.9	25.7	28.6	31.6	25.8	26.0	29.4	20.2

Source: CBMS Survey, 2009

appliances when not in use while 70.4 percent turned off lights when not in use. These coping strategies are the most common among all income quintiles. Also included in the top list of coping strategies are those relating to communication, food, clothing, health and recreation, among others.

Based on previous discussions of survey results, household coping strategies of poor and non-poor households were identified. Some of the results are as follows.

- Forty-three (43) percent of non-poor households said that they have reduced the amount of expensive food eaten by the household while 40.7 percent of poor households reported the same coping strategy. A higher proportion of poor households reported cooking dishes with the use of leftovers as ingredients or reheating than non-poor households.
- Across all of the sentinel sites, results show that poor households are more predisposed to change their food consumption pattern. The proportion of poor households that modified the way they purchase, prepare, and eat food is higher compared with non-poor households.
- Withdrawing children from school is more prevalent among poor households across the sites. More poor households reported that at least one of their children was pulled out of school.
- Changes in health-seeking behavior are more common among poor households. About 42.6 percent of poor households reported implementing changes to their health-seeking behavior. On the other hand, 37.6 percent of non-poor households had to adopt the same strategy.
- Higher proportion of borrowers can be found in the poor households. Higher proportion of pawners can be found among non-poor households
- Unexpectedly, survey results show that a higher proportion of poor households have either used their savings or sold properties as a coping strategy.
- A higher proportion of non-poor households altered the way they carry out recreational activities compared with poor households. In contrast, a higher proportion of poor households has made changes in their expenses on vices.

- Lastly, the proportion of poor households which said that they sought jobs, performed additional work, and have one of their previously unemployed got work during the reference period is higher compared with non-poor households.

## Household Coping Strategies Adopted by Affected Households

As an extension of previous discussions on the differences between households based on income in terms of coping strategies employed, it is imperative to explore if there are also differences on how households cope in terms of being directly affected by the global financial and economic crisis. CBMS survey results reveal noticeable patterns on how households directly affected by the global crisis particularly through local employment and remittance channels are coping with the crisis. Table 37 summarizes the most significant coping mechanisms adopted by households in response to the crisis in terms of the proportion of affected households that practice a specific strategy.

**Table 37. Adoption of Coping Strategies by Households**

Coping Strategy	% All HHs	% Affected HHs <sup>1a</sup>
Shifted to cheaper mode of transportation	30.9	44.7
Increase in times praying	27.6	42.1
Resorted to self-medication	21.3	39.9
Lessened dining out	21.8	30.7
Reduced portions of food prepared	20.8	30.3
Shifted to alternative cooking fuel	17.5	28.9
Used savings	13.8	23.5

<sup>1a</sup> – directly affected through 2 transmission channels, namely, local employment and remittances

Source: CBMS Survey, 2009

CBMS data show that during the period November 2008 to April 2009, a larger proportion of affected households have been choosing to self-medicate, dining out less frequently, reducing portions of food being prepared at home, and using their savings. Furthermore, larger proportions of affected households had also shifted to cheaper means of transportation and to alternative cooking fuel during the same reference period. Perhaps, the most

interesting finding is the apparent increase in the frequency in praying of the affected household members in April 2009 as compared with the period November 2008. Results also indicate that affected households are trying to save money primarily because these households experienced a decline in income due to a member's loss of job or to a reduction in remittances received from member(s) working abroad. Comprehensive tabulations also indicate that affected households had different sets of coping strategies compared with other households (see Annex E).

## **Impact on the MDGs**

Although the impact of the global financial crisis has not been as large as initially anticipated, the slowdown in the economy and the resulting lower incomes and coping strategies of groups of households would translate into increased poverty and even slower progress toward the attainment of the MDGs.

### ***Increased poverty***

The global financial crisis led to layoffs and reduced wages for those working in the affected sectors. In addition, remittances also did not grow as fast as in previous years as foreign employers grappled with the adverse impacts of the crisis. These are, however, expected to lead to only a slight increase in the poverty incidence because only a few sectors of the economy were affected negatively. What are estimated to have a more significant impact on poverty are the food and fuel price shocks in 2008. Even some of the rice farmers suffered from higher rice prices as they were also net consumers of rice. Thus, the combined effects of the food and fuel price shocks, the global financial crisis and the typhoons in the latter half of 2009 are likely to increase the poverty incidence.

### ***Lower school participation rates***

Households coped with the price shocks and financial crisis by reducing expenses. They transferred children from private to public schools, resorted to hand-me-down uniforms, and, at worst, withdrew children from school. Some of the children who were withdrawn from school worked to augment the family income.

This could have serious implications in the long run since these children may no longer return to the formal educational system, which may in turn result in lower labor productivity in the future. More importantly, the lack of education will make it more difficult to break intergenerational poverty.

### *Lower health status*

Some households have responded to the shocks by resorting to self-medication, foregoing medical treatment or buying generic drugs. The first two coping strategies may adversely affect the health status of the affected households. Child mortality rates and maternal rates may be more difficult to reduce under these circumstances.

Some households have also shifted to cheaper food items or less meals to reduce expenditures on food. This may affect the nutritional status of children as some of the cheap noodles may not provide all the nutritional requirements.

## **MITIGATING THE IMPACT OF THE GLOBAL CRISIS**

Given the recent global crisis, the government put in place programs or expanded existing programs to mitigate the impact of the shocks. These programs included CLEEP, 4Ps and NFA rice program, among others. The succeeding sections present a brief description of some of the relevant programs and provide some updates on the status of implementation.

### **Economic Resiliency Plan**

In response to the global financial crisis, the Philippine government started to implement the Economic Resiliency Plan (ERP). The Plan aims to cushion the impact of the crisis and jumpstart the economy through a mix of accelerated government spending, tax cuts and public-private sector investments in infrastructure projects. It also seeks to prepare the country for the eventual global upturn. The total budget for the ERP amounts to P330 billion, the breakdown of which is shown in Table 38.

**Table 38. Economic Resiliency Fund**

Item	Allocation (P billion)	Obligation	% Utilization
1. Increase in budget from 2008-2009	160	151	94.4
2. Tax Relief from legislative law for individual and corporate income players	40	40	100.0
3. Additional Infrastructure Fund Thru Bond Issue	100	95	95.0
4. Additional benefits for SSI's	30		0.0
<b>Total</b>	<b>330</b>	<b>286</b>	<b>86.7</b>

Source: National Economic and Development Authority (NEDA)

Several specific programs have been identified and implemented by the Philippine government. Some of these programs (such as the NFA rice access program and 4Ps), however, were already existing even before the crisis. For instance, the conditional cash transfer program (4Ps) was stepped up in response to the crisis. It is important to mention that there are two key questions that need to be considered in implementing a targeted program. First, whether or not the poor are reached and second, whether or not there are any benefits that are leaking to non-poor or non-eligible persons or households. Hence, identification of poor households is critical. Some of the specific programs implemented are discussed below.

### **Pantawid Pamilyang Pilipino Program (4Ps)**

This is one of the poverty alleviation programs of the government (through the Department of Social Welfare and Development or DSWD) that was launched to shield the people from the effects of the world problem on high prices of oil and commodities. The program requires local government units to comply with its conditions to provide basic facilities and supplies for health like vaccines, family planning services and education. Under the program, a family beneficiary with a maximum of three children will receive a monthly allowance of P1,400, a monthly allowance of P500 for nutrition and health expenses, and P3,000 for one school year or P300 per month for educational expenses per child. The beneficiaries have to comply with certain conditions

to continue receiving the cash grants. These conditions include parents ensuring that their children attend school at least 85 percent of the time and receive vaccinations and health care. This program was formerly called the Ahon Pamilyang Pinoy Program.

As of June 2009, 4Ps was benefiting 695,746 poor households nationwide. The program targets to provide a total of 700,000 households starting June 2009. The expansion was approved by President Arroyo last December 2008 with a corresponding additional budget of P5.0 billion. The areas included in the second set of implementation were selected from the 100 poorest municipalities from the poorest provinces based on 2003 Small Area Estimates (SAE) of the National Statistical Coordination Board (NSCB).

Among all sites covered by this study, two barangays in Agusan del Sur were identified to be the beneficiaries of 4Ps, including barangays El Rio and Piglawigan. Results from the CBMS survey reveal that 130 of the 244 households (or 53.3%) in El Rio benefited from the program while 148 of the 273 households (or 54.2%) in Piglawigan were identified as beneficiaries (Table 39). These represent about 53.8 percent of all households in the two barangays. In the case of El Rio, although the poorest quintile has the largest proportion of households who were able to access 4Ps at 63.3 percent, a significant proportion of households in the upper quintiles still benefited from the program. For instance, about 47.9 percent of the richest households were identified to be beneficiaries of the program. The same generalization can be made in the case of Piglawigan with 46.3 percent of its richest households having access to the program.

Furthermore, based on per capita income, exclusion and leakage rates among households in El Rio are at 45.2 percent and 25.4 percent, respectively (Table 40). These rates are slightly higher than those estimated for Piglawigan at 43.8 percent and 17.6 percent, respectively. The total leakage and exclusion rates for the two barangays are 21.2 percent and 44.4 percent, respectively.

**Table 39. Households that were Able to Access the Pantawid Familyang Pilipino Program in Brgys. El Rio and Piglawigan**

Income Quintile	Magnitude	% of HHs in the Income Quintile that were Able to Access
<i>El Rio</i>		
1	31	63.3
2	26	53.1
3	23	46.9
4	27	55.1
5	23	47.9
<b>TOTAL</b>	<b>130</b>	<b>53.3</b>
<i>Piglawigan</i>		
1	29	52.7
2	33	60.0
3	29	52.7
4	32	59.3
5	25	46.3
<b>TOTAL</b>	<b>148</b>	<b>54.2</b>
<i>ALL BARANGAYS</i>		
1	60	57.7
2	59	56.7
3	52	50.0
4	59	57.3
5	48	47.1
<b>TOTAL</b>	<b>278</b>	<b>53.8</b>

Source: CBMS Survey, 2009

**Table 40. Leakage and Exclusion Rates for 4Ps**

Estimates	Based on Per Capita Income	Based on PMT			
		Cut-off Value			
		0.5	0.6	0.7	0.8
<i>El Rio</i>					
Leakage Rate	25.4	83.1	76.9	65.4	50.0
Exclusion Rate	45.2	38.9	37.5	40.8	42.5
<i>Piglawigan</i>					
Leakage Rate	17.6	43.9	35.8	26.4	19.6
Exclusion Rate	43.8	32.0	33.1	33.1	35.7
<b>TOTAL</b>					
<b>Leakage Rate</b>	<b>21.2</b>	<b>62.2</b>	<b>55.0</b>	<b>44.6</b>	<b>33.8</b>
<b>Exclusion Rate</b>	<b>44.4</b>	<b>33.5</b>	<b>34.2</b>	<b>35.6</b>	<b>38.3</b>

Source: CBMS Survey, 2009

## Philhealth Sponsored Program

This program aims to provide medical privileges to the marginalized sector of the Philippine society. It is open to qualified indigents belonging to the lowest 25 percent of the Philippine population. Under this program, the government shoulders the monthly contribution of the qualified beneficiaries. The goal of this program is to achieve universal health insurance coverage by enrolling 4.7 million indigent families or 23.5 million poor beneficiaries. As of March 2009, there were about 3.4 million indigent families enrolled or about 17 million beneficiaries.

Based on the results of the CBMS survey in 13 sites, only 21.9 percent of all households were covered by the PhilHealth program (Table 41). Looking at the income quintiles, it can be observed that those at the highest quintile have the largest proportion of households able to access the PhilHealth program. It is important to note that only 16.2 percent of those in the poorest quintile have access to the program. The estimated exclusion rate is also very high. Exclusion rate among income-poor households is at 81.8 percent while exclusion of Proxy Means Tested (PMT)-poor households is at 82.2 percent (Table 42).

**Table 41. Households that have Access to the PhilHealth Program (13 sites)**

Income Quintile	Magnitude	% of HHs in the Income Quintile that were Able to Access
1	161	16.2
2	178	17.9
3	188	18.6
4	247	24.9
5	311	32.1
<b>Total</b>	<b>1,085</b>	<b>21.9</b>

Source: CBMS Survey, 2009

**Table 42. Exclusion Rates for the PhilHealth Program**

	Number of Poor HHs Without Access	Exclusion Rates
<b>Based on Income</b>		
All Sites	1375	81.8
Rural	1012	88.2
Urban NCR	42	73.7
Urban AONCR	321	67.6
<b>Based on PMT</b>		
All Sites	733	82.2
Rural	600	86.8
Urban NCR	16	80.0
Urban AONCR	117	64.6

Note: The cut-off value used for PMT is 0.7

Source: CBMS Survey, 2009

## NFA Rice Access Program

This program offers NFA rice at subsidized prices which can be bought through NFA rolling stores, Tindahan Natin outlets and other government-run stores. In 2008, 14 million families availed of the subsidized NFA rice. During the year, NFA distributed 13,108,343 bags to Tindahan Natin Outlets (TNOs) and 953,972 bags of rice to the Bigasan sa Parokya outlets (BPOs) for a total of 14,062,315 bags at P16.75 per kg or P837.50 per bag of 50 kg. The worldwide crisis of the rice supply in 2008 resulted in a high acquisition cost of imported rice by the NFA at P34.00 per kg or P1,700 per bag. Given this, the agency has incurred total losses of P12.1 billion, exclusive of the cost of Iron Coated Rice Premix. Between January to November 16, 2009, NFA has already distributed a total of 32,217,942 bags of 50 kg rice with daily average sales of 146,445 bags nationwide. The average acquisition cost of NFA rice is P31.80 per kg or P1,590 per bag for the 2009 rice importation. These stocks were sold to accredited retailers at a highly subsidized price.

Based on the findings from the 13 sites, the long-running NFA program, despite the issuance of family access cards to address mistargeting, still suffers from significant leakage and exclusion. Among all households belonging to the first income quintile, 68.1

percent were able to access the NFA rice program (Table 43). Note that even households in the highest income quintile were also able to access the NFA rice program, reflecting the poor targeting of the program.

**Table 43. Households that were Able to Access the NFA Rice Program (13 sites)**

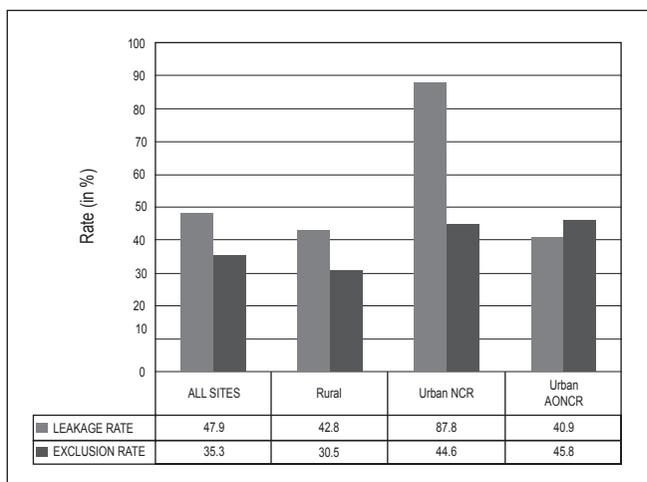
Income Quintile	Magnitude	% of HHs in the Income Quintile that were Able to Access
1	676	68.1
2	554	55.8
3	436	43.1
4	269	27.2
5	143	14.8
<b>Total</b>	<b>2,078</b>	<b>41.9</b>

Note: Poverty status is based on income

Source: CBMS Survey, 2009

It is also important to highlight that there are relatively high leakage and exclusion rates for all sites covered in the study. In fact, about 47.9 percent of all households who access the program are considered income non-poor (leakage rate) as shown in Figure 18 and Table 44. In addition, 35.3 percent of all income-poor households were not able to access the program (exclusion rate). The highest leakage rate is reported in urban NCR while the largest exclusion rate is observed in urban areas outside NCR (AONCR). This reflects weak targeting of the program. If poor households are identified based on the Proxy Means Testing (PMT) Model, the leakage rate is higher. The highest leakage and exclusion rates are recorded in urban NCR based on the PMT model.

**Figure 18. NFA Rice Program: Leakage and Exclusion Rates**



Note: Poverty status is based on PMT model. The cut-off value used for PMT is 0.7  
 Source: CBMS Survey, 2009

**Table 44. Leakage and Exclusion Rates for NFA**

NFA	Leakage Rate	Exclusion Rates
<b>Based on Income</b>		
All Sites	47.9	35.3
Rural	42.8	30.5
Urban NCR	87.8	44.6
Urban AONCR	40.9	45.8
<b>Based on PMT</b>		
All Sites	69.0	27.3
Rural	63.0	25.4
Urban NCR	96.5	52.6
Urban AONCR	71.7	31.7

Note: Poverty status is based on PMT model. The cut-off value used for PMT is 0.7  
 Source: CBMS Survey, 2009

## **Self-Employment Assistance-Kaunlaran (SEA-K)**

This is a capability-building program in coordination with LGUs which is designed to enhance the socio-economic skills of poor families to establish and self-manage a sustainable community-based micro-credit organization for entrepreneurial development. The target beneficiaries of this program are unemployed and under-employed families. In a press release dated 27 August 2009, 1172 individuals were employed under the SEA-K program. The regions covered, so far, were the following: CAR, ARMM and Region XII.

## **Comprehensive Livelihood and Emergency Employment Program (CLEEP)**

This program aims to provide emergency employment and income-generating services for the poor, returning expatriates, workers in the export industry, and out-of school youth. It aims to protect these vulnerable sectors from threats and consequences of reduced or lost income brought about by the global economic crisis. President Arroyo has made it clear that CLEEP is to be implemented nationwide as long as the world is in recession. Government department heads have been instructed specifically to 1) hire for emergency employment; and 2) fund and supervise livelihood projects.

The total budget allocated for this program is P13.69 billion to ensure that jobs and employment opportunities are available for poor and underprivileged Filipinos during the crisis. Based on a report in October 2009, the programs/activities/projects (PAPs) under CLEEP intend to employ 466,644 individuals nationwide. It is estimated that 333,088 Filipino workers have been given jobs (or 71.4% accomplished as of October 2009) under the CLEEP program since its implementation in January this year. So far, about P8.37 billion has already been obligated for the implementation of CLEEP from the total budget allocation committed by the agencies for the various programs/activities/projects.

## **Assistance provided to affected workers**

Based on the available data from BLES, about 38.8 percent of the affected workers during the period October 2008 to 30 November 2009 were assisted (Table 45). This translates to a total of

82,912 workers. Majority of the assisted workers are in Calabarzon (Region IVA) where about 34,110 affected workers were provided assistance. Furthermore, although Region VII (Central Visayas) also recorded a large number of affected workers at 53,083, only 1.8 percent of them were provided assistance.

**Table 45. Number of Workers Affected and Assisted by Region:  
October 2008 to 30 November 2009**

Region	Total Affected	Total Assisted	Assisted as % of Total Affected
ALL REGIONS	213,420	82,912	38.8
NCR	39,410	24,434	62.0
CAR	2,654	2,464	92.8
Region I	14	14	100
Region II	304	97	31.9
Region III	32,313	10,947	33.9
Region IVA	71,580	34,110	47.7
Region IVB	1,262	1,253	99.3
Region V	797	797	100
Region VI	651	418	64.2
Region VII	53,083	970	1.8
Region VIII	74	66	89.2
Region IX	1,843	1,132	61.4
Region X	1,833	145	7.9
Region XI	379	179	47.2
Region XII	322	57	17.7
Caraga	6,901	5,829	84.5

Source: Bureau of Labor and Employment Statistics, DOLE

## Assistance provided to affected OFWs

The government also provided assistance to OFWs affected by the crisis through the Technical Education and Skills Development Authority (TESDA), Overseas Workers Welfare Administration (OWWA) and Philippine Overseas Employment Administration (POEA). The assistance provided may be in the form of training, scholarships, counseling and legal assistance, among others. Table 46 shows the number of OFWs assisted during the crisis period. The assistance provided to affected OFWs might have also helped in mitigating the impact of the crisis.

**Table 46. Assistance Provided by TESDA, OWWA and POEA to OFWs Affected by the Global Crisis**

<b>Training/Assistance Provided</b>	<b>Number Assisted</b>
<b>TESDA (as of October 2009)</b>	
1. For Training under Pangulong Gloria Scholarship (PGS)	308
2. Graduates of TVET Programs	115
3. Undergoing Training	251
4. Free Assessment Service of TESDA (FAST)	5
5. Youth Profiling for Starring Careers (YP4SC)/ Career Profiled	129
6. Certification, Authentication, Verification (CAV) issued	11
7. Completed Pro-speak	2
8. Referred to TESDA Training Institutions	129
<b>OWWA (as of November 2009)</b>	
<b>A. PHASE I</b>	
1. EDWs Provided Prequalification Orientation/Counselled	10,791
2. Workers Referred for Assistance	7,588
<b>B. PHASE II</b>	
1. Workers Endorsed to Phase II <sup>1</sup>	5,188
2. Workers Who Availed Filipino Expatriate Financial Livelihood Support Fund (FELSF)	4,162
3. Application in Pipeline	1,026
<b>C. REGULAR PROGRAMS</b>	
1. Skill for Employment Scholarship Program (SESP)	328
2. OWWA-Microsoft Tulay Program <sup>2</sup>	373
<b>D. REPATRIATION ASSISTANCE</b>	
1. Workers Provided Assistance	143
<b>POEA (as of September 2009)</b>	
Legal Assistance	1,125
Referral to Agencies	2,646

<sup>1</sup> Included are those with existing business or non-ACP covered displaced workers needing additional capital

<sup>2</sup> Amount not reckoned since this is an OWWA continuing computer literacy training offered in all regional offices

Sources of Data: Technical Education and Skills Development Authority (TESDA), Overseas Workers Welfare Administration (OWWA), Philippine Overseas Employment Administration (POEA)

## RECOVERING FROM THE CRISIS

Given the minimal impact of the global crisis, the country has been able to recover from the crisis sooner. The Philippines' gross domestic product (GDP) in the last quarter of 2009 increased by 1.8 percent as compared with less than 1.0 percent growth during the first three quarters of the same year. Based on the most recent data, GDP grew by 7.3 percent in the first quarter of 2010 from 0.5 percent in the previous year (NSCB, 2010). All subsectors of the economy, except for the agriculture and communication subsectors, benefitted from the global economic recovery, election-related stimuli and growth in OFW remittances. The manufacturing sector has rebounded mainly due to the hefty contributions from trade and private services, particularly recreational and business services. As mentioned earlier, the growth in the country's total exports has also recovered with the reported positive growth starting November 2009. Although the total value of exports has not yet reached its pre-crisis level, there were indications of an increasing trend with positive year-on-year growth rates starting November 2009 until February 2010. In fact, exports grew by 42.3 percent in February 2010.

Moreover, the most recent BSP report indicated that remittances from OFWs coursed through banks grew by 5.6 percent in March 2010 reaching US\$1.6 billion, which is the second highest-ever monthly remittance level recorded. The registered -three-month period year-on-year growth, however, is 7.0 percent which was supported by the higher remittances from both sea-based and land-based workers, according to the report. It was also mentioned that the prospects for global deployment of OFWs remain positive, given the expected increase in employment opportunities as the global economy recovers from the crisis.

The most recent World Bank (2010) forecast for the Philippines indicated that the economy will grow at 3.5 percent this year. This is primarily due to the stronger global outlook, rising OFW deployment that will boost remittances, recovery in private consumption and robust public spending. Although labor market indicators remain weak, OFW deployment remained strong despite rising global unemployment which shows a high demand for and supply of Filipino workers in the global labor market. According

to the Philippine Quarterly Updates (World Bank, 2010), the magnitude of the fiscal stimulus implemented by the government in 2009 was “unprecedented in recent Philippine history.” The huge fiscal stimulus helped buffer overall economic activity in 2009 but at the same time “pushed the national government’s primary fiscal balance into its first deficit since 2002, the estimated public sector balance into its first deficit since 2005, and led to its first increase in the non-financial public sector debt-to-GDP ratio since 2003.” In fact, in 2009, fiscal deficit reached 3.9 percent of GDP which is the highest level since the implementation of fiscal reforms in 2005-2006. This, therefore, requires a strong revenue base to increase the fiscal space needed to support sustained growth and greater spending on health, education and social protection. Meanwhile, the forecast for 2010 budget deficit is still high at about 4.3 percent of the country’s GDP for the year.

In terms of domestic employment, records show that unemployment rate remains at 7.3 percent in January 2010. Although a negative year-on-year growth in employment levels in the manufacturing sector is reported from the first quarter of 2008 until the third quarter of 2009, recent data show that employment levels in the sector have started to increase since October 2009 until January 2010. Data from BLES revealed that as of 30 November 2009, about 57.9 percent of the affected workers were already rehired, recalled or were back to normal. This represents about 123,597 workers. Some of the affected OFWs were also provided assistance in the form of training, scholarships, counseling or legal assistance. The government provided assistance to affected OFWs through TESDA, OWWA and POEA.

Based on the CBMS survey, about 84.0 percent of affected households were able to access at least one of the three government programs mentioned earlier, including the NFA rice access program, PhilHealth program and the 4Ps. Access to these programs have helped these households weather the crisis and might have helped mitigate the potential long-term negative impacts of the global crisis.

## CONCLUSION AND RECOMMENDATIONS

This study aims to monitor the economic and social impact of the global financial and economic crisis in the Philippines. Although the impact was not as large as initially expected, a modest increase in poverty is found. Moreover, coupled with the impact of the price shock in 2008 and the recent natural calamities, poverty incidence is expected to go up significantly in the future. This is more worrisome given the recent reversal in poverty incidence observed in 2006 when poverty incidence went up for the first time since 1985.

The study focused on two major transmission channels by which the global crisis could impact on households. These include overseas employment and remittances, and domestic employment. Simulation exercises which capture only the direct impact through these channels reveal an increase in poverty incidence by 0.14 percent which would translate to approximately 120,000 people. The poverty gap and severity of poverty also increased by 0.06 percent and 0.05 percent, respectively. Meanwhile, wage reduction among affected households could lead to a 0.22 percent increase in poverty rate (representing about 201,000 households) with the poverty gap index and severity of poverty index increasing slightly by 0.08 and 0.01, respectively. These simulation exercises capture only the direct impact of the crisis through the two major channels, holding other factors constant.

CBMS survey results show that about 7.6 percent of the households would be directly affected by the global crisis through these two major transmission channels. About 2.3 percent were directly affected through overseas employment and remittance while 5.5 percent were affected through domestic employment. The most likely affected households are those living in the urban areas. Households which are highly dependent on agriculture may not be directly affected by the global crisis.

Results of the CBMS survey show that the potential impact of the crisis on poverty varies across different groups of households. In fact, certain groups of households or individuals were affected more compared with other groups. The crisis has affected the households in terms of OFW remittances and local employment.

For instance, households which are highly dependent on remittances as a source of income would be adversely affected through reduced remittance receipts. In addition, households with members who are working in the affected sectors (e.g., manufacturing) could be negatively affected through reduced income. Results at the macro and micro levels reveal that the manufacturing sector is one of the most affected sectors as shown by the relatively high proportion of affected workers in terms of displacement, wage reduction and flexible work arrangements. This would mean that the total income of households with affected members could decline, which would eventually impact on their poverty situation.

In response to the crisis, households adopted various coping strategies. Some groups of households are in a better position to respond and to cope with the crisis while others may not. For instance, results across all sentinel sites show that poor households are more predisposed to change food consumption pattern, withdraw children from school and change health-seeking behavior. These coping strategies may be damaging and counter-productive in the medium and long run. Some coping mechanisms, in fact, may have negative long-term consequences on the vulnerable groups, including women and children. For instance, one of the coping mechanisms adopted by the households is in terms of withdrawal of their children from school which may have negative long-term consequences. The health status of the affected households could also be adversely affected in the long run if they do not seek medical attention.

In response to the crisis, the government has identified and implemented some programs that could mitigate the impact of the crisis. Several government agencies also played a role in assisting those which are directly affected by the crisis. This might have helped the affected individuals or households from falling into poverty or taking decisions that could have long-term detrimental effects.

Although recent estimates reveal that the Philippines and the global economy have started recovering from the crisis, there must be a continuing effort to improve the targeting of government programs. Given the tight fiscal space, improving the targeting schemes of programs could ensure that the poorest and most

eligible households benefit from the available resources. As shown by the CBMS results, leakage and exclusion rates are still high for programs such as the NFA rice access program and 4Ps. High exclusion rate is also recorded for the PhilHealth program. The recurring problem of targeting in social protection programs highlights the need for a good targeting mechanism in order to minimize leakages and exclusion. Household-level data such as those being generated by the community-based monitoring system are very useful in identifying eligible beneficiaries. Hence, evaluation of current programs is needed so that those which are ineffective and need not be implemented anymore as well as those where improvements should be kept, could be identified.

Aside from being useful in improving the targeting system, CBMS data could be useful in many other ways. This study, in fact, was able to demonstrate how the CBMS data can be used in monitoring the impacts of economic shocks (such as the recent global crisis) on specific groups of households. In particular, CBMS data were also used to validate the results obtained at the macro level, from other data sources and vice versa. Indeed, results from the CBMS survey can be used as basis for simulating impacts at the national level, especially if there is enough sample.

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## ANNEX A

### Economic Situation of Top 10 Major Trading Partners\* in 2008

Country	Economic Situation
1. United States	(December 1, 2008) The U.S. economy has been in recession since December 2007, the National Bureau of Economic Research said. The Bureau is a private research institute widely regarded as the official arbiter of U.S. economic cycles. It said a 73-month economic expansion had come to an end.
2. Japan	(November 17, 2008) The world's second biggest economy slides into recession, its first in seven years. Its GDP contracts 0.1 percent in the July-September quarter as the financial crisis curbs demand for its exports. It shrank 0.9 percent in the previous quarter.
3. China	(April 16, 2009) Annual growth in China's gross domestic product (GDP) slowed down in the first quarter of 2009 to 6.1 percent. This is the weakest growth since quarterly records began in 1992. China experienced double-digit growth from 2003 to 2007, and recorded a 9 percent growth in 2008.
4. Singapore	(October 10, 2008) The first Asian country to slip into a recession since the credit crisis began. Singapore's export-dependent economy shrinks annualized rate of 6.8 percent in the third quarter after a 6.0 percent contraction in the second quarter, its first recession since 2002.
5. Taiwan	(February 18, 2009) Taiwan plunged into a recession as the economy contracted a record 8.36 percent in the three months to December due to the global economic meltdown. The figure "marked the biggest slump since 1961" when the government started compiling quarterly figures.
6. Hong Kong	(November 14, 2008) Hong Kong becomes the second Asian economy to slip into recession, with its exports hit by weakening global demand. Third-quarter GDP drops at a seasonally adjusted 0.5 percent after a 1.4 percent fall in the previous quarter.
7. Korea, Republic of	(April 24, 2009) South Korea has narrowly avoided entering recession after its economy grew by 0.1 percent between January and March compared with the last quarter of 2008. South Korea's economy suffered its second biggest contraction on record in the final quarter of 2008. The last time the South Korean economy was in recession was in 1998.
8. Thailand	(May 25, 2009) Thailand's economy slipped into recession at the end of the first quarter of the financial year 2009 as the country's growth contracted by a huge 7.1 percent due to falling exports and imports.
9. Germany	(November 13, 2008): Europe's largest economy contracted by 0.5 percent in the third quarter after GDP fell 0.4 percent in the second quarter, putting it in recession for the first time in five years.
10. Netherlands	(February 13, 2009) The Dutch economy has been in recession since April 2008. The Central Bureau of Statistics (CBS) announced Friday that the economy in the fourth quarter of 2008 has shrunk by 0.9 percent, and that in the second and third quarters, there were minor contractions.

\*As identified by the National Statistics Office (NSO) as of 2008

Note: A country is generally considered to be in recession following two consecutive quarters of economic contraction.

Sources: "World economies slide into recession" as compiled by Gillian Murdoch, Singapore Editorial Reference Unit, Reuters, BBC News, The Business Edition.

## ANNEX B

### Some Relevant News Articles, October 2008-March 2010

OFW	
Date	Highlights
October 2008	<p>President Gloria M. Arroyo (PGMA) ordered for a contingency plan for OFWs who might be affected by the GFC.</p> <p>Labor Secretary Mariano Roque said that there will be no mass lay-offs of Filipino workers around the world despite the GFC.</p> <p>Filipino families with OFWs were expected to tighten belts in the coming holiday season as remittances were expected to shrink by half.</p> <p>Roque said that there is no cutback in demand for OFWs based from the report of the Department of Labor and Employment's (DOLE) 37 labor officers abroad.</p> <p>Vice President Noli de Castro assured that the government is ready for OFWs who might be displaced due to the GFC. He added that DOLE and TESDA had already prepared contingency measures to address the needs of these OFWs.</p> <p>The government through DOLE and the Department of Foreign Affairs (DFA) had started monitoring job losses of OFWs worldwide.</p> <p>A report said that Filipino workers in Dubai may face lay-offs as the construction industry in the country is also in danger of being affected by the global financial slowdown.</p> <p>Due to the global financial crisis, Spain suspended its renewal of a labor agreement to continue a pilot project started two years ago which sent 150 Filipino caregivers to work in health institutions.</p>
November 2008	<p>The Asia Pacific Mission for Migrants (APMM) said that Roque misreported the number of OFWs who lost jobs in Taiwan from 1,000 to 300.</p>
January 2009	<p>Local recruitment agencies which send Filipino workers to Taiwanese factories said that they had started the redeployment process for workers displaced by the financial crisis plaguing the island.</p> <p>At least 2,500 Filipino workers lost their jobs in Taiwan amid a global economic slowdown and more are expected to be sent home in the coming months</p> <p>Saudi Prince Khalid Saud bin Khalid gave assurances that there will be no job losses for more than 1 million OFWs in the Middle East Kingdom.</p> <p>Roque said that some displaced overseas Filipino workers from Taiwan will soon organize themselves and set up businesses under the government's contingency plan for workers affected by the global financial crisis.</p> <p>Australian Ambassador to the Philippines Rod Smith said that the demand for Filipino workers in Australia remains but will slow down due to the continuing global financial crunch.</p> <p>A lawmaker urged the Arroyo administration to make available to laid-off OFWs an unemployment package that would consist of, among others, a onetime grant of P50,000 cash to see them through while looking for new jobs.</p> <p>OFWs in Saudi were reported to be increasingly worried about their job security after a local labor official there reportedly advised companies affected by the global financial crisis to sack their foreign workers first.</p>
February 2009	<p>74 OFWs lost their jobs in South Korea as a direct result of the global financial crunch.</p>

September 2009	The Philippines and Taiwan extended their hiring agreement, which would have expired in 2009, to March 2010. A Philippine representative office there had noted that hiring in Taiwan had begun to make up for the 4,740 workers retrenched in the fourth quarter of 2008.
<b>JOB LOSSES</b>	
<b>Date</b>	<b>Highlights</b>
October 2008	RP labor had started to feel the crisis as numerous garments factories in the Cavite Export Processing Zone were either slowing down or closing shop, according to the Ecumenical Institute for Labor Education and Research (EILER).
November 2009	Roque agreed with the chief executive officers of the country's biggest companies that there might be job losses in 2009 but said his office has not yet received any reports of layoffs.
	Mactan Export Processing Zone and other industrial estates in the Visayan province had either reduced their work force or their working hours because of reduced orders from the United States.
December 2008	Local recruiters appealed to DOLE to strengthen its efforts to help OFWs who have been retrenched abroad.
	One of the big three cement firms operating in the country laid off 45 employees in its Mindanao operation and 20 others in its Luzon plant.
	Cemex Philippines reduced its workforce by three percent in November to cope with a depressed market. The firm also shut down kiln operations in its plants in Antipolo City and Naga, Cebu.
	80 workers of Lear Automotive Services (Netherlands) B.V. in Mactan Economic Zone I were laid off.
January 2009	Two export companies in Mactan Economic Zone, Maithland Smith Ltd. and Taiyo Luden Philippines Inc., retrenched a total of 275 workers.
	Texas Instruments Philippines Inc. based in Baguio City laid-off 392 workers from different divisions.
	Intel announced that it is closing its manufacturing plant in General Trias, Cavite and is offering severance packages to 1,800 employees.
	Roque mentioned in an article that as the export sector shrinks with its markets, some 34,000 jobs in factories throughout the Philippines have been affected,
	Mitsumi Philippines Inc. dismissed 2,400 workers in its plant in Bataan and 2,000 in Cebu.
	Panasonic Corp. was reported to shut down its factory in the Philippines. Some 60 Filipino employees at Panasonic's battery factory in Taytay, Rizal will lose their jobs.
	Amkor Technology Inc. laid-off 3,000 female contractual workers and 2,000 more are scheduled for lay-off in February 2009.
	Some 12,500 workers have been retrenched at Philippine Economic Zone Authority (PEZA) zones since October.
	DOLE's regional office in Tacloban had allocated P17 million to help the workers in the coconut processing industry who might be displaced due to the global economic crisis.
April 2009	Mindanao Textile Corp. laid off nearly a thousand workers due to a shortfall in orders for export.
	Mindanao Textile Corp. announced that it will shut down on May 15, 2009, laying off 1600 more workers.

June 2009	Moog Controls Philippines reduced employment by 293 of its personnel.
	Canadian electronics firm Celestica Inc. stopped its operation, resulting in 1,000 job losses.
	Triumph International Philippines planned on shutting down in July 2009 which will result in 1,600 retrenched workers.
August 2009	PAL had started considering the trimming of its staff and operations to prevent the company from incurring further losses and to preserve its remaining assets.
September 2009	PAL union official stopped attending board meetings in protest to management moves to trim down PAL staff and operations.
	PAL employees were reported to seek the Labor department's help to stop the company's plan to outsource non-core services, which they claim could leave 4,000 jobless. It was also mentioned that there is already an on-going offer for all the employees to avail an early retirement package to achieve the reduction in the work-force.
<b>EXPORTS</b>	
<b>Date</b>	<b>Highlights</b>
October 2008	Exporters started to brace themselves for tougher times ahead.
November 2008	The Philippine electronics industry, the country's single largest export sector, warned that it would likely see a decline in 2009 due to the worldwide financial turmoil.
February 2009	The Association of Negros Producers (ANP) braced for an expected 50 percent drop in exports in 2009 because of the world financial crisis.
	The tuna industry in General Santos also felt the crisis as the demand from the crisis-hit United States, which used to account for more than 50 percent of General Santos City's tuna market, slowed down.
March 2009	Listed firms that export food, services and patented electronics were reported to weather the economic downturn. These are Alliance Tuna International, Inc., Universal Robina Corp., and Music Semiconductors Corp.
September 2009	Local furniture manufacturers believed that the worst of the crisis is over as demand from hotels and resorts domestically and internationally have picked up and are averting further retrenchment in factories. There have been reports of recovery in the housing sector of the US which constitutes the Philippine exporters' top market.
December 2009	Celloom Furniture Corp., a Cebu-based furniture exporter, saw a \$4 million decline in sales in 2009. Its biggest market, the US, which accounts for 65 percent of sales, still continues to reel from an economic and financial crisis.

GOVERNMENT'S RESPONSE	
Date	Highlights
October 2008	PGMA had ordered economic experts to prepare a contingency plan to cushion the impact of an economic recession in the underdeveloped world.
	Finance secretary, Margarito Teves, said that the government is prepared to provide financial assistance to sectors that may be severely affected by the financial meltdown in the United States.
	PGMA called for an ASEAN meeting to devise a plan to cushion the region from the impact of the GFC.
	An alternative stimulus package was proposed by former speaker Jose de Venecia that would include the establishment of an anti-poverty fund and loan facility for microfinance.
	An economic adviser to PGMA had called for a realignment of P33 billion in the 2009 budget from capital spending to direct subsidies for education, health, and food to shield the poor from the GFC.
	PGMA supported a plan to create a P100-billion fund to help insulate the economy from a recession in the United States.
	PGMA said the government would set up a P250-million livelihood fund in case OFWs will be displaced.
	PGMA had ordered all Cabinet agencies to draft employment and livelihood programs for the poor and the middle class to cushion the impact of the global financial crisis.
	A report said that the government is completing a digitized poverty information bank that will help it track the activities and condition of every poor Filipino once the effects of a world recession hits in 2009 or 2010.
	The private sector had responded to a call of PGMA to help the government put up a P100-billion crisis fund to finance projects aimed at keeping the Philippines away from an economic meltdown. The said sector will contribute P50 billion to the fund.
November 2008	Government's top economic officials planned to increase the budget for Conditional Cash Transfer (CCT) to help more poor families cope with difficulties that may be caused by the global financial crisis.
	ADB said that it was willing to provide financial assistance to the Philippines if the credit crunch being experienced in advanced economies would spill over to the domestic financial system.
December 2008	The government had doubled the CCT fund to P10 billion because of the global financial crisis. This is to benefit an additional one million schoolchildren across the country.

January 2009	DOLE opened its National Reintegration Center and all regional offices of the Overseas Workers Welfare Administration for retrenched overseas Filipino workers seeking to avail themselves of government livelihood assistance and job placement programs.
	DILG stepped up its anti-poverty programs aimed at providing more jobs to Filipinos. This is to insulate the country from the effects of the global financial crisis
	The Social Security System (SSS) chipped in P12.5 billion to the P300-billion economic stimulus fund meant to help tide the Philippines over this year when the global downturn is anticipated to worsen.
	The government drafted the Economic Resiliency Plan which is its response to the global financial crisis. It called for a P330 billion budget, most of which will be spent on infrastructure projects in the first half of 2009.
	Labor and economic experts said that the P330 billion-economic stimulus package approved by Congress should be spent in modernizing the agricultural sector instead of building new highways and roads.
	It was reported that laid-off OFWs can avail of up to P50,000 loan from the Overseas Workers Welfare Administration to start or expand a livelihood project
	Trainings under the Department of Trade and Industry (DTI) were set in the Visayas for the workers who lost their jobs.
	DOLE geared up efforts to help displaced workers cope with the economic downturn starting with financial assistance to small businesses in danger of closure and an aggressive profiling of retrenched employees.
	A regional head of DOLE said the department would tap the top businessmen in this northern city to share business tips with workers laid off by Texas Instruments Philippines Inc. and with local miners.
February 2009	OWWA urged displaced OFWs to avail of grants amounting to P10, 000 and loans and become entrepreneurs.
	The government's livelihood fund for OFWs who could lose their jobs amid the global economic crisis was increased to P1 billion from P250 million
	PGMA said that the government will pool its environment and energy independence projects under its P330-billion economic resiliency package to create "green collar jobs."
March 2009	DOLE sent a three-man team to South Korea to help Filipino workers there at risk of losing their jobs find other work or source of income.
	SSS was reported to be offering P500 million in emergency loans to members who have lost their jobs since the beginning of the year.
April 2009	PGMA approved P 100 million subsidies for electronics industry workers to help them deal with the economic downturn. It involved free technical training, a daily stipend equivalent to P 200, and transportation and food allowance.
	SSS in Eastern Visayas provided an emergency loan for displaced workers due to the global financial crisis.
May 2009	The government gave out P4.09 billion in subsidies to 27 state-owned and -controlled corporations in the first four months of 2009 to boost spending and stimulate economic activity.
August 2009	DTI was reportedly set to release the remaining P800 million from the P1 billion subsidy set aside by government to help exporters survive the economic crisis.
December 2009	The World Bank's Board of Executive Directors approved a \$405-million loan to support the Philippines' Pantawid Pamilyang Pilipino Program. The government expanded the program to cover 1 million households in response to the global food crisis in the succeeding months.

January 2010	A P 1 Billion subsidy promised to exporters amid the economic downturn generally went unused in 2009, with government having released only roughly 1 percent of the fund by end of 2009.
March 2010	The government had set aside at least P100 billion for stimulus spending this year as the economy remains "fragile" given the lingering effects of the global financial crisis.
<b>OTHERS</b>	
<b>Date</b>	<b>Highlights</b>
October 2008	PGMA, in an article, said that women, as household heads trying to make ends meet, would take a "harder hit" from the global economic crisis. She assured them that government was taking steps to cushion the blow.
September 2009	According to BBC World Service-commissioned survey, a large majority (76%) of Filipinos are dissatisfied with how the government has responded to the global economic crisis, placing their disappointment level as the third highest among 20 countries.
October 2009	Bank employees urged the government and banks to convene and draft a contingency plan, in case shocks from the global financial meltdown force lay-offs in the local banking sector.
December 2009	The International Labour Organization (ILO) said in a report that employment in developing countries, including the Philippines, will continue to drop in the near term despite early signs of economic recovery. The report also stated that the Philippines will likely take two years to recover.
February 2010	At least three petitions for wage hikes are being reviewed but the government has yet to see whether the crisis is definitely over.
March 2010	Jobs posted online shrank in February despite signs of global economic recovery. Data from Jobstreet.com showed that there were 17, 505 job vacancies announced by domestic firms via the Internet in February, 1,822 lower than the 19,327 jobs offered last year. The agriculture sector took the biggest hit.

Sources: *Philippine Daily Inquirer* and *Business World* (October 2008-March 2010)

# ANNEX C

## CBMS Core Indicators for the 13 Selected Sites

CBMS Core Indicator	URBAN NCR						URBAN OUTSIDE NCR												RURAL											
	Ergy, 132 (Pasay City)			Villa Angelines (Orion, Batasan)			Pob. III (Sib. Tomas, Bantayan)		Magsaysay (Cabaigayan, Bataan)		Gumamela (Lobo, Camarines Norte)		El Rio (Babat, Agusan del Sur)		Piglagan (Esperanza, Agusan del Sur)		Maligaya (Mariveles, Bataan)		San Vicente (Sta Elena, Camarines Norte)		Atoy (Borongan, Eastern Samar)		San Miguel (Loreto, Eastern Samar)		Masikap (PPO, Palawan)		Salvacion (PPO, Palawan)		Total (8 Barangays Only Excluding Barangays Poblacion III, Masikap and Salvacion)	
	2005	2009	Change	2005	2006	2009	2009	2009	2005	2009	2005	2009	2005	2009	Change	2005	2009	Change	2005	2009	Change	2005	2009	Change	2005	2009	Change	2005	2009	Change
<b>Health and Nutrition</b>																														
Proportion of children aged 0-4 years old who died	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	1.1	0.4	0.4	0.0	1.5	0.6	0.9	0.4	0.5	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion of women who died due to pregnancy related causes	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proportion of persons aged 0-5 years old who are malnourished	0.0	2.0	1.7	0.0	1.7	0.0	0.3	0.0	0.7	-0.7	4.0	3.6	4.1	6.3	-2.2	0.9	9.4	-8.5	1.8	0.5	1.3	2.8	4.1	8.7	3.1	0.0	3.1	1.6	0.0	1.6
<b>Shelter</b>																														
Proportion of households living in makeshift housing	0.2	1.9	-1.7	1.4	0.6	0.8	0.9	1.0	0.8	0.2	1.0	7.2	-6.2	5.3	3.9	1.4	2.6	8.6	-6.0	3.7	0.5	3.2	0.9	0.0	0.9	9.7	2.3	7.4	0.0	13.8
Proportion of households that are squatters	0.1	3.1	-3.0	0.0	0.3	-0.3	0.7	1.3	0.8	0.5	5.5	0.5	5.3	2.0	2.3	-0.3	3.3	2.2	1.1	1.1	1.4	-0.3	0.0	0.4	-0.4	5.7	0.0	5.7	2.0	3.4
<b>Water and Sanitation</b>																														
Proportion of households without access to safe water supply	2.4	1.1	1.3	6.0	0.9	5.1	0.9	1.7	2.3	-0.6	3.3	2.1	1.2	18.3	18.3	0.0	0.4	1.8	1.4	15.3	15.0	0.3	20.9	14.7	6.2	0.6	1.2	-0.6	6.0	1.1
Proportion of households without access to sanitary toilet facilities	0.0	0.0	0.0	0.4	4.5	-4.1	0.2	16.9	3.9	15.0	8.3	11.3	-3.0	15.0	14.5	0.5	16.8	4.8	11.0	3.1	0.3	2.8	13.6	18.1	-4.5	0.6	6.9	-6.3	21.5	20.5
<b>Education</b>																														
Proportion of children aged 6-12 years old who are not attending elementary school	13.6	16.3	-2.7	16.2	24.6	-8.4	17.5	27.5	23.2	4.3	16.7	21.7	-5.0	25.9	31.9	-6.0	17.5	30.3	-12.8	15.8	38.3	-22.5	16.0	22.6	-6.6	28.4	23.3	5.1	26.6	15.6
Proportion of children aged 13-16 years old who are not attending secondary school	23.3	24.4	-1.1	14.1	38.4	-24.3	36.1	35.8	26.4	6.4	30.9	40.2	-9.3	43.0	55.7	12.7	48.2	58.5	-8.3	28.4	42.7	-14.3	41.5	38.4	3.1	51.2	39.4	11.8	34.2	43.9
<b>Income</b>																														
Proportion of households with income below the poverty threshold	7.1	6.7	0.4	18.7	12.2	6.5	20.0	42.2	56.8	-14.6	45.6	44.4	1.2	78.9	72.5	6.4	58.4	79.1	-22.7	19.1	23.0	-3.9	68.2	73.8	-5.6	-6.7	52.3	-2.6	78.9	75.1
Proportion of households with income below the food security threshold (reference threshold)	1.8	1.8	0.0	9.5	3.7	5.8	9.2	25.9	47.5	-23.6	27.5	27.3	0.2	68.7	59.4	9.3	33.0	72.2	-39.2	7.2	16.5	-9.3	56.0	56.9	-1.9	35.4	36.8	-1.4	69.3	69.9
Proportion of households that experience food shortage	0.7	1.2	-0.5	0.0	0.3	-0.3	3.0	24.3	0.0	24.3	0.8	0.2	0.6	36.6	38.6	-2.0	8.1	25.3	-17.2	0.3	0.1	0.2	0.0	0.0	0.0	1.1	10.4	-9.3	5.6	6.7
<b>Employment</b>																														
Proportion of persons who were victims of crimes	17.3	8.3	9.0	24.3	12.8	11.5	8.1	16.2	8.1	8.1	9.0	5.6	3.4	15.5	6.8	8.7	16.8	14.5	-0.9	11.6	17.0	-5.4	7.4	7.8	-0.4	11.5	7.2	4.3	38.1	36.7
<b>Peace and Order</b>																														
Proportion of persons who were victims of crimes	1.0	0.5	0.5	0.8	0.9	-0.1	0.2	0.0	0.0	0.0	1.3	2.0	-0.7	4.7	4.0	0.7	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.6	-0.6	0.0	0.0	0.0	0.0	0.5

Source: CBMS Survey, 2009

## ANNEX D

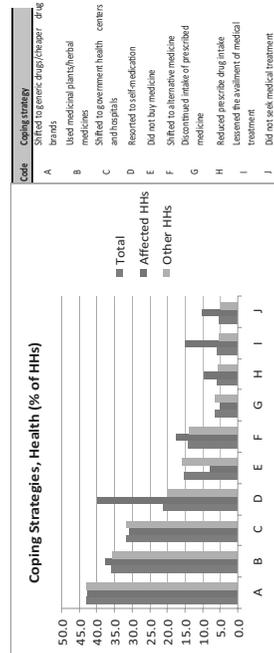
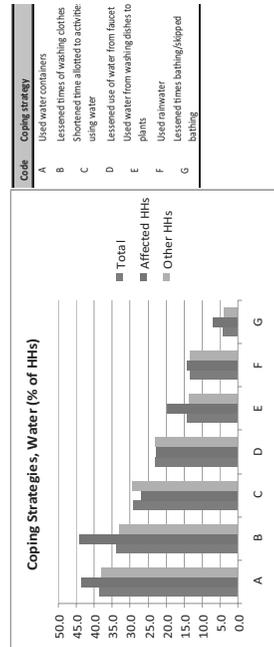
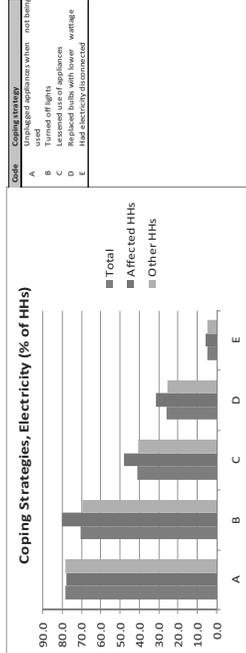
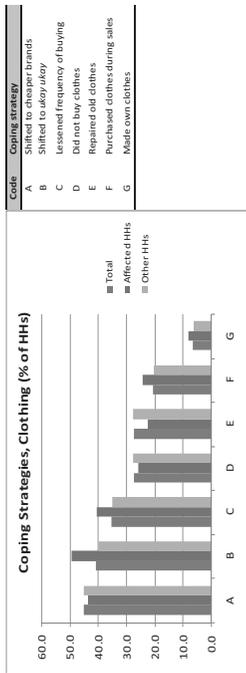
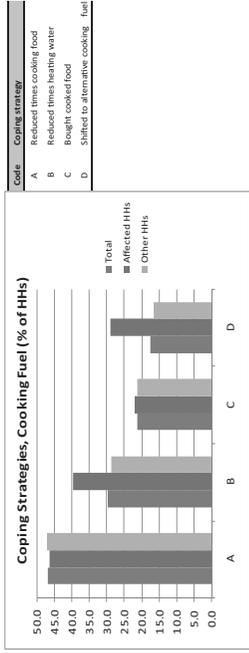
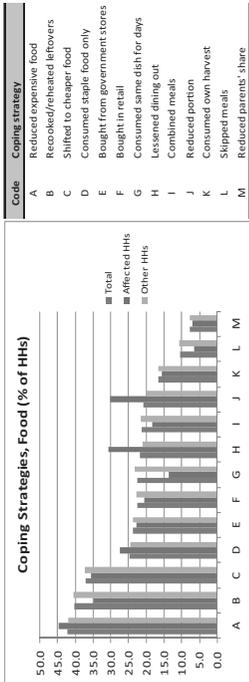
### Coping Strategies Adopted by Affected Households in the 13 Selected Sites, by Location, 2009

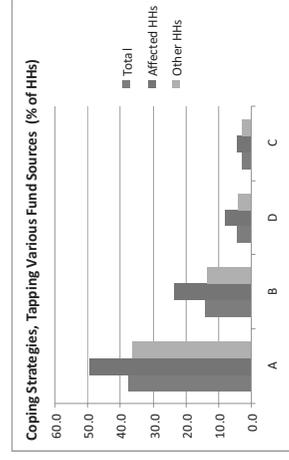
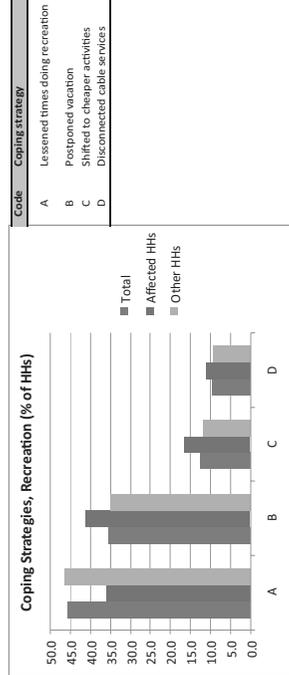
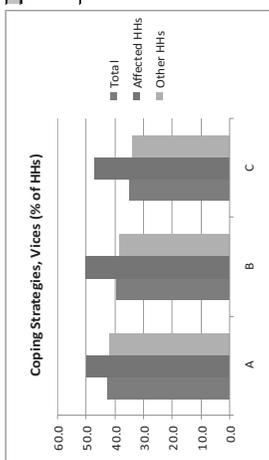
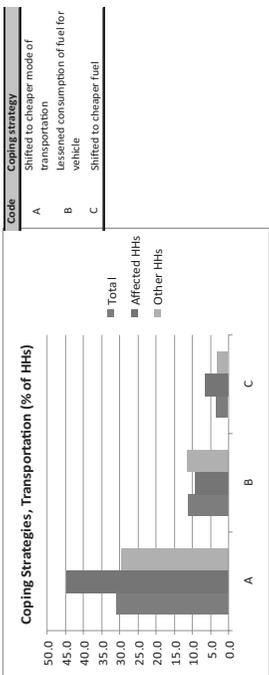
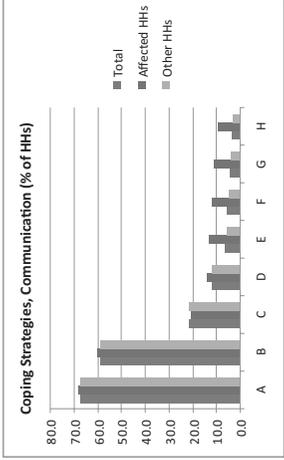
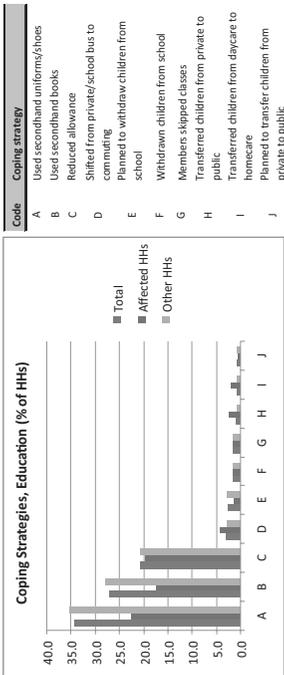
Coping Strategies	Total		Rural		Urban NCR		Urban AONCR	
	No.	%	No.	%	No.	%	No.	%
<b>Tapped various fund sources</b>								
<b>Borrowed money</b>	184	49.1	65	57.0	40	61.5	79	40.3
Used savings	87	23.2	32	28.1	15	23.1	40	20.4
Pawned assets	29	7.7	11	9.6	8	12.3	10	5.1
Sold assets	15	4.0	6	5.3	3	4.6	6	3.1
<b>Sought additional source of income</b>								
<b>Looked for additional work</b>	52	13.9	27	23.7	6	9.2	19	9.7
Did additional work	31	8.3	17	14.9	3	4.6	11	5.6
Looked for work abroad	15	4.0	2	1.8	3	4.6	10	5.1
Employed members not previously working	11	2.9	2	1.8	4	6.2	5	2.6
<b>Coping strategies in terms of health</b>								
<b>Shifted to generic drugs/cheaper drug brands</b>	125	33.3	29	25.4	27	41.5	69	35.2
Resorted to self-medication	117	31.2	17	14.9	18	27.7	82	41.8
Used medicinal plants/herbal medicines	112	29.9	32	28.1	7	10.8	73	37.2
Shifted to government health centers and hospitals	91	24.3	27	23.7	10	15.4	54	27.6
Shifted to alternative medicine	51	13.6	9	7.9	2	3.1	40	20.4
Lessened the avalliment of medical treatment for any illness	44	11.7	6	5.3	3	4.6	35	17.9
Did not seek medical treatment for any illness	30	8.0	7	6.1	3	4.6	20	10.2
Reduced prescribe drug intake	28	7.5	1	0.9	2	3.1	25	12.8
Did not buy medicine	23	6.1	9	7.9	1	1.5	13	6.6
Discontinued intake of prescribed medicine	15	4.0	3	2.6	0	0.0	12	6.1
Others	11	2.9	3	2.6	1	1.5	7	3.6
<b>Coping strategies in terms of education</b>								
<b>Members who are studying used second-hand uniforms/shoes</b>	48	12.8	16	14.0	17	26.2	15	7.7
Reduced allowance for members who are studying	39	10.4	15	13.2	8	12.3	16	8.2
Members who are studying used second-hand books	37	9.9	8	7.0	10	15.4	19	9.7
Others	11	2.9	4	3.5	5	7.7	2	1.0
Shifted from private vehicle/school bus to commuting	9	2.4	1	0.9	1	1.5	7	3.6
Transferred children from private school to public school	6	1.6	1	0.9	3	4.6	2	1.0
Withdrawn children from school	6	1.6	4	3.5	1	1.5	1	0.5
Transferred children from daycare to homecare	4	1.1	1	0.9	0	0.0	3	1.5
Members who are studying skipped classes	3	0.8	0	0.0	0	0.0	3	1.5

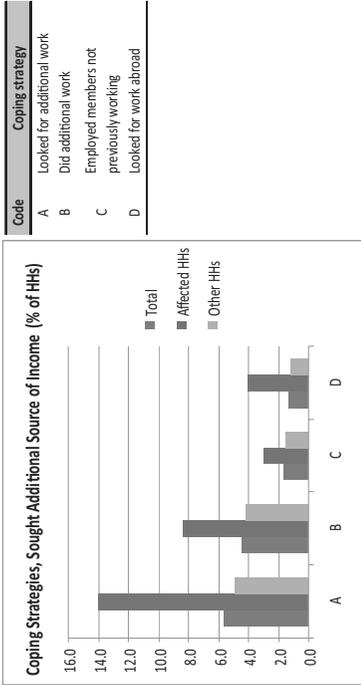
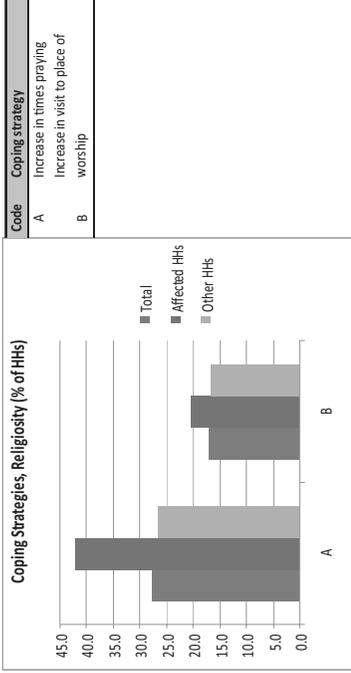
Source: 2009 CBMS Survey

# ANNEX E

## Coping Strategies Adopted by Affected Households and Other Households, 2009









# Monitoring the Impact of the Global Financial Crisis on Poverty in Tanzania

Rangya Kyulu Muro, Domitila Bashemela, Joseph Fungo and Flora Kessy<sup>1</sup>

## ABSTRACT

The current global financial and economic crisis began to manifest the American financial markets in 2008. It has spread to other developed countries and created bounce-on effects to developing countries. Given the susceptibility of Tanzania, there is a need to be vigilant and determine the potential impact of the crisis on poverty. In particular, the impact to household and community levels has been analyzed using data on different dimensions of poverty. The results of this study can help design strategic social protection programs and provide policymakers prioritizing measures for mitigating the impact of the crisis. In this study, monitoring of the crisis has been done through the Community Based Monitoring System (CBMS) surveys in selected observatories. Different dimensions of poverty were collected to capture household-level as well as community-level data. In addition to the CBMS core indicators, specific indicators were used based on the relevant key transmission channels for Tanzania. The channels included local employment, foreign direct investment and aid, exports, tourism, and different coping mechanisms adopted by the households in response to the crisis. The study also attempted to assess the accessibility of households to programs being implemented in the community.

The selected poverty sentinel sites (observatories) included 17 urban wards and one village (43,554

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<sup>1</sup> Members of the CBMS Research Team in Tanzania

households) in Dodoma municipality, Chakechake urban ward (3,260 households) in Lushoto district, and Sultani urban ward (2,876 households) in Morogoro municipality. The sites were selected by ensuring that the relevant transmission channels of Tanzania could be observed as much as possible. Results showed that, the impact so far include, but not limited to, job loss in public, private and donor-funded sectors, poor public services, increased unemployment rate, and decreased exports and foreign investment especially in mining, agriculture and tourism sectors. One of the policy implications revealed by the study was to be proactive instead of merely reactive in addressing the crisis on the affected sectors and households at local level. While the use of CBMS has been recommended as an efficient methodology for capturing and processing data for assessing the impact of the crisis, the governments at local and national level have been urged to support its application as the results can highly validate the macro-level data and information. Hitherto, fiscal stimulus spending, reorganization of financial institutions services, and more focused cooperation with the global community are among the strategies being implemented at national level in Tanzania.

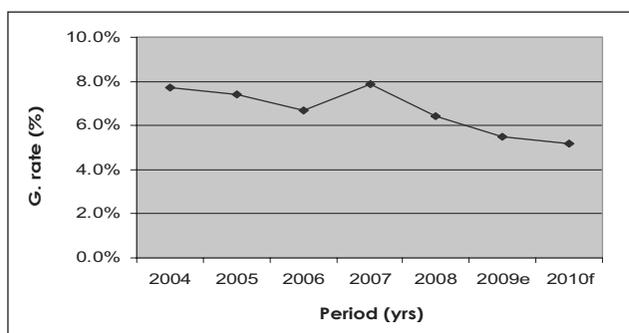
## **BACKGROUND**

The current global financial and economic crisis started to manifest itself in the financial markets of the United States of America (USA) in 2008. The main factors behind the crisis were: extension of mortgage loans to borrowers at highly concessional terms; weak oversight and poor supervision of banks and financial institutions; and excessive relaxation of fundamental rules and regulatory requirements for financial institutions. Since then, the crisis has spread to other developed countries and already its bounce-on effects are affecting the developing countries including Tanzania (Akbar 2009). The waves of the crisis reached Tanzania by early 2009, when there were indications that the crisis had affected a number of sectors, including agriculture, mining and tourism, thus, adversely affecting economic growth projections.

## MACRO-LEVEL IMPACT OF THE GLOBAL CRISIS

The trend of real GDP growth of Tanzania (Figure 1) has decreased from 7.7 percent in 2004 to 6.4 percent in 2008. In 2009, the rate is estimated to be 5.8 percent being lower than the revised rate by 0.2 percent. The decline in 2008-2009 could be attributed to, among others, the decrease in value of commodity prices in the world markets along with the reduced foreign direct investments and export orders during the crisis. Initially, the government has supported the banks to avoid the decline in trade financing as a mitigation strategy.

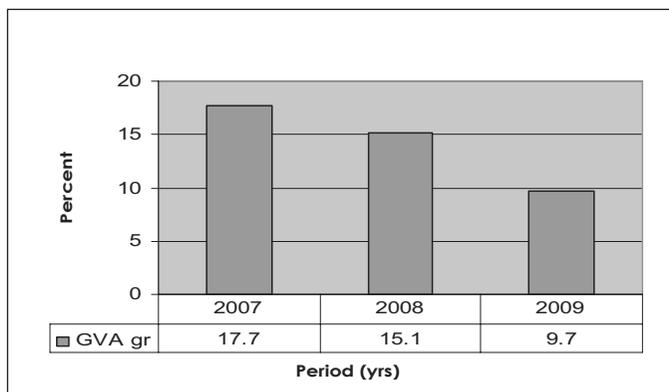
**Figure 1. Growth in Real GDP, 2004-2009**



Source: MFEA (2009)

In terms of gross value added (GVA), the mining sector experienced a decline in growth rate of 5.4 percent in 2008-2009 compared to 2.6 percent in 2007-2008 (Figure 2). The Ministry of Finance and Economic Affairs (MFEA) explained that the decline was due to the reduced mining activities as investors failed to source new funding from the capital markets especially during the crisis. In that period, there was a decrease in production of diamond due to the fall of world diamond prices.

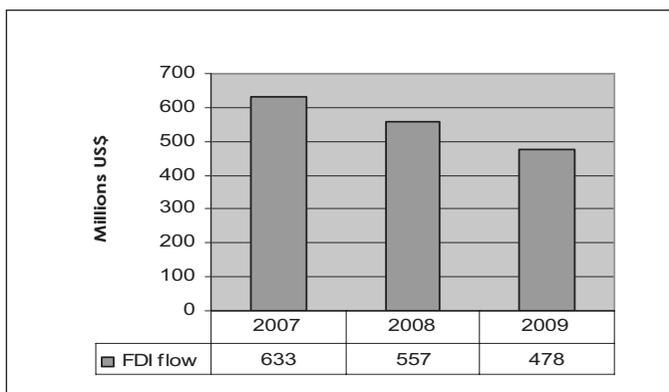
**Figure 2. Gross Value Added - Mining Sector**



Source: MFEA (2009)

Similarly, foreign direct investments (FDI) have been hit by the crisis. Tanzania Investment Centre (TIC) has reported a substantial decline of FDI from US\$557 million in 2008 to US\$478 million in 2009 which was about 14 percent (Figure 2). Among the factors that contributed to the decreased FDI flow, as presented by MFEA (2009), was the large number of multinational companies which decided to close their operations as a result of the economic crunch.

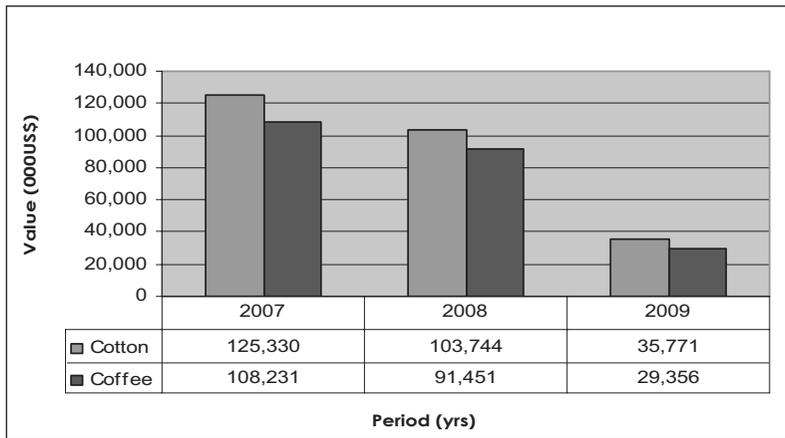
**Figure 3. Foreign Direct Investments, 2007-2009**



Source: MFEA (2010)

The domain of exports (which amount to about US\$3,000 billion in a year) has also revealed significant decline in country's foreign exchange earnings through major cash crops, minerals, and other services. For instance, during 2008-2009, a decline of value of exports was from 44 percent and to 32 percent in cotton and coffee industries respectively (Figure 3). This was caused by, among others, the cancellation of orders by the giant crops dealers buying from Tanzania during the crisis.

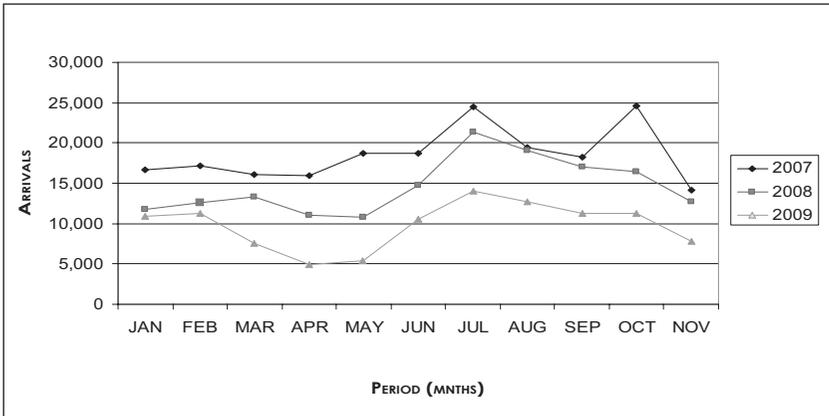
**Figure 4. Exports of Cotton and Coffee, 2007-2009**



Source: MFEA (2009)

Tourism is among the fastest growing sectors in Tanzania, contributing about 16 percent of the country's GDP and about 28 percent of foreign exchange earnings. There was a shortfall of 15 percent between 2007 and 2008 while in 2008-2009 the decline marked 30 percent. The decline could be attributed to the recent decline in the number of external visitors to the country. Overall, tourism generated Tsh41.6 billion in 2008, less than the anticipated revenue of at least Tsh49.9 billion.

**Figure 5. Monthly Tourist Arrivals through National Entry Points, 2007-2009**



Source: URT (2009)

Further, though the nationwide effects of the crisis on employment are yet to be compiled in Tanzania, available information indicates that quite a number of sectors have been negatively affected. A few cases that have been noted from the major projects (approved during 2006-2009) showed a decline of employment in tourism, mining, and agricultural estates (Table 1). The sharp decline was recorded in 2008-2009 whereby about 27 percent of the employees were laid off following the reduced number of projects in that period.

**Table 1. Employment Ventures in Major Projects from 2006-2009**

Period	Tourism	Agricultural Estates	Mining	Employment
2006	45	61	53	33,132
2007	76	47	57	37,010
2008	52	38	42	36,057
2009	44	29	37	26,211

Source: TIC, 2009

Likewise, declining remittances impacted the Tanzanians with relatives relative living abroad. However, according to Ndulu (2009), remittances from diaspora account for only 0.3 percent of the earnings of Tanzania was not that important transmission channel.

Given this susceptibility of Tanzania to the crisis, there has been a need to determine the repercussions of the crisis on poverty. The main objective of this study is to assess the impact of the crisis on poverty in Tanzania. The study explored various socioeconomic sectors and determined the ones affected by crisis. The study also looked at the different coping mechanisms adopted by households, as well as the programs implemented by the government, in response to the crisis. The results of the study would help in designing the necessary programs and inform policymakers on the priorities and relevant measures to mitigate the impact of the crisis.

## **ASSESSING THE MICRO-LEVEL IMPACT OF THE GLOBAL CRISIS**

Based on the objectives of the study, data and information about the micro-level impact of the crisis were obtained by using CBMS surveys in selected observatories. Different dimensions of poverty were monitored to capture household-level as well as community-level data.

The literature has shown that, not all macro-level impacts were translated to micro-level in Tanzania due to the fact that the pinch of the global crisis is contingent to how the country is linked globally in financial-economics and the associated local responses. Therefore, it was important to identify the relevant transmission channels by which the impact of the crisis could affect the households in Tanzania. The key channels include exports, tourism, foreign direct investment and aid, and local employment. Based on these channels and local development conditions, identification of poverty observatories was done.

### **Brief Profile of the Selected Sites**

The profile of the sentinel sites highlights some local preconditions that influenced their selection for the study. The poverty sentinel sites (observatories) included 17 urban wards and one village (43,554 households) in Dodoma municipality, Chakechake urban ward (3,260 households) in Lushoto district, and

Sultani urban ward (2,876 households) in Morogoro municipality. They were selected by ensuring that the relevant transmission channels of Tanzania could be observed as much as possible.

### *Dodoma municipality*

Dodoma Municipality being a new National capital was anticipated to attract foreign direct investments and aid in various ventures as envisaged in the Master plan of the Capital district. The Municipality also is the only area where grapes are grown in Tanzania for export (raw and processed).

### *Morogoro municipality*

Sultani ward in Morogoro has several buildings under construction. This was due to the revitalization project wherein the pace of land development and lifestyles of the affected households could reflect the impact through local employment and entrepreneurial activities.

### *Lushoto district*

Chakechake, in Lushoto district, has coffee plantations for export. There are also several fruit types grown in the area and most of them are exported either as raw or processed.

## **METHODOLOGY**

Two rider questionnaires namely Household Profile and Ward Profile questionnaires were developed specifically for capturing information on the indicators of outcome and impact of the crisis (Annex 1). The Global Financial Crisis indicators which already appeared in the standard CBMS core indicators (household and ward level) were excluded from the rider questionnaires. In order to guide the enumerators, training manuals were prepared showing the guidelines on how to administer the questionnaires. The enumerators and supervisors were trained on key CBMS concepts, administering the questionnaire in the field exercise, data encoding system and compilation.

Data for the existing CBMS core indicators (impact indicators) and GFC specific indicators (outcome indicators) as shown in Annex 1, were captured by using the above mentioned versions of questionnaires. Coping mechanisms were also monitored to determine the array of strategies employed by the household within local environment in response to income and welfare shocks from the crisis. The reference period of assessment was six months before the survey (January 2009).

The location map and household distribution of the sentinel sites are shown in Figure 6 and Table 2, respectively.

**Figure 6. Sentinel sites in Dodoma, Morogoro, and Lushoto**



Table 2. Population and Household Distribution

Nr	Ward Name	Municipality/ District	No. of Households	Population	Male	% of Total	Female	% of Total
1	K/Ndege	Dodoma – Urban	2,378	11889	5245	44.1	6644	55.9
2	Nala village	Dodoma – Rural	2,498	12490	6096	48.8	6394	51.2
3	Vivandani	Dodoma – Urban	1308	6673	3270	49.2	3403	50.8
4	Uhuru	Dodoma – Urban	1084	5526	2708	48.9	2818	51.1
5	Chamwino	Dodoma – Urban	8780	44777	21941	47.6	22836	52.4
6	Makole	Dodoma – Urban	4537	23138	11338	49.7	11800	50.3
7	Miyuj	Dodoma – Urban	3527	17986	8813	48.8	9173	51.2
8	Msalato	Dodoma – Urban	1927	9637	4722	45.9	4915	54.1
9	Nzuguni	Dodoma – Urban	2352	11758	5761	45.7	5997	54.3
10	Dodoma Makulu	Dodoma – Urban	1335	6676	3271	47.4	3405	52.6
11	Tambuka Reli	Dodoma – Urban	2162	10810	5297	46.9	5513	53.1
12	Kilimani	Dodoma – Urban	965	4826	2365	47.2	2461	52.8
13	Kikuyu Kaskazi	Dodoma – Urban	1362	6812	3338	48.1	3474	51.9
14	Kikuyu Kusini	Dodoma – Urban	968	4839	2371	46.7	2468	53.3
15	Hazina	Dodoma – Urban	2499	12495	6123	45.8	6372	54.2
16	Madukani	Dodoma – Urban	798	3992	1956	48.3	2036	51.7
17	Majengo	Dodoma – Urban	1537	7686	3766	49.2	3920	50.8
18	Kizota	Dodoma – Urban	3537	17687	8667	49.1	9020	50.9
19	Sultani	Morogoro Urban	2876	14668	7187	48.3	7481	51.7
20	Chake Chake	Lushoto – Urban	3260	15974	7827	48.4	8147	51.6
<b>Total</b>			<b>49,690</b>	<b>250,339</b>	<b>122,061</b>	<b>48.8</b>	<b>128,278</b>	<b>51.2</b>

Source: CBMS Survey, 2009

## RESULTS AND DISCUSSION

### Domestic Employment

Based on the CBMS data, 101,637 Tanzanians make up the labour force, of which 82.3 percent (90,243 people) were employed during the reference period (Table 3). This indicates an unemployment rate of 17.7 percent. About 65.3 percent of the employed individuals are male while 34.7 percent are female.

**Table 3. Domestic Employment**

	Total	%	Male	%	Female	%
Population above 15 years	194,334	77.6	95,029	48.9	99,305	51.1
Labor force	101,637	52.3	53,156	63.7	48,481	46.3
Employed	90,243	82.3	74,269	65.3	15,974	34.7
Unemployed	11,394	17.7	6,244	54.8	5,150	45.2

Source: CBMS Survey, 2009

### Distribution of Affected Workers by Sector

Based on the results of the survey, a total of 382 workers in public, private and donor-funded sectors lost their job during the period. Table 4 shows that the sector workers accounted for 46.1 percent, where most of the affected individuals were working with private firms owned or supported by foreigners, amounting to 53.9 percent (20% private locally supported, 20.4% private foreign support and 13.5% fully donor support). The decreased FDI might have contributed to the decrease or closure of firms that were supported by donors which then caused loss of jobs. About 32 percent of the workers were located in rural areas where only a few projects exist due to lack of necessary infrastructure.

**Table 4. Distribution of Affected Workers by Sector**

Sector	Total (%)	Male (%)	Female (%)	From Rural (%)	From Urban (%)
Public	46.1	24.2	21.9	13.0	16.7
Private (Local)	20.0	6.3	13.7	7.0	14.1
Private (Foreign)	20.4	11.2	9.2	9.0	15.2
Donor (Full donor)	13.5	4.3	9.2	3.0	21.0
	100.0	46.0	54.0	32.0	67.0

Source: CBMS Survey, 2009

## Reduced Working Hours and Reduction of Wages and Benefits

During the reference period, 124 households had members who experienced a reduction in their working hours while 74 households had members whose employment benefits were reduced (Table 5). Most of the affected members were working with the private sector especially in mining and construction industry which reduced their operations.

**Table 5. Job Loss and Reduction of Wage and Benefits**

Indicator	Number of Households Affected
Households with members who lost job	256
Households with members who had reduced working hours	124
Households with members who had reduced benefits	74

Source: CBMS Survey, 2009

## Impact on Asset Loss

### *Access to savings and loan*

As presented in Table 6 below, the survey showed that only 19 percent of the households were able to withhold their savings while 55 percent spent all of their savings in response to the hardships. Also, 26 percent of the households had access to loans from their employers or philanthropic groups. The results show that the proportion of household which accessed loan is higher in urban areas than in rural areas. This can be attributed to limited access of the rural people to the credit facilities and the reduced income that could not allow savings.

**Table 6. Access to Savings and Loan**

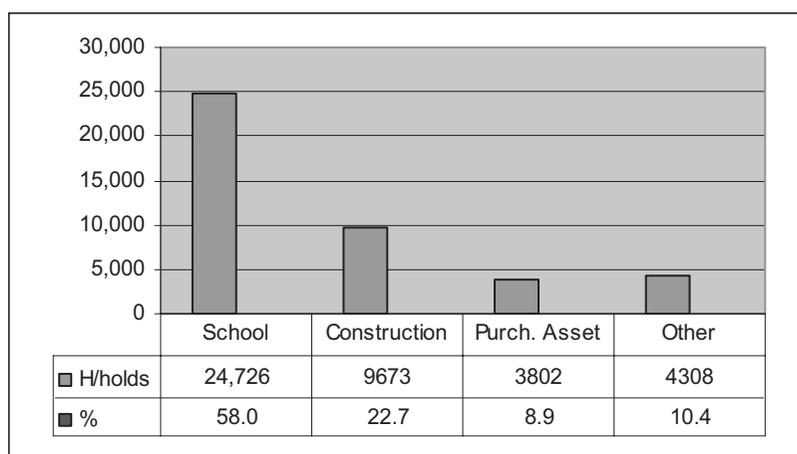
Strategy	Urban (%)	Rural (%)	Total (%)
Had savings	16.2	2.8	19.0
Used savings	47.0	7.3	55.0
Had loan	22.0	2.0	26.0
Total (%)	85.2	12.1	100.0

Source: CBMS Survey, 2009

## Reasons for having savings and loan

Most of the households with loans or savings used the amount for paying school fees (58%) and construction (22.7%). Others (10.4%) had medical services to consider which became scarce and expensive during the crisis. The rest used the money to purchase assets and services such as medical treatments or services which became scarce and expensive during the crisis.

**Figure 7. Reasons for Soliciting Savings and Loans**

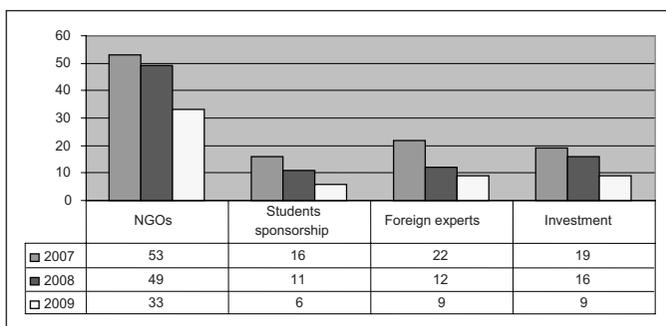


Source: CBMS Survey, 2009

## Impact on Foreign Direct Investment and Aid

The ward profiles have shown a decline in foreign aid among the various components regularly financed by aid by comparing the 2007, 2008, and 2009 data (Figure 8). It was noted that there has been a trend of decreasing aid to non-governmental organizations whereby 20 organizations (37%), (i.e., from 53 to 33) could no longer get financial support. In the same period, a number of foreign experts working in various sectors decreased from 22 to 9 as their contracts could not be renewed. Seemingly, most of the donor countries have directed their funds to mitigation measures in their own countries.

**Figure 8. Decline of Number of Recipients of Foreign Aid**



Source: CBMS Survey, 2009

## Impact on Exports

Most of the households engaged in cash crop production could not sell their crops conveniently (timely and good price) during the period of reference (Table 7). For instance, Lushoto district farmers had to wait several days to market their fruits (56%) and potatoes (43%). The middlemen had difficulties getting reliable orders due to the inconvenient transport system for buyers to reach the rural areas. Before 2009, only about 5 percent of vegetables could not be sold, later on, the unsold amount increased to about 20 percent for the same reason above. On the other hand, in Dodoma, the big winery established recently in the area is a potential market for the 92 percent of the grape production. However, the wine market was reported unfavorable in the reference period where orders were cancelled.

**Table 7. Convenience of Selling Cash Crops Commercially (not petty trading) in Percentage**

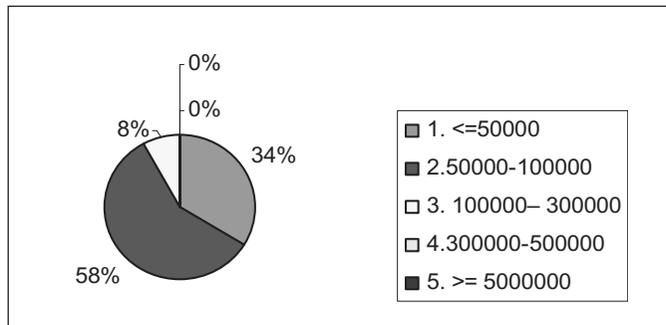
Crop	Ready Market (%)	Waiting for Market (%)	Not Sold in 2009 (%)	Not Sold before 2009 (%)
Groundnuts	45.0	55.0	0.0	0.0
Grapes	92.0	0.0	8.0	2.0
Potatoes	37.0	43.0	20.0	5.0
Vegetables	35.0	45.0	20.0	5.0
Fruits	32.0	56.0	12.0	3.5
Sugarcane	30.0	55.0	15.0	5.0
Sunflower	93.0	7.0	0.0	0.0
Cotton	25.0	75.0	0.0	0.0

Source: CBMS Survey, 2009

## Impact on Tourism

There were 2,219 households (12.3% tourism-related employment) which engaged in making and selling souvenirs and other commodities also suffered an income decline during the reference period. As shown in Figure 9, about 58 percent of the affected households had a decline of above 500,000TZS (about US\$500). The affected were travel agents, transporters (i.e., taxis, buses, car rentals, and safari/tour) and operators of hotels, restaurants, and camping sites when the arrivals of tourists decreased.

**Figure 9. Affected Households by Income Decline in Tourism Activities (in TZS)**



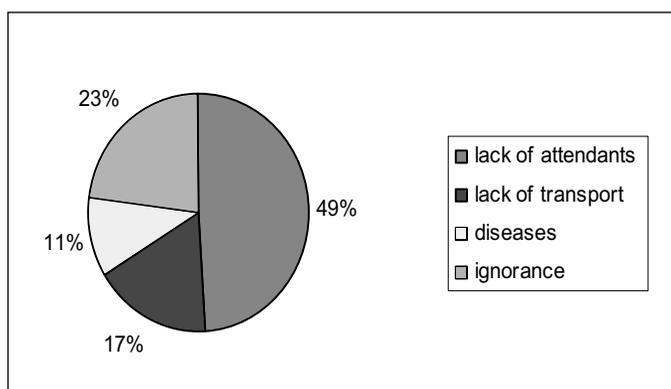
Source: CBMS Survey, 2009

## Impact at the Household Level

### *Health and nutrition*

As shown in Figure 10, the deaths of children aged between 0-5 years who died in the period of reference were caused by lack of attendants (49%), lack of transport to the hospitals (17%), ignorance (23%) and lack of medication for diseases like diarrhea, HIV/AIDS, measles, malaria, and meningitis (11%). Lack of attendants was a major problem in most government hospitals in the study areas. The results confirm the general situation in Tanzania being ascribed to poor working environment and low benefits, among others.

**Figure 10. Reasons of Deaths of Children Aged 0-5 Years**



Source: CBMS Survey, 2009

### ***Education***

Table 8 shows the 539 children (17.1%) who dropped out of school during the reference period. Some 251 (46.6%) were males and 288 (53.4%) were females. High number of dropouts was recorded in Nala village (11.3%), K/Ndege ward (9.6%), Viwandani ward (7.6%) in Dodoma, and Chakechake ward (8.7%) in Lushoto. Other wards' dropouts ranged from 2-6 percent. Lack of school fees was the main reason (59.2%) for the dropouts. However, 24.5 percent also included the following problems like lack of school uniforms, laziness, early pregnancies and marriages.

### ***Employment***

Distribution of workers who lost job by type of occupation is shown in Table 9. The most affected workers, especially males, were employed in construction (10.3%) and mining (11.2%) which were among the investment areas that declined as a result of the crisis.

**Table 8. Children Who Dropped Out of School**

Ward	Nr	Dropouts from school				Reasons					
		Male		Female		% Fees	% Sickness	% Other	% %		
		% Total	%	%	%						
K/Ndege	52	22	30	42	58	31	9	12	59.6	17.3	23.1
Nala village	61	26	35	42.6	57.4	40	6	15	65.6	9.8	24.6
Vivandani	41	18	23	43.9	56.1	32	2	7	78.0	4.9	17.1
Uhuru	23	9	14	39.1	60.9	13	3	7	56.5	13.0	30.4
Chamwino	26	11	15	42.3	57.7	11	6	9	42.3	23.1	34.6
Makole	19	9	10	47.4	52.6	8	3	8	42.1	15.8	42.1
Miyuj	21	10	11	47.6	52.4	9	5	7	42.9	23.8	33.3
Msalato	17	8	9	47.1	52.9	9	3	5	52.9	17.6	29.4
Nzuguni	31	13	18	41.9	58.1	17	4	10	54.8	12.9	32.3
Dodoma Makulu	29	13	16	44.8	55.2	21	6	2	72.4	20.7	6.9
Tambuka Reli	23	12	11	52.2	47.8	11	1	11	47.8	4.3	47.8
Kilimani	11	7	4	63.6	36.4	5	4	2	45.5	36.4	18.2
Kikuyu Kaskazi	13	7	6	53.8	46.2	7	5	1	53.8	38.5	7.7
Kikuyu Kusini	22	9	13	40.9	59.1	13	5	4	59.1	22.7	18.2
Hazina	18	11	7	61.1	38.9	9	3	6	50.0	16.7	33.3
Madukani	13	6	7	46.2	53.8	5	5	3	38.5	38.5	23.1
Majengo	16	7	9	43.8	56.3	7	3	6	43.8	18.8	37.5
Kizota	29	16	13	55.2	44.8	21	4	4	72.4	13.8	13.8
Sultani	27	15	12	55.6	44.4	17	4	6	63.0	14.8	22.2
Chake Chake	47	22	25	46.8	53.2	33	7	7	70.2	14.9	14.9
<b>Total</b>	<b>539</b>	<b>251</b>	<b>288</b>	<b>46.6</b>	<b>53.4</b>	<b>319</b>	<b>88</b>	<b>132</b>	<b>59.2</b>	<b>16.3</b>	<b>24.5</b>

Source: CBMS Survey, 2009

**Table 9. Job Loss by Type of Occupation**

Occupation	Male	Female	Total
Mining	11.2	6.0	17.2
Construction	10.3	9.2	19.5
Agriculture	9.0	6.3	15.3
Education	8.4	6.6	15
Export/import	6.3	4	10.3
Others	6.0	3.0	9.0
Health	7.4	6.3	13.7
<b>Total</b>	<b>58.6</b>	<b>41.4</b>	<b>100.0</b>

Source: CBMS Survey, 2009

## Impact at the Community Level

### *Prices of commonly consumed items*

The survey showed that the prices of commonly consumed commodities in the households changed significantly during 2008 towards 2009. The 28.6 percent rice price increase during 2007-2008 raised 66.7 percent during 2008/2009 (Table 10). In the same period, the price of kerosene increased by 50.0 percent while prices of millet increased by 40.0 percent. These changes can be attributed to the rise in the costs of transport and closure of several selling points that triggered low supply of the identified items in the reference period of crisis.

**Table 10. Prices of Commonly Consumed Items**

Item	2007	2008	Change (%)	2009	Change (%)
Millet (Tshs/kg)	400.00	500.00	25.0	700.00	40.0
Rice (Tshs/kg)	700.00	900.00	28.6	1,500.00	66.7
Maize (Tshs/kg)	500.00	700.00	40.0	1,000.00	42.9
Millet Tshs/kg)	400.00	500.00	25.0	700.00	40.0
Sorghum (Tshs/kg)	400.00	500.00	25.0	700.00	40.0
Beans (Tshs/kg)	1,000.00	1,500.00	50.0	2,000.00	33.3
Cooking Oil (Tshs/litre)	1,200.00	1,600.00	33.3	2,000.00	25.0
Kerosene (Tshs/litre)	700.00	800.00	14.3	1,200.00	50.0
Fertilizers (Tshs/kg)	1,000.00	1,200.00	20.0	1,600.00	33.3

Source: CBMS Survey, 2009

### *Voluntary activities*

The household members who volunteered in the community activities were reported to work in child care centers and in community based organizations. The survey showed that 41.3 percent of the volunteers had their frequency of attending to the activities reduced from 3 days to 1 day per week while 46.8 percent stopped working. Most of them had to spend that time in other income generating activities during the period of reference when they experienced wage-cut or job loss.

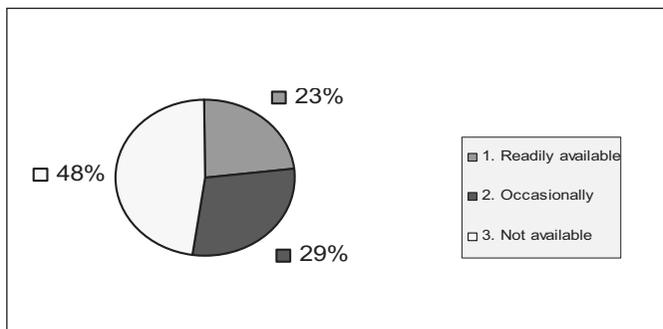
### *Public services*

Provisioning of public services was assessed focusing on essential drugs in the government health centers, length of waiting time by the recipients and frequency of obtaining as planned.

#### *Availability of essential drugs*

The survey revealed that 48 percent of the respondents said that the essential drugs were not available in the government health centers (Figure 11). Seemingly, some of these respondents only visited the health centers occasionally as they relied on generic medication. Possibly also, there were not enough funds to buy and supply the drugs due to the budgetary constraint during the crisis.

**Figure 11. Availability of Essential Drugs**

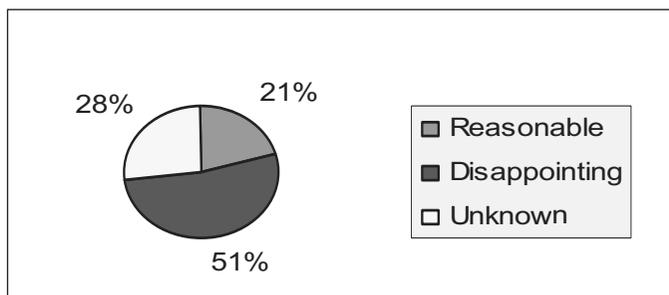


Source: CBMS Survey, 2009

### *Length of waiting time to obtain services*

About 51 percent of the interviewed households commented that the waiting time in availing government services was disappointing (Figure 12). This was associated with lack of sufficient or competent attendants who might not be attracted to the government employment due to poor working environment in the public sector.

**Figure 12. Length of Waiting Time**



Source: CBMS Survey, 2009

### *Credit availability*

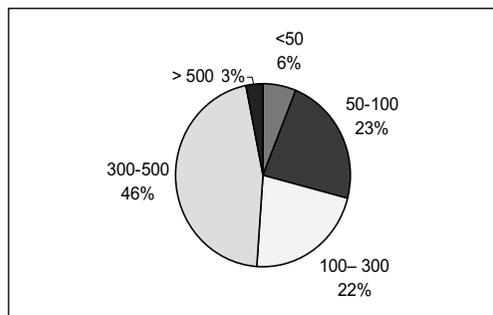
Availability of credit in the study areas was reported to be in place through Savings and Credit Cooperative Societies (SACCOS), farmers' banks, and women groups. However, most of the households find these facilities unaffordable due to high interest rates ranging from 15-21 percent. The maximum installment period was between 1 to 3 months, the period good enough for a low interest rate.

### *Access to safety nets*

The safety nets included various mechanisms implemented by the government to mitigate the effects of poverty on vulnerable households during times of stress. Figure 13 showed that 46 percent of the households sought financial support ranging from 300,000TZS to 500,000TZS (per household) because of higher education fees. Households loaned the amount to be paid back

after completion of the studies. The 78.3 percent of the households who availed of the educational loan said that job loss triggered them of the option. Their children needed to continue their studies.

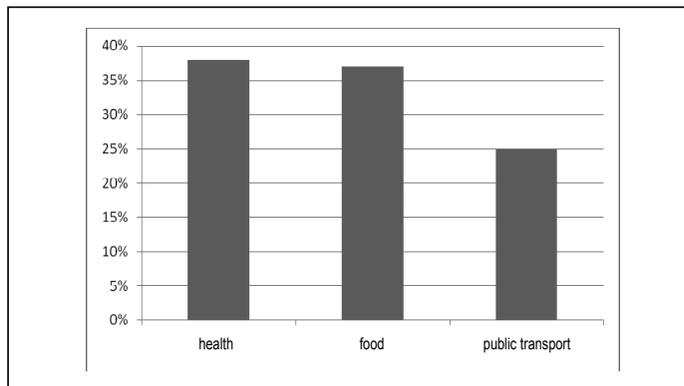
**Figure 13. Financial Support for Education from the Government (000'TZS)**



Source: CBMS Survey, 2009

The study also showed that the government's household subsidy included the following: 38 percent for health, 37 percent for food, and 25 percent for public transport (Figure 14). However, majority of the households did not receive the said subsidy because such services had to be obtained from public firms which are said to be few and less effective than the private firms.

**Figure 14. Households that Benefited from the Public Transport**



Source: CBMS Survey, 2009

## ESTIMATION OF LEAKAGE AND EXCLUSION

Based on income quintiles in the surveyed sites, some poor households could not access the safety nets. This condition was referred as exclusion. On the other hand, some non-poor households were able to access the safety nets referred as leakage. Poor households were earning less than the minimum wage in Tanzania (120,000TZS or US\$75 per month). For instance, food assistance had a leakage of 35.4 percent and an exclusion of 28.7 percent in Nala while education loan had a leakage of 44.3 percent and an exclusion of 35.5 percent in the same site (Table 11). In K/Ndege, there was a leakage of 41.2 percent and an exclusion of 32.3 percent in food assistance. However, when compared to several other wards such as Msalato and Kilimani, the leakage rate was much less in the former than the latter. The leakage for food assistance in Madukani was 66.7 percent while Msalato recorded a lower rate at 55.2 percent. The slightly lower rate recorded in Nala and K/Ndege can be attributed to the updated information that in Nala and K/Ndege have on poor and non-poor households, thus better targeting. In the case of education loans, a factor that might have contributed to the exclusion was that most of the poor households' children were in public schools with poor studying environment affecting their children's performance. The resulting poor performance of children turned out to be a difficulty of the poor families' chance of being considered for a loan package.

Table 11 further shows the distribution of households with access to food assistance and education loan by quintile. Results show that not all households in the poorest quintile were able to access these programs. At the same time, even those at the richest quintile were able to benefit from these programs.

Table 11. Access to Programmes, Leakage and Exclusion Estimation

Ward	Total hhdhs with access	Households with access					Leakage (%)	Exclusion (%)
		Quintile 1 (%)	Quintile 2 (%)	Quintile 3 (%)	Quintile 4 (%)	Quintile 5 (%)		
<b>Food Assistance</b>								
Nala village	630	12.9	50.5	10.5	41.6	37.8	35.4	28.7
Kindege	563	24.8	49.5	15.6	38.9	32.1	41.2	32.3
Vwandani	472	20.8	46.9	22.0	30.5	33.1	41.2	35.0
Uhuru	329	29.7	31.7	29.2	20.4	31.6	52.5	20.4
Cherwino	564	39.6	37.6	33.0	37.2	16.0	45.1	30.7
Makole	621	28.7	46.5	39.5	25.8	42.7	44.2	28.7
Miyuji	543	30.7	37.6	22.8	23.9	40.5	42.7	28.7
Misalato	356	21.6	36.6	27.2	21.6	34.6	55.2	28.7
Nziuguni	424	32.7	31.7	22.4	31.7	37.5	17.4	19.3
Dodoma Makulu	315	29.7	20.8	20.3	32.4	31.1	49.3	18.1
Tambuka Reli	468	33.7	23.8	23.9	23.1	40.6	37.7	32.9
Kilimani	412	18.8	41.6	22.8	25.7	42.4	18.0	18.0
Kikuyu Kaskazi	582	41.6	28.7	19.1	33.8	34.9	40.8	29.9
Kikuyu Kusini	475	19.8	42.6	23.6	21.1	39.9	39.8	33.3
Hazina	357	20.8	30.7	30.0	26.1	26.4	32.2	20.2
Madukani	369	20.8	24.8	24.7	29.5	33.3	66.7	18.7
Majengo	472	21.8	35.6	14.2	49.4	24.2	39.3	30.9
Kizota	527	30.7	41.6	14.4	42.5	29.2	44.8	30.9
Suitani	476	31.7	38.6	17.4	24.6	43.3	34.2	34.2
Chake Chake	457	24.8	41.6	20.8	30.9	33.7	40.6	36.1
<b>Education loan</b>								
Nala village	478	10.9	31.7	10.5	41.6	37.8	44.3	35.5
K. Indege	578	21.8	50.5	15.6	38.9	32.1	41.2	32.3
Vwandani	472	26.7	40.9	22.0	30.5	33.1	31.1	27.0
Uhuru	119	31.7	30.6	19.2	20.4	31.6	52.2	19.4
Cherwino	256	40.6	36.6	31.0	37.2	16.0	21.7	19.7
Makole	162	28.7	40.6	49.2	35.1	25.1	42.3	22.3
Miyuji	243	30.7	37.6	22.1	38.2	39.2	38.2	38.7
Misalato	156	36.6	34.7	23.2	27.9	31.7	23.2	18.1
Nziuguni	424	29.7	36.6	21.4	22.6	39.1	39.1	34.3
Dodoma Makulu	215	35.6	22.8	34.2	30.7	33.2	34.5	38.3
Tambuka Reli	427	39.6	23.8	33.1	30.7	30.6	37.2	32.7
Kilimani	312	13.9	47.5	33.6	25.2	36.7	52.4	38.0
Kikuyu Kaskazi	382	31.7	26.7	29.1	31.6	40.8	40.8	29.9
Kikuyu Kusini	321	51.5	62.4	23.6	21.7	39.9	39.9	33.3
Hazina	257	25.7	30.7	30.0	26.2	25.4	32.2	20.2
Madukani	369	24.8	24.8	17.7	39.2	46.7	46.7	48.7
Majengo	172	31.7	35.0	14.1	29.2	34.1	34.1	32.0
Kizota	327	33.7	41.6	24.8	32.7	19.8	24.8	37.9
Suitani	569	39.6	30.7	19.3	24.2	33.9	46.2	31.3
Chake Chake	492	18.8	37.6	31.9	31.7	38.7	43.7	33.8

Source: CBMS Survey, 2009

## RESULTS OF CBMS CORE INDICATORS DURING 2007 AND 2009

In K/Ndege ward, the CBMS results showed that the proportion of households with income below the poverty threshold increased from 37.7 percent in 2007 to 39.4 percent in 2009, reflecting a 1.7 percentage points increase (Table 12). This meant a deterioration of other dimensions including shelter, employment, and food sufficiency, among others. Water and sanitation reflected an improvement during the reference period as shown by the decline in the proportion households without access to safe water supply and sanitary toilet facilities. This can be a result of initiatives following the previous CBMS project that revealed the severity of problem in water and sanitation. Likewise, squatter housing increased by 0.3 percent indicating that households in the urban area could not develop their plots according to building condition because of increased prices of building materials and construction costs.

**Table 12. Results of CBMS Core Indicators During 2007 and 2009**

INDICATORS	2007		2009		Change (in percentage points)	
	Nala	K/Ndege	Nala	K/Ndege	Nala	K/Ndege
<b>HEALTH AND NUTRITION</b>						
Proportion of children aged 0-5 years old who died	0.4	0.2	0.8	0.5	0.4	0.3
Proportion of women who died due to pregnancy related causes	0.2	0.1	0.5	0.3	0.3	0.2
Proportion of children aged 0-5 years old who are malnourished	4.0	1.1	5.4	1.3	1.4	0.2
<b>SHELTER</b>						
Proportion of households that are squatters	0.0	2.8	0.0	3.1	0.0	0.3
<b>WATER AND SANITATION</b>						
Proportion of households without access to safe water supply	3.7	2.3	3.6	2.2	-0.1	-0.1
Proportion of households without access to sanitary toilet facilities	3.6	1.2	3.1	0.8	-0.5	-0.4
<b>EDUCATION</b>						
Proportion of children aged 3-6 years old who are not attending elementary school	12.8	9.6	11.2	0.3	-1.6	-9.3
Proportion of children aged 7-18 years old who are not attending secondary school	13.3	9.4	12.8	3.1	-0.5	-6.3
<b>INCOME</b>						
Proportion of households with income below the poverty threshold	38.3	37.7	41.6	39.4	11.3	1.7
Proportion of households that experienced food shortage	21.6	15.3	23.9	16.7	2.3	1.4
<b>EMPLOYMENT</b>						
Proportion of persons who are unemployed	17.5	15.6	19.6	19.7	2.1	4.1
<b>PEACE AND ORDER</b>						
Proportion of persons who were victims of crimes	2.0	3.2	2.4	4.4	0.4	1.2

Source: CBMS Survey, 2007 and 2009

## COPING MECHANISMS ADOPTED BY THE HOUSEHOLDS

Based on the CBMS data, the most common coping strategy adopted by the households during the period covered by the study is engaging in new income activity (poultry/gardening). In fact, 81.2 percent of the households reported that they started a new income activity. In addition, 78.3 percent of the households cut back on electricity, 78.2 percent borrowed money, and 72.1 percent boiled water at home instead of consuming bottled water. Meanwhile, 67.3 percent reduced the number of meals or consumed food with less quality. It is also important to note that 28.2 percent of the households reported that they transferred their children from private to government school. The said strategies were applied mostly in the rural than in urban areas due to difference in lifestyle and available alternatives, among others. In Dodoma rural area for instance, the households were more sensitive to the use of electricity, drinking water, meals, and entertainment. In urban areas, some expenses could not be avoided as there no alternatives. Some housing types do not allow the use of fuel wood. Urban do not allow abandoning certain entertainments, use of private car, use of bottled water, and the like.

The study also showed how that the non-poor and poor households responded differently in the adoption of the strategies. For instance, 62.1 percent of the non-poor households borrowed money while the poor ones did it at the rate of 10 percent points less. This can be attributed to the fact that poor households were less credible in loan arrangements. There is also a significant difference in terms of decline from entertainment practices. About 57.1 percent of the top 60 households reported that they reduced expenses on entertainment/recreation. The estimate is higher compared to the bottom 40 households where only about 38.6 percent said that they adopted this strategy during the period. The fact that poor households participate in the entertainments only occasionally may account for the observed difference.

Table 13. Coping Mechanisms as Adopted by the Households in all Three Sites

Coping Strategy	Total	Income Group		Income Quintile				
		Top 60	Bottom 40	1	2	3	4	5
Engaged in new income activity (poultry/gardening)	81.2	68.7	82.3	65.6	66.4	80.2	78.9	79.2
Cut back on using electricity	78.3	61.2	53.2	52.4	51.7	53.5	59.8	57.4
Borrowed money	78.2	62.1	51.8	47.8	48.4	47.7	46.4	48.8
Boiled water at home and not bottled	72.1	67.3	73.1	53.3	57.4	57.5	51.7	62.7
Reduced the number of meals/less quality	67.3	52.9	68.7	57.5	58.2	58.7	46.4	57.9
Reduced communication expenses	62.4	56.8	61.5	56.4	43.5	44.2	48.3	52.4
Took meat and milk only occasionally	62.1	57.3	57.6	56.2	43.8	45.7	50.3	57.9
Reduced entertainments/recreation	57.3	57.1	38.6	56.8	56.9	37.3	33.6	46.7
Changed type/brand of drinks	52.9	48.3	58.8	59.3	57.8	47.9	48.2	48.3
Used private car less frequently	51.3	48.2	56.5	57.9	36.4	43.2	43.7	44.8
Shifted to generic drugs	42.5	42.1	42.3	38.7	46.2	47.3	47.6	48.2
Reduced clothing expenses	41.9	37.3	42.1	43.2	39.1	43.7	43.9	44.6
Pawned assets	31.2	22.4	32.9	27.4	28.9	28.2	30.2	31.3
Shifted from private to government school	28.2	31.9	36.9	34.2	33.8	34.5	34.7	40.1
Shifted from private to government health center	22.3	26.6	32.8	31.7	34.3	32.5	36.6	34.8
Purchased food on credit	27.3	28.2	34.8	28.8	36.8	37.3	37.7	37.9
Relied on help from friends for food	27.1	37.6	42.4	28.1	30.4	43.2	45.5	45.2
Ate same food for several days in a row	26.8	35.9	37.8	26.3	28.2	32.5	34.9	39.3
Prepared food to last longer (e.g. smoking fish)	25.9	21.3	35.5	35.2	35.6	36.8	36.5	38.7
Cut back on medical expenses	24.7	22.5	33.8	34.3	35.2	34.3	34.6	36.1
Cut back on education expenses (book, pencils)	24.5	31.9	39.1	29.7	26.3	31.2	35.7	38.3
Had persons below 15 years old who are working (not previously working)	23.3	21.2	30.3	11.2	22.4	25.2	29.3	27.8
Had persons 60 years old and above who are working (not previously working)	21.7	18.2	28.5	22.8	31.1	32.5	32.2	30.3
Sold productive assets delete	21.2	17.6	13.8	14.3	18.2	22.1	22.0	22.8

Source: CBMS Survey, 2009

# MITIGATION OF THE IMPACT OF THE GLOBAL CRISIS

## Measures Implemented at the Local Level

In response to the crisis and other prevailing poverty shocks, the councils in the project sites have implemented several strategies in order to mitigate the impact.

- Ward secondary schools have been developed in order to reduce the distance to school and minimize boarding costs
- Lunch is now prepared in all government day schools as most of the pupils do not get meal in their homes
- Councils have made it obligatory for every worker to register for health insurance by contributing 5 percent of his or her salary. Every worker is then entitled to include four household members or relatives to benefit from the service. All respondents reported to have benefited from this scheme.
- Distribution of subsidized food to poor households through ward centers.
- The councils, through the Community Development Department, encouraged and supported community based organizations. About 20 percent of the revenue collected from the ward or village is given back to local government units or LGUs to support micro-credit organizations for entrepreneurial activities.
- Provision of subsidies for fertilizer and medication fees, regularization of common food prices, and leveraging public transport operation.

It is worth mentioning that there were cases of leakage and exclusion in providing assistance to the poor. Complaints at the ward level through letters and suggestion boxes showed that about 27 percent of the poor households entitled to subsidies could not avail of it. Some of the poor households were excluded while there some non-poor households were included (especially in urban areas). This was due to the lack of proper information available at the district headquarters.

## Measures Implemented at the National Level

The government of Tanzania has put in place a two-year economic rescue plan (2009/10-2010/11), approved by the Parliament in June 2009. The main components of the plan are:

- i. Reducing the tax rate, such as the value added tax or VAT rate from 20-18 percent and income tax of selected categories from 30-25 percent.
- ii. Accommodating monetary policy: The Bank of Tanzania (BOT) has relaxed its monetary policy stance, beginning in the fourth quarter of 2008-09, to facilitate bank financing of the private sector.
- iii. Reducing the penal rate for BOT's standby facilities (e.g., the discount rate) to allow easy and cheaper access by the banks to resources from the central bank.
- iv. Bridging the foreign exchange gap: A loan amounting to US\$336 million from the International Monetary Fund (IMF) under the Exogenous Shocks Facility (ESF) to fill the gap in the balance of payments caused by the decline in exports was approved by the IMF Board. The first instalment, of US\$245.8 million, was disbursed in June 2009. In addition, the IMF Board approved an enhancement of Special Drawing Rights (SDR) allocations to Tanzania, equivalent to US\$249 million.

Under the rescue plan, the government allocated TZS 1.7 trillion (US\$1.307 billion) in the 2009-10 budget to bail out the economy, certain areas of which had already been hit hard by the global crisis, including agricultural exports and tourism.

The government has already channelled TZS 21.9 billion of this directly to the banking subsector to cover losses suffered by bank clients like cooperatives and firms that bought agricultural products from farmers. Announcing the package in June 2009, President Jakaya Kikwete promised that the government would further guarantee financial institutions for loans worth TZS 270 billion, extended to companies that fail to repay their loans as a result of the global recession. The guarantee will be for two years wherein lending institutions will not charge interest on loans.

Another measure was to avail affordable capital for businesses. Under this scheme, the government released a stimulus package of TZS 200 billion through the commercial banks. Another segment of the package has gone into guarantee schemes, whereby TZS 10 billion has been set aside for the Export Guarantee Scheme and another TZS 10 billion for small and medium-sized enterprises.

## CONCLUSION AND RECOMMENDATIONS

Different households suffered the crisis in different scales in both rural and urban areas. Their response were mostly contingent to the local resources and type of socioeconomic activities. The types of income groups have also triggered differences in the adoption of the coping mechanisms. At national level, there are already some specific economic sectors that have been affected significantly. Therefore, from the perspective of policy implications, there is a need to be more proactive instead of being reactive in addressing the crisis on the affected sectors and households. Awareness-raising about the crisis in the community is imperative to pave way for the necessary mitigation strategies against the associated impact.

The design and management of social safety nets should take into account their sustainability in terms of creating wider multiplier effects. This includes the issuance of revolving funds and input subsidies whose operations could be tied to local resource mobilisation (e.g., village banks and savings and credit cooperative societies) and farmer empowerment.

Most of the medium- and long-term mitigation measures may need more data and even more comprehensive analysis so that they can better be addressed by national level policies. Although the local and central governments has identified and implemented some programs that could mitigate the impact of the crisis, more efficient targeting is necessary. There is a need for a good targeting mechanism in order to minimize leakages and exclusion. In this case, CBMS methodology stands as a reliable and robust tool to unravel substantial facts that are still in obscurity.

However, the main challenge for Tanzania remain in its low tax base, inability to mobilise enough domestic resources for development projects and over-reliance on donor finance for development projects, where risks created unsustainable interventions. Prudent use of natural resources such as minerals, natural gas, forestry and fishery products, and promotion of regional tourism is important. Many tourist attractions exist in Tanzania compared with its neighbouring countries. Thus, creating a more responsible working and governance culture, whereby all sections of society take the crisis seriously and adjust accordingly, is a good point of entry towards mitigating the impact of the crisis.

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# ANNEX I

## DEVELOPED SET OF INDICATORS

The indicator sets are shown in the table below specifying those which are already in the existing CBMS (in regular font) and the ones which are added to capture the impact of the crisis (in bold font).

### List of Outcome Indicators

Hereunder are indicators for capturing the immediate and direct impact of the crises on households through five transmission channels applicable in Tanzania.

CHANNEL	INDICATOR
1. OVERSEAS WORKERS AND REMITTANCES	RETURNING OVERSEAS WORKERS
	<b>Number of overseas worker who have returned from work abroad*</b>
	DIMINISHING REMITTANCES
	<b>Number of overseas worker who experienced pay cut*</b>
	<b>Proportion of wage cut to total wage of overseas worker</b>
	<b>Proportion of income from remittances to the total household income</b>
	<b>Number of HHs who saw a decline in remittances received*</b>
2. DOMESTIC EMPLOYMENT	<b>Number of employed persons who experienced wage cut*</b>
	<b>Proportion of wage cut to total wage of employed member of the household</b>
	<b>Proportion of income from wage/salary to the total household income</b>
	<b>Number of employed persons who experienced reduction in benefits</b>
	<b>Number of persons who lost job*</b>
	Number of households that have access to public health services
	Number of persons who availed of any government employment program
3. FOREIGN DIRECT INVESTMENT	Number of recently registered investment ventures (construction, mining)
	Number of investment ventures closed down
4. FOREIGN AID	Number of foreign NGOs existing in the area
	Number of aid-reliant NGOs which are newly registered
	Number of donor funded projects closed or reduced aid provisioning
5. EXPORTS	Number of households who could not sell their cash crops due to low demand in the market
6. TOURISM	<b>Number of tourists from outside the country who visited tourist sites*</b>
	<b>Number of "prior arrangements" accommodation registered for tourist visits in hotels</b>
	<b>Proportion of income from tourism to the total income of tourist company</b>
	<b>Number of tourism related businesses (souvenir sellers, safaris) signed up in trade department</b>
	<b>Number of tourist companies which reduced/closed their services *</b>
	<b>Number of days spent in the tourist sites*</b>

\* The data obtained by these indicators adopts the 6-month period before the survey and the questions incorporated this reference period.

## List of Impact Indicators: Household Level

HEALTH AND NUTRITION		DEFINITION	FORMULA
1	Proportion of children aged 0-5 years old who died	Death occurred after birth up to the age of 5 years. This excludes fetal deaths.	Total number of children aged 0-5 years old who died over total number of children aged 0-5 years old plus the total number of child deaths 0-5 years old
2	Proportion of women who died due to pregnancy related causes	Pregnancy related death is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the cause of death.	Total number of women who died due to pregnancy related causes over total number of children less than one year old plus total number of women who died due to pregnancy related causes
3	Proportion of children aged 0-5 years old who are malnourished		Total number of children aged 0-5 years old who are malnourished over total number of children aged 0-5 years old
<b>SHELTER</b>			
4	Proportion of households living in makeshift housing	Considered as makeshift housing as those housing structure with makeshift/salvaged materials in walls and/or roof.	Total number of households living in makeshift housing over total number of households
5	Proportion of households that are squatters	Considered as squatters are those households that live in house and/or lot that they do not own and without permission/consent of owner.	Total number of households that are squatters over total number of households
<b>WATER AND SANITATION</b>			
6	Proportion of households without access to safe water supply	Considered as safe water supplies are community water system, deep well and artesian well whether own use or shared with other households.	Total number of households without access to safe water supply over total number of households
7	Proportion of households without access to sanitary toilet facilities	Considered as sanitary toilet facility are water-sealed flush to sewerage system or septic tank whether own use or shared with other households and closed pit.	Total number of households without access to sanitary toilet facilities over total number of households
<b>EDUCATION</b>			
8	Proportion of children aged 6-12 years old who are not attending elementary school		Total number of children aged 6-12 years old who are not attending elementary school over total number of children aged 6-12 years old
9	Proportion of children aged 13-16 years old who are not attending secondary school		Total number of children aged 13-16 years old who are not attending secondary school over total number of children aged 13-16 years old

<b>INCOME</b>			
10	Proportion of households with income below the poverty threshold	Poverty threshold is estimated by inflating the officially released poverty threshold of the national statistical agency for the area using prevailing monthly consumer price indices (CPI) also from the same agency for the reference period of the survey.	Total number of households with income below the poverty threshold over total number of households
11	Proportion of households with income below the food (subsistence) threshold	Food (subsistence) threshold is estimated by inflating the officially released food (subsistence) threshold of the national statistical agency using prevailing monthly consumer price indices (CPI) from the same agency for the reference period of the survey.	Total number of households with income below the food (subsistence) threshold over total number of households
12	Proportion of households that experienced food shortage		Total number of households that experienced food shortage over total number of households
<b>EMPLOYMENT</b>			
13	Proportion of persons who are unemployed	Considered as members of the labor force are 15 years old above who are employed and those who are unemployed but currently available for work and seeking work; or not seeking work due to the following reasons: (a) tired/ believe no work available; (b) awaiting results of previous job application; (c) temporary illness/ disability; (d) bad weather; and (e) waiting for rehire/job recall.	Total number of labor force who are unemployed over total number of labor force
14	Proportion of persons who are underemployed		Total number of labor force who are underemployed over total number of labor force
<b>PEACE AND ORDER</b>			
15	Proportion of persons who were victims of crimes	Household member became a victim of murder, rape, abuse or physical injury regardless of place of occurrence of the crime	Total number of persons who were victims of crimes over total population

## List of Impact Indicators: Community Level

DIMENSION	INDICATOR
PRICES (based on local prices and secondary data)	price of key food grains (millet, rice, corn, and sorghum) price of cooking oil price of kerosene fertilizer prices transport costs
VOLUNTARY ACTIVITIES	established donor-funded community-based organizations religious groups (supporting SACCOS and entrepreneurship)
PUBLIC SERVICES	availability of essential drugs in community health centers length of waiting time in availing government services frequency of provision of specific government services
CREDIT	availability and cost of credit maximum installment period for soft loans
ACCESS TO SAFETY NETS	support for the poor in health care
	support for the poor in education
	support for the poor in utilities (subsidized water, energy, public transport)
	credit provision to the poor
	publicly financed health insurance program
availability of extension services in cultivation and animal keeping	

## List of Indicators for Coping Mechanisms

The following indicators are intended to capture changes in household behavior within a specified period of time, particularly the array of coping strategies employed by the household in response to income and welfare shocks from the global financial and economic crisis.

	DIMENSION	INDICATOR
1	HEALTH AND NUTRITION	Number of households who reduced the number of meals Number of households who concentrated expenditure on staple food Number of households who ate less quality/less preferred foods Number of households who purchased food on credit Number of households who relied on help from friends and family for food (beggars) Number of households who ate same food for several days in a row Number of households who prepare and cook food to last longer (i.e, smoking fish, jam making, etc.) Number of households who cut back on medical expenses Number of households who shifted to public funded health facilities Number of households who shifted to generic drugs
2	EDUCATION	Number of households who withdrawn children from school Number of household who cut back on education expenses
3	INCOME	Number of households who started a new economic activity Number of persons below 15 years old who are working (not previously working) Number of persons 60 years old and above who are working (not previously working) Number of households who borrowed money from informal sources* Number of households who sold productive assets* Number of households who pawned assets* Number of households that abandoned from cultivation of cash crops due to price fall Number of households who reduced expenses for luxuries (cultural activities, entertainment, dining out, and durable goods) Number of households who cut back on transportation expenses Number of households who cut back on communication expenses Number of households who cut back on electricity expenses Number of households who cut back on water expenses

\* Reference period for all indicators is 6 months. All individual-based indicators were disaggregated by sex.



# Monitoring the Impact of the Global Financial Crisis on Poverty in Zambia

Silumbe Richard<sup>1</sup>

## ABSTRACT

Zambia, just like the rest of the world, underwent an economic crisis that happened to coincide with its presidential elections following the untimely death of President Levy Mwanawasa in August 2008 and the subsequent appointment of a new government. The country's mining sector was highly exposed to the global financial crisis. Global financial markets remain the primary source of investment and working capital, and any disruptions that affect liquidity in these markets have far-reaching implications for mining activity. Full-scale data collection started on January 15, 2010. Thirty data collectors conducted interviews with direct assistance from community leaders for relevant households and under the supervision of the Zambia Research and Development Center (ZRDC) team in Mungule, Kabwata, and Mikonfwa. A total of 4,000 households were interviewed and processed.

The global financial crisis affected local employment due to the reduction in exports, including exports of copper. According to the results of the Community-Based Monitoring System (CBMS) survey, the unemployment rate went up and employment in the mining sector declined. Furthermore, the results showed that many households, after being affected by the global financial crisis, developed various

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<sup>1</sup> CBMS Zambia Project Leader

coping strategies to alleviate the impact of the crisis on their lives. These strategies included developing various types of low-cost meals to cut food expenses (2,058 households), shifting from electricity to charcoal for daily cooking needs (604 households), and using bicycles for transportation (1,823 households).

## INTRODUCTION

Zambia is one of the few countries in Africa that has remained steadfast to the tenets of democracy, a fact that explains the peace and stability that welcomes every visitor to the country. Peace and stability provide the foundation for future Zambians to chart their course towards shared and sustainable growth. Zambia was one of the countries selected for the pilot implementation of the Community-Based Monitoring System (CBMS) in Africa. The CBMS project is being implemented in Mungule and Kabwata areas in Lusaka province and Mikonfwa area in Luanshya, Copperbelt Province. The second phase of the CBMS implementation was specifically geared towards the expansion and institutionalization of the CBMS methodology, indicators, and instruments that were developed and pilot-tested in an earlier project phase. Apart from that, the second phase also sought to monitor and assess the impact of the global financial and economic crises on poverty levels in Zambia and mitigate their effects. In particular, the impact of the crises at the household and community levels was analyzed using data on the different dimensions of poverty obtained from CBMS.

Mungule is an agricultural area in the northern part of Lusaka, the capital city. This area covers 3,503 square kilometers, of which 800 square kilometers are urbanized. The urban part of Mungule is called Makishi. The sanitation levels in these areas are pathetically low because the number of people migrating from the rural areas puts more stress on the available sanitation infrastructure, which was initially set for a limited number of people. The urban part is densely populated with an average of 5.7 people per household while the rural part is sparsely populated due to lack of appropriate socioeconomic activities.

Therefore, Mungule and Makishi were considered as one site in this project implementation (Makishi area falls under chief Mungule). The Mungule area falls under the Lusaka City Council, although it is not situated in the heart of Lusaka. Kabwata is located in the southern part of Lusaka and is along the rail line. We have chosen Kabwata because it is politically renowned and is considered one of the most influential constituencies in Zambia. The Kabwata constituency is relatively small and comprises approximately 2,000 households. Mikonfwa is located in Luanshya, Copperbelt Province. This is an important site for assessing the impact of the global financial and economic crises on poverty in Zambia because one of the most important mines in Zambia, the Luanshya Copper Mine (LCM), has halted operations and all 1,740 employees have been laid off. This area covers approximately 3,400 households.

## Reflections on the Economic Crisis

Zambia felt the impact of the global financial and economic crises through four channels: (1) rapid decline in commodity prices; (2) reduced investment; (3) decline in remittances, exacerbated by reverse migration and unemployment; and (4) decline in aid. People lost jobs. What is even more striking is that for each job that was lost, there was a family whose livelihood is severely threatened, making the already difficult target of meeting the Millennium Development Goals by 2015 even more distant. When a government faces a cash squeeze as is the case today in Zambia, it often resorts to cutting social programs, with hugely negative implications for the poor.

These changes happened at a time when the Zambian economy had started to reverse decades of economic decline, with growth consistently at over 5 percent per annum since 2002. The macro-economy was stable. Inflation was at or just above single digit. The exchange rate was also relatively stable, and the budget deficit was at 1 to 2 percent of Gross Domestic Product (GDP). The pivotal mining sector had recovered dramatically because of high global prices (hitting an all-time high of US\$8.930 per ton in July 2008) and the massive investment in the sector due to privatization. There was a great deal of investment in the mining sector in terms of support industries and Greenfield projects like the Lumwana Mining Project by Equinox Minerals Limited in Northwestern Province.

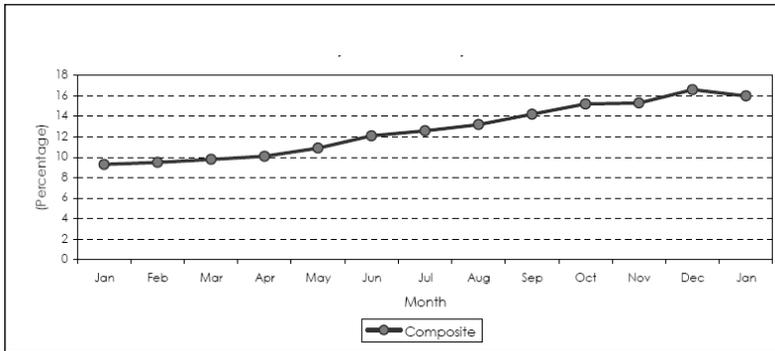
For the first time in 30 years, the poverty rate had started to go down (at least in urban areas) from 53 percent to 34 percent by November 2008. Perhaps most significantly of all, local and foreign investors had newfound confidence in Zambia, its governance, and its policies, as evidenced by a buoyant stock market and new investment intentions. Notwithstanding these recent positive trends, the Zambian economy still displays inherited structural weaknesses, which have been thrown into sharp relief by the global crisis. Foremost among these weaknesses has been Zambia's chronic dependence on the mining industry, which still accounts for 80 percent of foreign exchange earnings and which underpins the favorable investment climate. Other weaknesses include unfinished governance reforms, weakened infrastructure, inadequate social services, and mixed performance in the private sector.

The effects of poverty can be seen in the low poverty metrics that Zambia has embraced: Human Development Index (HDI) 0.407 (165/177 countries surveyed), HDI 45.6 (68/177). With such not-so-good statistics, intervention from the government and other players in the fight against poverty and underdevelopment is vital. This intervention can be legitimized if policies, project prioritization, and decision making are based on data gathered from the grassroots (communities), with poverty-alleviation initiatives drawn by the potential beneficiaries (community members). The anticipated research output from this project will certainly serve as the main input and yardstick in guiding local government units (LGUs) and other players in drawing up poverty-alleviation initiatives for economic and social infrastructure development.

## **Inflation Rate**

The annual rate of inflation as measured by all the items in the Consumer Price Index (CPI) increased steadily starting 2007. This reflects the impact of the crisis on the inflation rate in Zambia. The increase in the annual inflation rate in January 2008 was due mainly to the increase in the cost of mealie (maize) meal, petroleum products, and bus fares.

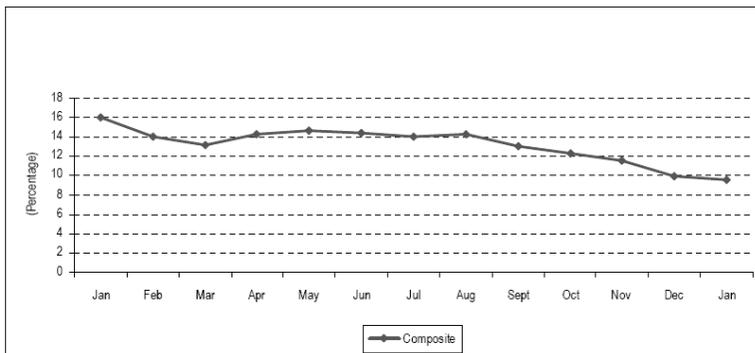
**Figure 1. Annual Inflation Rate, January 2008-January 2009**



Source: Central Statistical Office (CSO)

As Zambia steadily recovered from the global financial crisis from January 2009 to January 2010, its annual inflation rate declined due mainly to the steady reduction in the cost of some food commodities.

**Figure 2. Annual Inflation Rate, January 2009-January 2010**



Source: Central Statistical Office (CSO)

Between January 2008 and January 2009, annual inflation rates increased for food, beverages, and tobacco; clothing and footwear; transport (cost of motor vehicles); and other goods and services while it declined for rent and household energy (kerosene); medical care; and recreation and education. Different items contributed to the overall increase in the total 16.0 percent annual inflation rate in January 2009. Food products, for example, accounted for 10.3 percentage points while nonfood products in the CPI accounted for 5.7 percentage points.

**Table 1. Percentage Points Contribution of Different Items to Overall Inflation, February 2008-January 2009**

Items	Percentage Points Contribution of Different Items to Overall Inflation											
	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sept-08	Oct-08	Nov-08	Dec-08	Jan-09
Food Beverages and Tobacco	4.5	4.5	4.8	5.7	7.5	6.8	7.8	7.8	8.4	8.9	9.9	10.3
Clothing and Footwear	1.0	1.0	1.0	1.0	0.9	0.9	0.6	0.5	0.5	0.3	0.3	0.3
Rent and household energy	1.4	1.4	1.4	1.4	1.3	1.7	1.6	2.0	1.7	1.6	1.7	1.0
Furniture and Household Goods	1.7	1.7	1.7	1.6	1.5	1.6	1.5	1.7	1.7	1.8	2.0	1.6
Medical Care	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Transport (fuel, airfares, new motor vehicles)	0.0	0.1	0.0	0.0	-0.3	0.4	0.5	1.0	1.6	1.4	1.4	1.5
Recreation and Education	0.6	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Other Goods and Services	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.8	0.4
<b>All Items</b>	<b>9.5</b>	<b>9.8</b>	<b>10.1</b>	<b>10.9</b>	<b>12.1</b>	<b>12.6</b>	<b>13.2</b>	<b>14.2</b>	<b>15.2</b>	<b>15.3</b>	<b>16.6</b>	<b>16.0</b>

Source: Central Statistical Office (CSO)

Of the 9.6 percent annual inflation rate in January 2010, food products accounted for 3.6 percentage points while nonfood products in the CPI collectively accounted for 6.0 percentage points.

**Table 2. Percentage Points Contribution of Different Items to Overall Inflation, January 2009-January 2010**

Items	Percentage Points Contributions of Different Items to Overall Inflation												
	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sept-09	Oct-09	Nov-09	Dec-09	Jan-10
Food Beverages and Tobacco	10.3	8.0	6.8	7.8	7.9	7.0	7.3	7.2	6.8	6.0	5.5	4.0	3.6
Clothing and Footwear	0.3	0.4	0.6	0.6	0.8	0.9	0.9	1.0	1.2	1.4	1.3	1.3	1.4
Rent and household energy	1.0	1.0	1.2	1.2	1.2	1.1	0.9	1.3	1.1	1.3	1.3	1.3	1.6
Furniture and Household Goods	1.6	1.9	1.8	1.8	2.4	2.5	2.5	2.5	2.4	2.2	2.2	2.0	1.8
Medical Care	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Transport (fuel, airfares, new motor vehicles)	1.5	1.6	1.6	1.8	1.3	1.6	1.1	0.9	0.1	-0.2	-0.3	-0.3	-0.3
Recreation and Education	0.8	0.6	0.5	0.5	0.4	0.5	0.5	0.7	0.7	0.8	0.7	0.7	0.7
Other Goods and Services	0.4	0.4	0.5	0.5	0.6	0.7	0.7	0.6	0.6	0.7	0.7	0.8	0.7
<b>All Items</b>	<b>16.0</b>	<b>14.0</b>	<b>13.1</b>	<b>14.3</b>	<b>14.7</b>	<b>14.4</b>	<b>14.0</b>	<b>14.3</b>	<b>13.0</b>	<b>12.3</b>	<b>11.5</b>	<b>9.9</b>	<b>9.6</b>

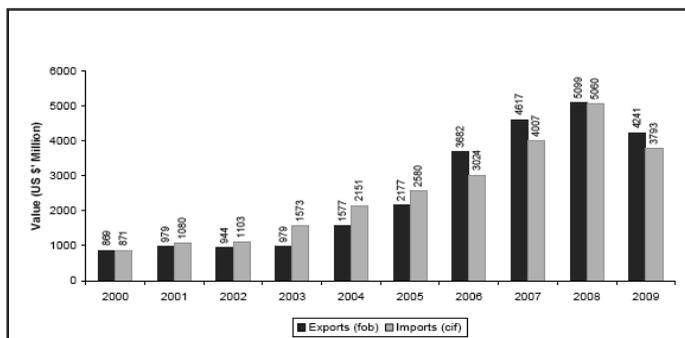
Source: Central Statistical Office (CSO)

The annual inflation rate for food was 21.3 percent in January 2008, slightly higher than the inflation rate of 20.5 percent in December 2008. Contributing most to food inflation were increases in the cost of other cereals and cereal products, meat, eggs, kapenta (freshwater sardine), fish (bream), fresh vegetables, dried beans, shelled groundnuts, Irish potatoes, cooking oil, tea and coffee, and other processed food products. Partially offsetting these increases were reductions in the cost of maize meal.

The total value of exports in December 2008 was ZMK 1,320.6 billion compared to ZMK 1,406.5 billion in November 2008. The most prominent exports were manufactured goods, classified chiefly by material. Manufactured goods accounted for 60.4 percent of the total value of exports in December 2008 and 61.8 percent in November 2008. Refined copper was the most significant item in this category. Other important exports were crude materials (excluding fuels) such as copper ores and concentrates; machinery and transport equipment; chemicals; and food and live animals. These items collectively accounted for 36.1 percent of the total value of exports in December 2008 and 34.5 percent in November 2008.

Zambia's major export product in December 2008 was copper and articles thereof, accounting for 54.0 percent of total export earnings. On a smaller scale, other export products worth noting were ores, slag, and ash (26.9 percent); natural/cultured pearls, precious stones and metals, coins, etc. (2.3 percent); other copper-related base metals (2.3 percent); and tobacco and manufactured tobacco substitutes (2.1 percent). Collectively, these five product categories accounted for 87.6 percent of Zambia's total export earnings in December 2008.

**Figure 3. Trends in Annual Trade Flows, million (US\$), 2000-2009**



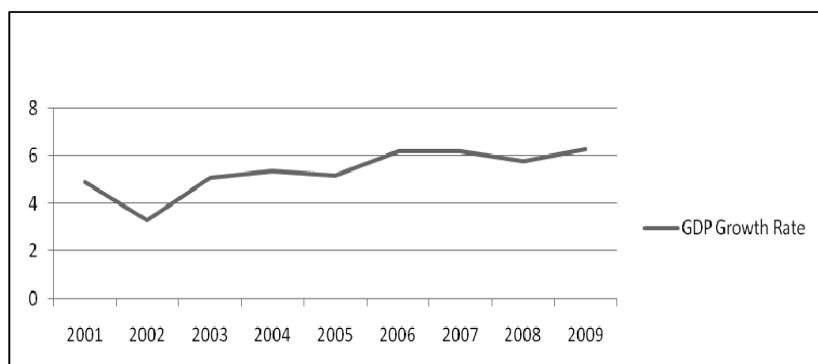
Source: Central Statistical Office (CSO)

These trends in annual trade flows clearly highlight the impact of the global financial crisis on exports and imports. From this graph, we can see a decline in both exports and imports in 2009. This is mainly a result of the drastic fall of copper prices on the international market.

## National Accounts

The growth rate in 2008 was the lowest in three years and falls short of the 7 percent target set by government in its macroeconomic objectives for 2008. The downturn in the growth of real GDP may be attributed to the global financial and economic crises. These crises caused the relatively weaker performance in construction and the decline in agriculture, both of which affected other industries such as food manufacturing.

**Figure 4. Growth in GDP, 2001-2009**



Source: Central Statistical Office (CSO)

## Impacts on Zambia of the GFC Pressures

Thus, forecasts of mineral prices, crucial for Zambia, were subject to unusual levels of uncertainty and volatility. While some forecasting agencies believed that copper prices would be higher on average in 2009 than in 2008, other agencies forecasted further decline. Apart from dire effects on employment in mining and several other industries, the main impact of lower copper prices was felt on the balance of payments and on the government's budget. Preliminary data suggested that copper exports in 2008 reached about 500,000 tons, valued at just under US\$3.2 billion at an average price of US\$2.9 per pound.

Details of government revenue from mining are not available, but projections made early in 2008 on the basis of the new taxation regime for all sources (i.e., company income tax, royalties, and windfall tax) estimated it at about ZMK 1.6 trillion (approximately US\$285 million at February 2008 rates) or about 12 percent of government revenue. Given the shortfall in windfall tax, it may be estimated that only about ZMK 1 trillion (approximately US\$178 million) was actually collected. Total revenue for 2009 was projected at ZMK 13.7 trillion (approximately US\$2.4 billion). Lower copper prices translated to a 7 percent reduction on government revenue (about ZMK 1 trillion or approximately US\$178 million) compared to 2008 projections. This reduction was serious but manageable.

In recent years, the robust performance of international copper prices had a positive impact on Zambia's external sector. Although the current account has remained in deficit (US\$494 million in 2007), this has accommodated a huge increase in imports from US\$1.4 billion in 2003 to US\$3.6 billion in 2007. Much of the increase was in the form of new investments in mining and other sectors. Debt relief under the Heavily Indebted Poor Countries (HIPC) initiative and the Multilateral Debt Relief Initiative (MDRI) had a positive impact on the overall balance of payments and improved the credit risk of Zambia from the point of view of foreign portfolio investors. Foreign reserves surged from US\$477.6 million in January 2003 to US\$1.4 billion in August 2008. The global financial crisis had a severe impact on Zambia's balance of payments. Zambia's trade account moved from a surplus of over US\$30 million in June 2008 to a deficit in excess of US\$70 million by November 2008—a significant fall in less than five months.

The kwacha exchange rate has alternated between periods of relative stability to periods of high volatility driven by increased foreign exchange supply from increased mineral exports, foreign direct investments in mining and other sectors, and speculative short-term portfolio flows. The kwacha was trading at nearly ZMK 4,800 to a U.S. dollar at the end of January 2005. By November 2005, the exchange rate was at ZMK 3,400. Then from June 2008, the kwacha depreciated from ZMK 3,200 to a peak of around ZMK 5,300 in November and is currently trading at ZMK 4,700.

This hurt companies in the already weak manufacturing industry, such as Zambia Fabrics Company (ZAFICO) and Tangy Drinks Limited. Overdependence on imported raw materials reduced the profits and international competitiveness of companies as well as increased domestic prices of goods and services. In addition to this, other sectors like agriculture, which should benefit from a depreciated kwacha through export earnings, were also crippled by the nation's poor infrastructure and high cost of inputs like fertilizers. These inputs have to be imported since the local industry is unable to support their production.

The mining sector in Zambia was highly exposed to the global financial crisis. Global financial markets remain the primary source of investment and working capital, and any disruptions that affect liquidity in these markets have far-reaching implications for mining activity.

Before Zambia's mining sector was hit by the global financial crisis, it was already experiencing turmoil from the abrupt unilateral changes to the fiscal regime and the mining regulatory regime, which saw the introduction of windfall taxes. The manner in which the changes were introduced caused uncertainty and a serious loss of confidence in international investment circles. These concerns sharply curtailed capital flows into the Zambian mining sector. Thus, when the global commodity markets imploded towards the middle of the year, the Zambian mining sector was already in turmoil. Each mining operation is unique and has different cost structures depending on such factors as:

1. whether the operation is underground or open pit;
2. the depth from which the ore is extracted;
3. the amount of dewatering required;
4. the grade and type of the ore that is being extracted;
5. the available infrastructure around the mine.

Since the completion of the privatization process in March 2000, the average unit cost of production in the mining industry has escalated several times due to a number of factors, including:

1. the increase in the average wage bill for each mining company by over 500 percent in US\$ terms;

2. the increase in the cost of fuel by over 450 percent in US\$ terms;
3. the increase in the cost of electricity by 31 percent.

As a result, the cash costs of mining in Zambia have increased to between US\$1.4 per pound for low-cost producers and US\$2.9 per pound for high-cost producers. Financing and loan repayment costs reportedly add approximately 25 percent to the cash costs and will mean that for a low-cost producer, there is effectively no return to the investor at current metal prices (US\$1.7) and for high-cost producers, the situation is much worse. As a result, mining companies started reviewing all aspects of their operations in a drastic attempt to reduce the current cost of production covering:

1. reduction in capital expenditure to minimum sustainable levels;
2. increased focus on core activities, thereby reducing dependence on contractors;
3. reduction in noncore labor (expatriate and Zambian);
4. reduction in suppliers' prices.

These measures resulted in retrenchments in most Zambian mines (including Konkola Copper Mines and First Quantum Mines). Apart from this, the nation saw the closure of Luanshya Copper Mines and Baluba Mines, which led to increased levels of unemployment. In addition, new projects that depended on retains for investments (e.g., the Uranium Project by Albidon Mines) were suspended. This further deprived the nation of much-needed employment opportunities and economic growth.

In addition to its effect on direct investors in the industry, the crisis had an immediate, adverse, and exceedingly damaging impact on other key sectors in the economy that are "spin-offs" from the recent boom experienced in the mining sector. These sectors include:

1. support industries (drilling, suppliers, construction, banks, others)
2. "spin-off" industries (business services, local entrepreneurship);
3. tourist enterprises (hotels, lodges, car hire).

The CBMS results show that the impact of the global financial and economic crises trickled down to the household level in project sites. Despite the recent decline in urban poverty, poverty in Zambia remains deep and widespread, with 68 percent of the population below the poverty line and nearly 80 percent of that in rural areas. The layoffs that happened in areas especially dependent on the mining industry had a severe impact on poverty in those areas, according to the CBMS data.

## METHODOLOGY

The CBMS implementation focused on gathering up-to-date data from community members/households at the grassroots level. It fully promotes the demand-driven, participatory approach to achieving sustainable development. CBMS is done at the household level, thereby bringing decision making to the doorsteps of the people and encouraging decentralization. This creates an open framework for the database that will be created in the second phase of the implementation and will allow research results to be validated by the community members themselves. In addition, the multidisciplinary nature of this project and the involvement of many stakeholders definitely increase the confidence levels in the data generated. This set of attributes of the CBMS ensures that a reliable source of data is created, thereby putting in place a more decentralized approach to decision making and policymaking.

Tapping into existing capacities was, in fact, a paramount goal. Partnerships, though informal, were created with some organizations like schools, clinics, and local CBOs. These partnerships proved very effective in the analysis and validation stage as these entities have their own data. Care was taken to ensure that their data did not influence data analysis for the CBMS survey. More important, consultative meetings provided a framework where the NGAs and local government units (LGUs) pledged their commitment and support for the use of CBMS in decision making at the household level (grassroots).

Zambia Research and Development Center (ZRDC) is at a crossroads. Decisions have been made to ensure that its research influences policy. To this effect, the implementation process has

included the directors of community development at the Ministry of Community Development and Social Services (MCDSS) and the planning department of the Lusaka city council. These directors attend update meetings at the project sites to make the exchange of ideas, solutions, and lessons from the project implementation easier. This is important as Zambia is implementing a decentralization policy that gives local councils more power to handle projects and take on some of the roles of the central government. This move has faced a great deal of opposition from citizens because they do not trust the capacity of the local authorities to handle said roles and projects. Lack of capacity is a hindrance.

CBMS has been implemented using a two-phased approach: The first phase involved a pilot test in selected minor areas of the project site. This determined the feasibility of data-collecting instruments, data-processing techniques, data validation, and analysis. This process also assessed the capacity of the project management team (PMT) and enumerators at the household level to implement CBMS. It also ensured that the local community members designed the poverty profiles themselves and that the output will be a revised CBMS design developed with a participatory touch. The second phase involved the implementation of the revised CBMS design in more areas of the project site.

We continue to pursue a goal-based methodology for CBMS implementation that would lead to the use of CBMS output in the development programs of the local governments currently crosscutting throughout Zambia. We work with the local government representatives (councilors and village headmen) at all levels of CBMS implementation.

## **THE GLOBAL FINANCIAL CRISIS**

Zambia underwent an economic crisis that coincided with presidential elections following the untimely death of President Levy Mwanawasa and the appointment of a new government. However, the direct effects of the global financial crisis have so far been limited due to Zambia's reliance on domestic funding and limited exposure to external credit lines. The largest effect has been the sharp fall in copper prices on the international market.

Copper exports accounted for almost 80 percent of Zambia's total exports in 2007 and have played a major role in sustaining Zambia's growth, which was close to 6 percent on average in the last five years. The fall of copper prices resulted in a significant depreciation of the domestic currency and more than doubled the external current account deficit in 2008. Lower copper prices have also contributed to the weakening of the fiscal position due to the government's heavy reliance on increased tax revenues (including windfall tax) introduced in April 2008. The impact of the global economic crisis on Zambia manifested itself in the following:

1. Mineral export prices fell drastically because of the deep recession in the U.S. and Europe and its knock-on effects in China and the rest of Asia. Copper prices on the London Metal Exchange fell by nearly 57.8 percent in just five months from July to November 2008 (from US\$8,930 per ton to US\$3,760 per ton).
2. The tightening of financial markets in the U.S. and Europe significantly reduced the availability of financing for direct investments and resulted in high investor aversion to assets considered risky like emerging markets. Reflective of this aversion, according to the Bank of Zambia, offshore portfolio investors purchased about US\$386 million from the market compared with sales to the market of US\$208.9 million, resulting in a net outflow of US\$177 million in September and October 2008. This led to the continued depreciation of the Zambian kwacha.
3. On the positive side, oil prices went down much lower than earlier in 2008. These and other results of the impact of the global financial and economic crises on poverty in Zambia are discussed further in this paper. The CBMS project is being implemented in the Mungule and Kabwata areas in Lusaka province and in the Mikonfwa area in Luanshya, Copperbelt Province.

## DATA COLLECTION

Full-scale data collection started on January 15, 2010. Thirty data collectors conducted interviews with direct assistance from community leaders and under the supervision of the ZRDC team in Mungule, Kabwata, and Mikonfwa. A total of 4,000 households were interviewed and processed. The church leaders assisted data collectors in arranging appointments since it was brought out during the meetings that households have to be informed at least two days before the interviews are conducted so that they can make themselves available. The 20 questionnaires were filled in by local police officials, teachers, and medical nurses, and this gave us quality data in the crime, educational, and health sections of the questionnaire. For each household, the interviewer first sought informed consent from the household head (or the person primarily responsible for household spending and other decisions). If the household head was not available, the spouse of the household head was invited to participate, and this fact was recorded on the forms. If neither the household head nor the spouse was available, the interviewers made an appointment to return to the household at a later date.

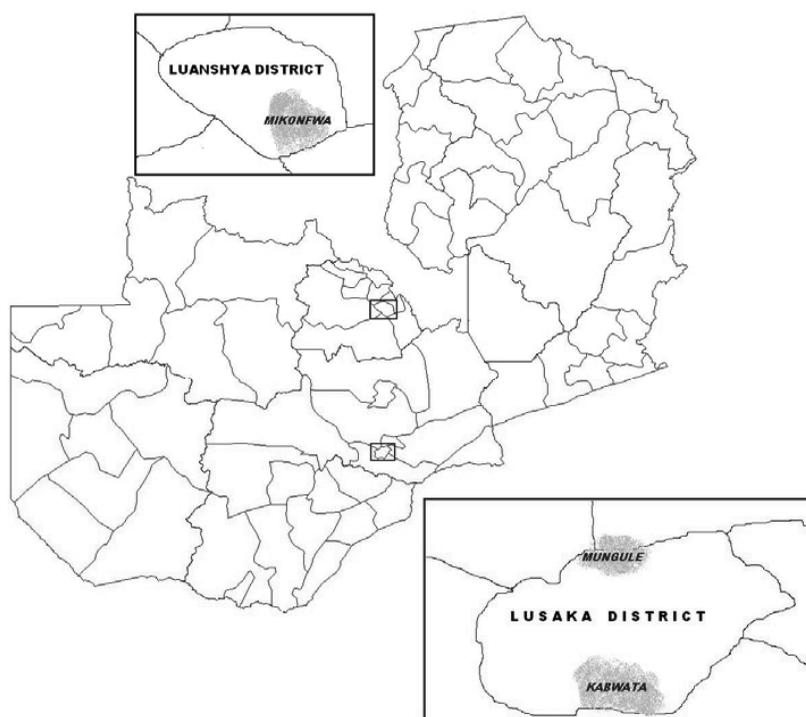
Enumerators were provided with stickers to stick on the door of each house after the interviews were completed with the household head. This proved particularly effective in reducing the risk of interviewing the same household twice due to the illogical geometrical setup of villages. They also put on t-shirts with the CBMS symbol for identification purposes and to encourage the interviewees to provide information as this official-looking attire inspired trust. The households were numbered on the sticker. The number on the sticker matched the number on the questionnaire used for that household and the serial number for said household in the CBMS database. Data collection was, however, delayed due to the difficulties encountered in making logistical arrangements with councilors in Kabwata and Mikonfwa.

**Table 3. Total Number of Households and Total Population per Ward**

Province	No. of Districts	Project Area	Project Coverage	Site Coverage (Wards)	No. of HHs	% of HHs	Male	Female	Total Population
Lusaka	3	Lusaka district	Kabwata Constituency	Kabwata estates	870	21.8	2,446	2,399	4,845
				Kabwata site and service	908	22.7	3,166	3,246	6,412
			Chief Mungule area	Mungule	325	8.1	906	917	1,823
				Makishi	476	11.9	1,063	1,046	2,109
Copper-belt	10	Luanshya district	Mikonfwa	Mikonfwa East	567	14.2	1,103	1578	2,681
				Mikonfwa West	854	21.4	2513	2,956	5,469
Total					4000	100	11,197	12,142	23,339

Source: CBMS Zambia, 2010

**Figure 5. Location of CBMS Sites in Zambia**



# CBMS RESULTS

## Impact on Households through Local Employment

This study tried to determine how households were affected in terms of local employment by studying those involved in employment, entrepreneurial activities, and those who are wage earners. Based on the CBMS data, there were 2,089 individuals employed in the labor force and 10,417 unemployed during the reference period. Of the 15.7 percent employed individuals, 12.6 percent were male while the rest were female (Table 4).

**Table 4. Labor Force Statistics**

Adult Population	Total	%	Male	%	Female	%
Employed	2,089	15.7	1,672	12.6	417	3.1
Retrenched	457	3.4	304	2.3	153	1.2
Retired	331	2.5	241	1.8	90	0.7
Unemployed	10,417	78.4	4,363	32.8	6,054	45.5
<b>Total</b>	<b>13,294</b>	<b>100.0</b>	<b>6,580</b>	<b>49.5</b>	<b>6,714</b>	<b>50.5</b>

Source: CBMS Zambia, 2010

### *Loss of Job*

The global crisis affected local employment due to the reduction in exports, including exports of copper. The CBMS survey revealed that the unemployment rate went up, and employment in the mining sector declined. During the period six months prior to data collection, 412 households (representing 3.1 percent of all households surveyed) reported the job loss of at least one member (The question asked was “Does the household have a member who lost a job during the last six months?”). This translates to a total of 457 persons who lost their job during the period as some households reported having up to two members losing a job in Mikonfwa (Table 5). Most of the affected individuals used to work in the mines and in manufacturing, accounting for 12.7 percent of the total number of households (Table 6). As the price of copper fell in 2008, many mining companies in the Copperbelt Province reduced their production, thereby trimming the work force through

retrenchments. This reduced revenues in copper exports from ZMK 1,173 million in 2007 to ZMK 778 million in 2008. In addition, many of the affected individuals used to work in the manufacturing industry such as ZAMEFA (Zambia Metal Fabrication industry), which accounted for about 1.8 percent of the total number of households (Table 6). Hence, this sector was affected by the crisis through the employment channel.

**Table 5. Outcome Indicators, Wage Earners, and Salaried Workers**

Indicator	No	%
HHs with member who lost job	412	3.1
Member who lost job	457	3.5
HHs with member who experienced reduction in number in working hours	21	0.2
Member who experienced reduction in wage	29	0.2

Source: CBMS Zambia, 2010

**Table 6. Members Who Lost Jobs, By Industry/By Site**

Site Coverage (Wards)	Mining by No. of HHs	Mining by %	Manufacturing by No. of HHs	Manufacturing by %	Construction by No. of HHs	Construction by %	Real Estate by No. of HHs	Real Estate by %	Financial Institutions by No. of HHs	Financial Institutions by %	Total No. of HHs
Kabwata estates	0	0	3	0.1	0	0	0	0	5	0.2	870
Kabwata site and service	0	0	7	0.2	0	0	0	0	4	0.1	908
Mungule	0	0	0	0.0	0	0	0	0	0	0.0	325
Makishi	0	0	0	0.0	0	0	0	0	0	0.0	476
Mikonfwa East	139	4.4	18	0.6	17	0.5	0	0	8	0.3	567
Mikonfwa West	203	6.5	29	0.9	15	0.5	5	0.2	4	0.1	854
Total No of HHs / %	342	10.9	57	1.8	32	1.0	5	0.2	21	0.7	4000

Source: CBMS Zambia, 2010

## ***Reduction in Wage, Number of Working Hours, and Employment Benefits***

Some of the employed individuals also experienced a reduction in wage or in the number of working hours (Table 5). These employed individuals would prefer working in the same job despite these reductions rather than moving to another job or being unemployed. Based on the responses given during the survey, about 0.2 percent (29 persons) suffered a decline in wage. Meanwhile, about 0.2 percent (21 persons) experienced a reduction in working hours.

## **Problems Faced by Households**

The problems faced by households were elicited through the questionnaire. Table 8 shows that the top problem faced by the population in the project site was high tax rates (70.1 percent). This was followed by high mealie meal prices (60.3 percent), having too many dependents (45.4 percent), and unemployment (28.8 percent). Most of these problems were not caused by the crisis. However, the crisis exacerbated them and heightened their impact.

Table 7 shows that about 10.4 percent of the affected households cited high transport costs as most critical problem they faced. The high cost of rentals was another problem faced by affected households (4.4 percent).

**Table 7. Problems Faced by Households that Lost Jobs**

Site Coverage (Wards)	High costs of rentals by No. of HHs	High costs of rentals by %	High transport costs by No. of HHs	High transport costs by %	Too many dependents by No. of HHs	Too many dependents by %	Poor housing condition by No. of HHs	Poor housing condition by %	Frequent illnesses by No. of HHs	Frequent illnesses by %	Total No. of HHs
Kabwata estates	3	0.10	7	0.2	1	0.03	4	0.1	0	0.0	8
Kabwata site and service	1	0.03	11	0.3	4	0.13	2	0.1	2	0.1	11
Mungule	0	0	0	0.0	0	0.00	0	0.0	0	0.0	0
Makishi	0	0	0	0.0	0	0.00	0	0.0	0	0.0	0
Mikonfwa East	86	2.7	112	3.6	31	0.99	27	0.9	14	0.4	182
Mikonfwa West	49	1.6	198	6.3	75	2.38	44	1.4	23	0.7	256
Total No. of HHs	139	4.4	328	10.4	111	3.53	77	2.4	39	1.2	457

Source: CBMS Zambia, 2010

**Table 8. Problems Faced by Households, By Site**

Site Coverage (Wards)	Unemployment	Frequent illnesses	Too many dependents	High costs of rentals	High costs of school fees	High mealie meal prices	High fertilizer prices	High transport costs	High tax rates	Poor housing condition	Total No. of HHs
Kabwata estates	226	11	231	139	13	491	3	59	767	0	870
Kabwata site and service	189	27	207	188	46	586	5	74	723	1	908
Mungule	57	133	237	0	120	177	172	128	106	44	325
Makishi	79	120	298	2	147	160	174	123	110	63	476
Mikonfiwa East	263	42	193	45	23	242	13	55	264	1	567
Mikonfiwa West	332	43	261	21	39	321	31	69	415	3	854
<b>Total No. of HHs</b>	<b>905</b>	<b>376</b>	<b>1,427</b>	<b>395</b>	<b>388</b>	<b>1,897</b>	<b>398</b>	<b>508</b>	<b>2,206</b>	<b>112</b>	<b>4,000</b>

Source: CBMS Zambia, 2010

**Table 9. Problems Faced by Households, By Site/By Percentage**

Site Coverage (Wards)	Unemployment	Frequent illnesses	Too many dependents	High costs of rentals	High costs of school fees	High mealie meal prices	High fertilizer prices	High transport costs	High tax rates	Poor housing condition	Total No. of HHs
Kabwata estates	5.7	0.3	5.8	3.5	0.3	12.3	0.1	1.5	19.2	0.0	21.8
Kabwata site and service	4.7	0.7	5.2	4.7	1.2	14.7	0.1	1.9	18.1	0.0	22.7
Mungule	1.4	3.3	5.9	0.0	3.0	4.4	4.3	3.2	2.7	1.1	8.1
Makishi	2.0	3.0	7.5	0.1	3.7	4.0	4.4	3.1	2.8	1.6	11.9
Mikonfiwa East	6.6	1.1	4.8	1.1	0.6	6.1	0.3	1.4	6.6	0.0	14.2
Mikonfiwa West	8.3	1.1	6.5	0.5	1.0	8.0	0.8	1.7	10.4	0.1	21.4
<b>Total No. of HHs</b>	<b>28.7</b>	<b>9.4</b>	<b>35.7</b>	<b>9.9</b>	<b>9.7</b>	<b>49.4</b>	<b>10.0</b>	<b>12.7</b>	<b>59.6</b>	<b>2.8</b>	<b>100.0</b>

Source: CBMS Zambia, 2010

## Community-Level Indicators

The CBMS results showed that during the crisis, commodity and service prices declined significantly. However as economies began to recover by the end of 2009, commodity and service prices gradually rose. ZESCO electricity tariffs were raised twice within a span of 11 months at the end of 2009 and at the beginning of 2010, for a total increase of 88.8 percent for domestic tariffs and 26.4 percent for industrial tariffs. Fuel prices also gradually

**Table 10. Community-Level Price Variations**

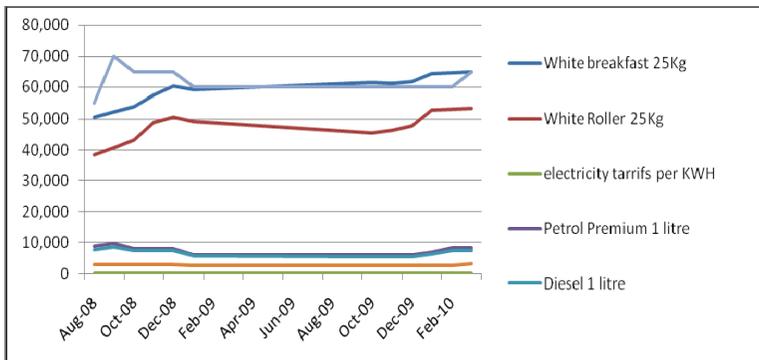
Product Description	2008				2009				2010			
	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10
White breakfast 25Kg	50,483	52,266	53,789	57,486	60,442	59,311	61,539	61,152	61,753	64,183	64,642	64,868
White Roller 25Kg	38,370	40,577	43,263	48,706	50,343	49,118	45,244	46,289	47,736	52,554	52,934	53,194
White Maize 20 liter tin	18,565	19,719	21,492	23,310	26,465	28,185	22,845	24,325	25,806	26,247	27,454	27,792
Millet 5 liter tin	6,637	6,597	6,953	7,574	7,496	7,936	8,669	10,495	10,565	10,974	11,278	13,499
Sorghum 5 liter tin	8,395	7,070	8,236	8,358	8,969	9,015	6,591	7,362	8,097	8,343	8,840	12,381
electricity tariffs per KWH	116	116	116	110	110	110	160	160	160	222	222	222
Cassava meal 1Kg	3,183	3,399	3,484	3,445	3,545	3,559	3,500	3,550	3,550	3,600	3,605	3,605
Cement Portland 50 Kg	68,380	68,685	69,890	70,648	71,093	68,730	65,500	66,500	66,500	67,000	67,000	67,000
Paraffin 1 liter	5,611	6,064	5,296	5,290	5,350	4,074	4,000	4,070	4,070	4,500	4,500	5,000
Petrol Premium 1 liter	8,874	9,884	8,128	8,122	8,118	6,148	6,100	6,100	6,100	7,000	8,300	8,300
Diesel 1 liter	7,807	8,710	7,683	7,660	7,655	5,803	5,505	5,505	5,505	6,500	7,600	7,600
Mini Bus Fare Town/Chilenje 1 way	3,000	3,000	3,000	3,000	3,000	2,800	2,900	2,900	2,900	2,900	2,900	3,200
Coach Fare Lusaka/Kitwe Coach 1 Way	55,000	70,000	65,000	65,000	65,000	60,000	60,000	60,000	60,000	60,000	60,000	65,000
Bed & continental Breakfast 3 to 5 star 1	554,805	612,121	634,200	671,676	761,099	798,794	588,282	592,070	593,879	631,423	576,938	590,050
Air fare Lusaka/London British Airways 1 Way	4,310,500	4,275,550	5,475,500	5,475,500	5,506,787	5,506,787	5,625,900	6,001,900	6,038,400	6,001,900	6,129,600	6,129,600

increased by 20.7 percent for gasoline and 30 percent for diesel at the beginning of 2010. This triggered a gradual increase in transport costs.

However, this may not have been due to the crisis but instead was triggered by other factors, including the death of President Levy Mwanawasa, which led to instability in the Zambian economy and a massive withdrawal of capital investments by investors.

Figure 6 shows that food prices and fuel prices vary concurrently and that these prices declined significantly between December 2008 and December 2009. This shows that the impact of the crisis was felt mostly during this period.

**Figure 6. Food and Fuel Prices, December 2008-December 2009**



**Table 11. Community-Level Prices**

Community Level	Indicator	2008	2009	Percentage Increase
Price of mealie meal (in Kwacha)	Breakfast (25kg)	56,000	65,000	16.1
	Roller meal (25kg)	49,000	60,000	22.4
Fertilizer prices (in Kwacha)	D-compound (50kg)	350,000	390,000	11.4
	Urea (50kg)	400,000	450,000	12.5
Transport costs (in Kwacha)	Local bus fair	2,000	3,200	60.0
	Inter-city fair	50,000	65,000	30.0
Electricity tariffs (in Kwacha per KWH)	Domestic tariffs	118	222	88.8
	Industrial tariffs	273	345	26.4
Fuel price (in Kwacha)	Petrol (per liter)	5,800	7,000	20.7
	Diesel (per liter)	5,000	6,500	30.0

Table 11 shows that prices of almost all commodities increased by a significant percentage from 2008 to 2009.

### **Coping Strategies Adopted by Households**

The CBMS results show that many households affected by the global financial crisis developed various coping strategies to alleviate its impact in their lives (Table 12). A total of 604 households adjusted the number of meals they took per day and developed various types of low-cost meals. Some households (573) converted from using electricity to using charcoal for their daily cooking needs. Other households (174) started using bicycles as a basic means of transportation. Thirty-six households said their children had to drop out of school due to the crisis while 85 households transferred their children from private schools to government schools due to the lower cost of education in the latter.

These results were gleaned from the items in the questionnaire, which had two parts. The first part contained more specific questions per section. The last part contained more questions relating to the impact of the global financial crisis, the answers to which are presented in this table.

**Table 12. Coping Strategies**

Coping Strategy	Kabwata Estates		Kabwata Site and Service		Mungule		Makishi		Mikonfwa East		Mikonfwa West		Total	
	No. of HHs	%	No. of HHs	%	No. of HHs	%	No. of HHs	%	No. of HHs	%	No. of HHs	%	No. of HHs	%
<b>NUTRITION</b>	672	21	596	19	155	5	135	4	761	24	615	20	2,934	93
Number of HHs who changed how it prepares food from using cooking oil to groundnuts or watery food	0	0.0	3	0.1	16	0.5	11	0.3	43	1.4	66	2.1	139	4.4
Number of HHs who reduced the number of meals a day	29	0.9	52	1.7	63	2.0	78	2.5	256	8.1	105	3.3	583	18.5
1. From 3 to 2 meals a day	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	20	0.6	21	0.7
2. From 3 to 1 meal a day	427	13.6	342	10.9	33	1.0	27	0.9	213	6.8	285	9.1	1,327	42.2
Number of HHs who reverted to using	185	5.9	147	4.7	0	0.0	0	0.0	43	1.4	0	0.0	375	11.9
1. breakfast meal	31	1.0	52	1.7	2	0.1	7	0.2	190	6.0	120	3.8	402	12.8
2. Roller meal	0	0.0	0	0.0	41	1.3	12	0.4	15	0.5	19	0.6	87	2.8
3. Grinded meal	250	7.9	242	7.7	16	0.5	18	0.6	202	6.4	263	8.4	991	31.5
<b>HEALTH</b>														
Number of HHs who changed from seeking medical in private health centre to public health centres	96	3.1	107	3.4	10	0.3	16	0.5	113	3.6	125	4.0	467	14.8
Number of HHs who decreased their medical expenses	154	4.9	135	4.3	6	0.2	2	0.1	89	2.8	138	4.4	524	16.7
<b>EDUCATION</b>	49	1.6	23	0.7	86	2.7	108	3.4	195	6.2	282	9.0	743	23.6
Number of HHs with members who dropped out of school during the period	0	0.0	1	0.0	5	0.2	7	0.2	10	0.3	13	0.4	36	1.1
Number of HHs with students who shifted from private to public schools	7	0.2	6	0.2	8	0.3	2	0.1	24	0.8	38	1.2	85	2.7
Number of HHs with decreased monthly educational expenses	42	1.3	16	0.5	73	2.3	99	3.1	161	5.1	231	7.3	622	19.8

Table 12 continued...

Coping Strategy	Kabwata Estates		Kabwata Site and Service		Mungule		Makishi		Mikonfwa East		Mikonfwa West		Total	
	No. of HHs	%	No. of HHs	%	No. of HHs	%	No. of HHs	%	No. of HHs	%	No. of HHs	%	No. of HHs	%
<b>INCOME</b>														
Number of HHs who received assistance from a charity organization	0	0.0	0	0.0	88	2.8	36	1.1	0	0.0	3	0.1	127	4.0
Number of HHs who received assistance from the government	0	0.0	0	0.0	76	2.4	30	1.0	0	0.0	0	0.0	106	3.4
<b>ELECTRICITY, WATER, AND FUEL</b>														
Number of HHs who reduced their monthly electricity expenses	561	17.8	605	19.2	6	0.2	7	0.2	242	7.7	480	15.3	1901	60.4
Number of HHs who reduced their monthly electricity when cooking to charcoal	246	7.8	217	6.9	3	0.1	4	0.1	92	2.9	184	5.9	746	23.7
Number of HHs who reduced their monthly water expenses	173	5.5	231	7.3	3	0.1	3	0.1	61	1.9	102	3.2	573	18.2
Number of HHs who reduced their monthly fuel expenses	88	2.8	126	4.0	0	0.0	0	0.0	86	2.7	188	6.0	488	15.5
<b>TRANSPORTATION</b>														
Number of HHs who reduced their transportation expenses	54	1.7	31	1.0	0	0.0	0	0.0	3	0.1	6	0.2	94	3.0
Number of HHs who reduced their transportation expenses	523	17	617	20	30	1	50	2	247	8	409	13	1,876	60
Number of HHs who reduced their transportation expenses	523	16.6	617	19.6	15	0.5	27	0.9	206	6.6	314	10.0	1,702	54.1
Number of HHs who changed from using public transport to using private transport such as bicycles	0	0.0	0	0.0	15	0.5	23	0.7	41	1.3	95	3.0	174	5.5

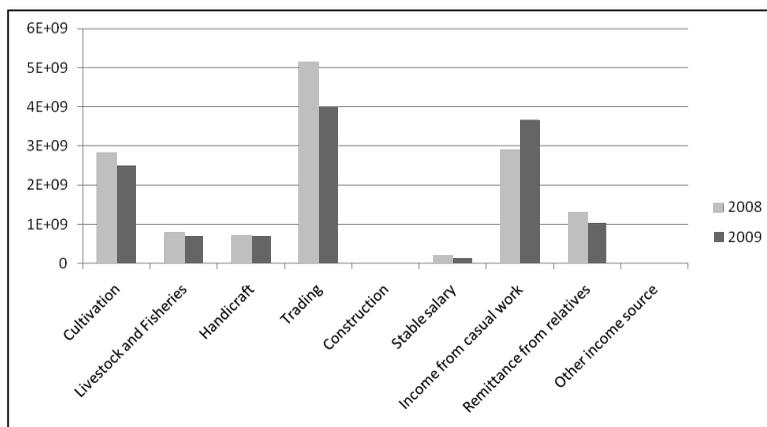
**Table 13. Sources of Income in Makishi and Mungule, 2008-2009**

Source of Annual Income	2008		2009	
	Makishi	Mungule	Makishi	Mungule
	Value (Kwacha)	Value (Kwacha)	Value (Kwacha)	Value (Kwacha)
Cultivation	1,180,170,000	1,658,665,000	1,064,153,000	1,419,625,200
Livestock and Fisheries	244,953,000	544,275,000	220,257,700	458,962,000
Handicraft	326,596,000	392,099,000	291,936,400	395,047,120
Trading	2,153,081,000	3,001,017,000	1,931,772,900	2,040,894,960
Construction	6,600,042	12,900,058	5,930,038	17,352,051
Stable salary	126,000,000	54,000,000	103400000	41520000
Income from casual work	1,259,725,000	1,639,325,000	1,733,752,500	1,942,606,000
Remittance from relatives	661,172,000	650,938,000	535,054,800	502,825,440
Other income source	7,000,470	10,000,660	9,300,423	10,800,581
<b>TOTAL</b>	<b>5,965,297,512</b>	<b>7,963,219,718</b>	<b>5,895,557,761</b>	<b>6,829,633,352</b>

Source of Annual Income	2008 Both Areas		2009 Both Areas	
	Value (Kwacha)	Percent	Value (Kwacha)	Percent
Cultivation	2,838,835,000	20.4	2,483,778,200	19.5
Livestock and Fisheries	789,228,000	5.7	679,219,700	5.3
Handicraft	718,695,000	5.2	686,983,520	5.4
Trading	5,154,098,000	37	3,972,667,860	31.2
Construction	19,500,100	0.1	23,282,089	0.2
Stable salary	180,000,000	1.3	144,920,000	1.1
Income from casual work	2899050000	20.8	3,676,358,500	28.9
Remittance from relatives	1,312,110,000	9.4	1,037,880,240	8.2
Other income source	17,001,130	0.1	20,101,004	0.2
<b>TOTAL</b>	<b>13,928,517,230</b>	<b>100</b>	<b>12,725,191,113</b>	<b>100</b>

Source: CBMS Zambia, 2010

**Figure 7. Sources of Income in Makishi and Mungule, 2008-2009**



Source: CBMS Zambia, 2010

## MITIGATING THE IMPACT OF THE GLOBAL CRISIS

Even as the crisis took root in the Zambian economy, it remained manageable, and the nation still recorded some positive economic growth due to measures that helped mitigate the effects of the crisis. The waiving of the windfall tax for the mining sector was one of the government's mitigating measures. It gave some relief to the mining companies, especially since they needed to direct their resources towards core activities to enable minimum sustainability of their operations.

The government also rekindled the Citizens' Economic Empowerment Commission (CEEC). This government body was established to provide an empowerment fund to citizens who want to undertake business ventures but lack the capital to do so. National statistics show that the CEEC was able to provide funds for 1,273 citizen groups to start their business. The CEEC also provided loans to struggling businesses to get them through the crisis. This body focuses on economic sectors such as tourism, mining, trade, information and communication technologies, manufacturing, agriculture, financial services, energy, wholesale and retail trade services sector, etc.

The Ministry of Agriculture through the Fertilizer Support Program delivered fertilizers and other farming inputs as loans to struggling subsistence farmers to help them during the crisis. At harvest time, the Food Reserve Agency, as the major buyer of agro-products, fixed a higher buying price for all agro-products to help farmers get a better price for their produce despite falling prices.

Other responses to the crisis were implemented by nongovernment organizations (NGOs) and faith-based organizations such as Caritas Zambia, which delivered relief food to affected areas like Kapiri-mposhi and Serenje districts.

## CONCLUSION

The CBMS survey results show that the global crisis had a significant impact on poverty in Zambia. It is obvious that many household heads who lost their jobs had to struggle to provide food for their families. The survey results also show that many households affected by the global financial and economic crises developed various coping strategies to alleviate the impact of the crises on their lives. A total of 604 households adjusted their daily meals or developed various types of low-cost meals just to spend less on food. Instead of using electricity, some households (573) shifted to using charcoal for their daily cooking needs. Other households (174) started using bicycles as a basic means of transportation.

The Ministry of Agriculture through the Fertilizer Support Program delivered fertilizers and other farming inputs as loans to struggling subsistence farmers to enable them continue their farming activities. However, the farmers' hardships may not have been due to the crisis itself but rather due to the increase in prices for farm inputs, which was triggered by factors other than the global financial crisis. Among these factors was the death of the Zambian president in 2008, which led to instability in the economy. As the major buyer of agro-products, the Food Reserve Agency fixed a higher buying price at harvest time for all agro-products from farmers so as to give them a better selling price despite falling prices in general. Other responses to the crisis came

from NGOs and faith-based organizations, such as Caritas Zambia, which delivered relief food to affected areas like Kapiri-mposhi and Serenje districts.

In a nutshell, it is important for African nations to increase trade among themselves and promote the production and export of finished goods to developed nations. This will enable them to add value to their products of comparative advantage. There is also a need to expand infrastructure development, which is highly undeveloped in Zambia. The government also needs to establish an institutional framework in terms of laws and regulations, financing schemes, and insurance schemes to support medium, small, and micro manufacturing enterprises. This will promote growth through manufacturing and the creation of cluster industries (with mining as an anchor industry) that will, in turn, foster the growth of other sectors such as agriculture and tourism. There is need for Zambia to:

1. reprioritize to create and preserve jobs;
2. maintain and improve services;
3. re-commit to private sector-led, public sector-supported growth;
4. ensure food security through the promotion of agricultural production;
5. ensure equitable sharing of the burden.

These are some of the issues that the Zambian government, the Zambian public, and civil society must grapple with in the days ahead.



# A New Approach to Evaluating and Designing Targeted Social Protection

Nanak Kakwani<sup>1</sup>

## ABSTRACT

This paper is focused on evaluating and designing targeted social protection programs. It derives a new targeting indicator that can be decomposed into two factors: targeting efficiency and mismatch in the program. Most targeted programs suffer from severe mismatch that reduces the latter's targeting power. The paper therefore demonstrates that the issue of mismatch can easily be (and should be) addressed right at the design stage of any program. Furthermore, the paper illustrates how the new targeting indicator developed here can be used to design a targeted program.

The targeted program that is designed based on Philippines data is relatively very simple, does not suffer from mismatch and has a much better targeting efficiency than the three largest programs: The *Bolsa Familia* in Brazil, *Di Bao* in the People's Republic of China (PRC), and *Progressa* in Mexico.

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<sup>1</sup> Member of the CBMS Steering Committee

## INTRODUCTION

The main objective of targeted government intervention is to reduce the deprivation suffered by the poor. Their deprivation might come in various forms. For instance, they may suffer from poor health or chronic unemployment or have a low level of education. Projects or programs may therefore be designed to give the poor greater access to various government services. However, the main constraint in designing targeted programs is the inability to identify the genuine poor. If we have the income or expenditures of individual families, then we can easily assess their poverty situation by comparing their income (or expenditure) against a predetermined poverty line. Such detailed information and administrative ability to use it is not present in most developing countries (Haddad and Kanbur 1991). In the absence of such information, targeting methods have been devised so that the poorest and most vulnerable members of the society receive the maximum benefits.

The number of targeted programs has increased many folds in developing countries.<sup>2</sup> Coady, Grosh, and Hoddinott (2004) have listed 85 of such programs in 36 countries. Each of these programs has a different way of identifying the beneficiaries. It is therefore important to know how different each has performed. To be able to do that, we need to know first what policy objectives these programs have been designed to achieve. Most social assistance programs have the sole objective of reducing poverty subject to relevant resources. It is then obvious that targeting should be closely related to the objective of poverty reduction.

Many targeting measures have been discussed in the literature. In a recent paper, Ravallion (2009) has provided a synthesis of almost all the measures proposed so far. His paper's main message is that all the targeting measures are quite uninformative when it comes to poverty impact. In this paper, we will thus demonstrate that most of the targeting measures are closely linked with poverty reduction. This linkage is established via the poverty gap ratio, which measures the amount by which households (or individuals) are poor, as well as the number of households that are poor.

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<sup>2</sup> For an extensive review of cross-country experience of cash transfer programs, see Subbarao, Bonerjee, Ezemenari, Braithwaite Graham, Carvalho, and Thomson (1997).

Targeting efficiency involves the selection of beneficiaries in the program. Since targeted programs are not based on the actual incomes or expenditures of households when selecting beneficiaries, there is the danger of committing two types of error. Type I error occurs when someone who deserves the benefits is denied them, while Type II error occurs when benefits are paid to someone who does not deserve them. Often, these two types of errors do not move in the same direction: That is, attempts to reduce Type II error can lead to increased Type I error committed. How can we overcome this then?

To tackle the problem, we derive a new targeting indicator, which is a function of four factors: percent of poor targeted by the program, percent of beneficiaries in the program, Type I, and Type II errors. The indicator is derived using the Cramer's phi statistics, which measures the association between poverty status of households or individuals and the selected beneficiary households or individuals. The higher the value of this indicator, the better the targeting power.

This indicator has been shown to be closely linked with poverty reduction.

A program is said to be mismatched if the number of poor is not equal to the number of beneficiaries. Most targeted programs suffer from severe mismatch have reduced targeting power. Thus, even if we have perfect information about the poor, the program's performance remains poor if it suffers from mismatch. In most cases, the issue of mismatch is ignored. In this paper, we therefore develop an indicator that detects how the extent the mismatch reduces the targeting efficiency.

The issue of mismatch can easily be—and should be—addressed right at the design stage of any program.

A proxy means test, which is now widely used in developing countries, enables one to single out beneficiaries based on easily identifiable variables that accurately predict a household to be in poverty. A nationally representative household survey makes it possible to conduct such a proxy means test. In this paper, we illustrate how the new targeting indicator developed here can be used to design a targeted program. This illustration is based on the Philippine's Family Income and Expenditure Survey 2006.<sup>3</sup>

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<sup>3</sup> I am grateful to Celia Reyes for providing me the Philippines data set.

The first step in designing a proxy means testing is to identify variables that are well correlated with the poverty status of households. These variables must be easy to measure and, at the same time, able to predict with reasonable accuracy the poverty status of households. To accomplish this objective, we have developed a formula that calculates a correlation coefficient between any proxy variable with the poverty status of households. This correlation coefficient helps identify the proxy variables.

We have also evaluated the targeting efficiency of three largest welfare programs: Bolsa Familia in Brazil, Di Bao in the People's Republic of China (PRC) and Progressa in Mexico. These programs have very complex procedures for targeting the poor. Each has two or three stages of selecting the beneficiaries, where the administrative costs can be very high because of the complexity of their eligibility criteria. More importantly, these programs suffer from severe mismatch. In contrast, the proxy means test developed in our study is based on the Philippines data, is relatively very simple, does not suffer from mismatch and has a much better targeting efficiency.

## DERIVATION OF TARGETING INDICATOR

Suppose  $N$  is the total population of households, and among them  $N_p$  are the poor, then the

Headcount ratio of poverty is given by

$$H = \frac{N_p}{N} \quad (1)$$

Suppose that  $N_b$  are the households who benefit from the program, then the probability of selecting a beneficiary household is given by

$$B = \frac{N_b}{N} \quad (2)$$

If we had the perfect information about the poor, then all beneficiaries of the program will be the poor. This is not the case

in practice. Suppose among  $N_b$  beneficiaries,  $N_{bp}$  are poor and the remaining ( $N_b - N_{bp}$ ) are the non-poor beneficiaries. The probability of selecting a beneficiary among the poor is given by

$$B_p = \frac{N_{bp}}{N_p} \quad (3)$$

And similarly, the probability of selecting a beneficiary among the non-poor is given by

$$B_n = \frac{(N_b - N_{bp})}{(N - N_p)} \quad (4)$$

If there is no association between the actual poor and the selected beneficiary, then the probability of selecting a beneficiary among the poor would be equal to the probability of selecting a beneficiary among the non-poor. That is, the non-poor are as likely to be selected as the poor, in which case  $B_p = B_n$ . This situation may be characterized as having no information as to who the poor are, so everyone has the same probability of being selected in the program.

A program may be classified as pro-poor if the probability of selecting a beneficiary among the poor is greater than that among the non-poor, i.e., when  $B_p - B_n > 0$ .

The proxy means testing can never identify the poor perfectly. Two kinds of errors are committed:

Type I error: Probability of not selecting a poor household as beneficiary:<sup>4</sup>

$$\alpha = (1 - B_p) \quad (5)$$

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<sup>4</sup> Some studies refer to this as Type II error (Ravallion 2009). According to the standard statistical literature, Type I error is the probability of rejecting a null hypothesis. If our null hypothesis is that a household selected is poor, then the probability of not selecting this household in the program should be Type I error. Thus, we are following the statistical convention in defining Type I and Type II errors.

Type II error: Probability of selecting a non-poor household as beneficiary:

$$\beta = B_n \tag{6}$$

which gives

$$(1 - \alpha - \beta) = B_p - B_n \tag{7}$$

A program should be designed so that it is pro-poor—i.e., the poor are more likely to be selected in the program than the non-poor. The degree of being pro-poor can be measured by how much higher the probability of selecting a poor is compared with the probability of selecting a non-poor in the program, which is measured by  $(B_p - B_n)$ .

Thus, how good the proxy means testing is can be measured by the magnitude of  $(1 - \alpha - \beta)$ .

In the following 2 x 2 contingency table, we can measure the association between poverty status and selection of beneficiaries by Cramer's Phi statistics as

$$\phi = (1 - \alpha - \beta) \sqrt{\frac{H(1-H)}{B(1-B)}} \tag{8}$$

When  $\phi = 0$ , it implies that there is no association between poverty and selection of beneficiaries—or in other words, the poor are as likely to be selected in the program as the non-poor. It can be seen that  $N\phi^2$  is distributed as  $\chi^2$  distribution with 1 degree of freedom. This result allows us to test the null hypothesis of no-association between poverty status and selection of beneficiaries.

The larger the value of  $\phi$ , the greater the association between poverty status and selection of beneficiaries. As we showed above, this statistics is also related to the degree of pro-pooriness of the program; the larger the  $\phi$ , the greater, the pro-pooriness of the program.

2 x 2 Contingency Table

	Poor	Non-poor	Total
Beneficiary	$N_{bp}$	$N_b - N_{bp}$	$N_b$
Non-beneficiary	$N_p - N_{bp}$	$(N - N_p)(N_b - N_{bp})$	$N - N_b$
Total	$N_p$	$N - N_p$	$N$

In the case of perfect targeting, all the poor are selected as beneficiaries and all non-poor are completely left out, which can happen only when  $\alpha = 0$ ,  $\beta = 0$  and  $B=H$ —which from (8) gives  $\varphi = 1$ . Similarly, in the case of imperfect targeting, all the poor are left out from the program and all non-poor are included, which can happen only if  $\alpha = 1$ ,  $\beta = 1$  and  $B=1-H$ —which from (B) gives  $\varphi = -1$ . Thus, our proposed targeting indicator  $\varphi$  lies between  $-1$  and  $+1$  and its magnitude gives an indication of how good a given program can target the poor. Any program that gives negative value of  $\varphi$  should not be implemented because it is anti-poor (the poor have lesser chance of being selected than the non-poor).  $\varphi^2$  is similar to the coefficient of determination in the regression analysis: the proportion of total variation that is explained by the proxy means test. In designing a program, we should aim at maximizing  $\varphi^2$ .

## MISMATCH BETWEEN BENEFICIARY AND POOR HOUSEHOLDS

In designing any targeted program, we have to consider four parameters; namely, proportion of poor households  $H$ , who are being targeted; proportion of beneficiary households  $B$  in the population; Type I error  $\alpha$ ; and Type II error  $\beta$ . These four parameters are very closely related. If  $B < H$ , we are likely to exclude more poor (and also more non-poor) households from the program, which implies higher Type I error and lower Type II error. If  $B > H$ , we are likely to include more of both poor and non-poor households in the program, resulting in lower Type I error and higher Type II error. What is the correct size of any program? We would explore this issue in more detail in the paper.

In almost all targeted programs we have encountered,  $B$  is never equal to  $H$ . An important implication of this is that even if we have perfect information about the poverty status of households (i.e., which household is poor and which is non-poor), the two types of errors can never be eliminated. In other words, we can never have perfect targeting. If  $B$  is not equal to  $H$ , we can say that there is a mismatch between beneficiary and poor households.

If there is no mismatch and if we have perfect information about households' poverty status, we will naturally ensure that all poor households are included in the program and all non-poor households are excluded, which implies  $\alpha = 0$  and  $\beta = 0$ , which on substituting in (8) gives  $\varphi = 1$ . Thus, we will have a perfect correlation between poor and beneficiary households. This is the ideal situation. The targeting efficiency of a program can then be judged by how far below is from 1. If for instance  $\varphi = 0.4$  it means that the program is 40 percent efficient in targeting the poor. When there is no mismatch, the targeting indicator in (8) is given by

$$\varphi = 1 - \alpha - \beta \tag{9}$$

which interestingly is the targeting differential measure (TD) proposed by Ravallion (2000). This measure informs how high the probability of selecting poor households in the program is over that of the non-poor households. It is suitable for ranking programs when there is no mismatch; the number of beneficiary households is exactly equal to the poor households. Most targeting programs in developing countries do not meet this requirement.<sup>4</sup>

Given that mismatch is so common, it is important to assess its impact when designing a targeted program. We have two kinds of mismatch. The most common mismatch is when  $B < H$ . The cost of any targeted program depends on what proportion of beneficiary households are included in the program; the larger  $B$  is, the greater the cost of the program will be. Most governments in developing countries have budget constraints, which means this will always lead to a tendency to design programs that have  $B$  as small as possible. Suppose that we have a perfect information on the poverty status of households, all beneficiaries will then be among the poor households so that Type II error denoted by  $\beta$  will be equal to 0. Type I error will occur because the program does not include all

poor households; hence  $\alpha = (H - B)/H$ , which on substituting in (8) gives the upper limit of  $\varphi$  as

$$\varphi_u = \sqrt{\frac{B(1-H)}{H(1-B)}} \text{ if } B < H \quad (10)$$

The mismatch may occur when  $B > H$ . If we have perfect information, this mismatch implies  $\alpha = 0$  and  $\beta = (B - H)/(1 - H)$ , which on substituting in (8) gives the upper limit for  $\varphi$  as

$$\varphi_u = \sqrt{\frac{H(1-B)}{B(1-H)}} \text{ if } B > H \quad (11)$$

$\varphi_m = 1 - \varphi_u \leq 1$  is the measure of mismatch; the larger (smaller) the value, the larger (smaller) the mismatch.  $\varphi_m = 0$  when  $B=H$ , i.e., there is no mismatch.

Every targeted program has a decision rule that identifies a poor household from the non-poor household. The targeting efficiency of a program should be judged based on how good the decision rule is. If we have perfect information about the poverty status of households, the decision rule will be able to pick only the poor households for inclusion in the program. In practice, we do not possess the perfect information about households' poverty status, so we judge the targeting efficiency of the program by measuring how far below the targeting indicator it is from the counterfactual situation of having the perfect information. Equations (10) and (11) give the upper limits of the targeting indicator under the perfect information. Thus, we define the targeting efficiency of a program as the ratio of targeting indicator  $\varphi$  to its upper limit  $\varphi_u$  as defined in (10) and (11):

$$\begin{aligned} \varphi^* &= \frac{(1 - \alpha - \beta)H}{B} \text{ if } B < H \\ &= \frac{(1 - \alpha - \beta)(1 - H)}{(1 - B)} \text{ if } B > H \end{aligned} \quad (12)$$

Thus, the targeting indicator can be written as a product of two components:

$$\varphi = \varphi^* (1 - \varphi_m) \quad (13)$$

This decomposition allows us to know how good the program is in identifying the poor, and how much mismatch there is in the program. The issue of mismatch can be addressed more easily than the issue of targeting efficiency.

It will be useful to explain the idea of mismatch with an example. We have taken a hypothetical example of two programs operating in two cities, which is discussed by Ravallion (2009). In city *A*, 50 percent of the population is poor but the program has selected only the poorest 20 percent as beneficiaries. In city *B*, 10 percent of the population is poor but the program has selected the poorest 40 percent of the population as beneficiaries. City *A* has 20 percent beneficiaries but 50 percent poor whereas city *B* has 40 percent beneficiaries but only 10 percent poor. It is quite obvious that both programs have severe mismatch problems. Given this information, the measure gave the values of 0.50 for city *A* and 0.59 in city *B*. Thus, both cities have severe mismatches but the mismatch is more severe in city *B*. There would not have been any mismatch if the program in city *A* had chosen 50 percent beneficiaries, whereas in city *B*, only 10 percent beneficiaries would have been sufficient. Furthermore, in city *A*, 40 percent of the poor are selected as beneficiaries whereas in city *B*, 100 percent of the poor are selected as beneficiaries. The target indicator is calculated as 0.50 in city *A* and 0.41 in city *B*, which means that the program in city *A* is better targeted than in city *B*, even though 100 percent poor are covered by the program in city *B*. The target efficiency in both cities is computed to be equal to 1. This is the result we expected to obtain because in both cities, we have the perfect information about the poverty status of individuals, i.e., which household belonged to which percentile. Thus, even if we have perfect information on the poor, we can have a poor program if the number of beneficiaries is not in line with the number of poor. This example demonstrates that the issue of mismatch should not be ignored and instead be addressed right at the design stage of any program.

## LINKAGE WITH POVERTY REDUCTION

In this section, we attempt to link the targeting indicator developed here with poverty reduction. Many poverty measures that exist in literature reflect the different facets of poverty. In designing a targeted program, we have to choose a poverty measure with which the program should be linked. The headcount ratio is a crude measure of poverty because it completely ignores the gap in incomes from the poverty line. The poverty gap ratio adopted here is more attractive because it measures the amount by which households (or individuals) are poor, as well as the number of households that are poor. There is a third measure called the severity of poverty, which has more attractive properties than the poverty gap ratio. However, because such measure is somewhat more complex, we have chosen the poverty gap ratio.

A social protection program may be defined as pro-poor if it provides greater absolute benefits to the poor compared to the non-poor. Obviously, with a given fixed cost, a pro-poor program will lead to greater poverty reduction than a non-pro-poor program. Using this framework, Kakwani and Son (2007) derived the pro-poor policy (PPP) index for a wide range of poverty measures. Assuming that all beneficiaries receive exactly the same benefits from the program, the PPP index for the poverty gap ratio is obtained as

$$\delta = \frac{B_p}{B} \quad (14)$$

where  $B_p$  is the percentage of beneficiaries among the poor and  $B$  is the percentage of beneficiaries in the whole population. The program will be pro-poor if the percentage of beneficiaries among the poor is greater than that of beneficiaries in the whole population or in other words, when  $\delta > 1$ . The larger the value of  $\delta$ , the greater will be the degree of pro-poorness of the program.

Note that the value of  $\delta$  does not depend on the size of the program in terms of its budget, which means that  $\delta$  alone cannot determine the poverty impact of different programs with different budgets. The magnitude of reduction in poverty gap ratio is fully captured by the product of  $H$ ,  $B$  and  $\delta$ , which means that for given

values of  $B$  and  $H$ , the magnitude of poverty reduction has a positive monotonic relationship with  $\delta$ : the larger the  $\delta$ , the greater the poverty reduction.

The targeting indicator  $\varphi$  defined in (8) can also be written as

$$\varphi = (\delta - 1) \sqrt{\frac{HB}{(1-H)(1-B)}} \quad (15)$$

which shows that given  $H$  and  $B$ ,  $\varphi$  has a positive monotonic relationship with  $\delta$ . Since  $\delta$  has a positive monotonic relationship with poverty reduction, so will  $\varphi$ . Thus, our proposed targeting indicator is closely linked with poverty reduction; for given  $H$  and  $B$  the higher the value of  $\varphi$ , the greater the poverty reduction. It will be useful to consider poverty reduction per unit cost to government. This indicator is important because our objective is to maximize poverty reduction within a given budget constraint. The reduction in poverty gap ratio per unit cost is captured by  $\delta^* = H\delta$ , which on substituting in (15) shows that for given  $H$  and  $B$ ,  $\varphi$  has a positive monotonic relationship with  $\delta^*$ : the larger the value of  $\varphi$ , the greater the reduction in poverty gap ratio with fixed cost.

## AN EVALUATION OF THREE FAMOUS WELFARE PROGRAMS

### Brazilian Welfare Programs

Brazil has many welfare programs. We have applied our methodology to see how different programs in Brazil are targeted (Table 1). The largest program in Brazil is Bolsa Escola, which benefits 10.9 percent of the total population. All programs together benefit about 22.6 percent of the total population. Note that these different programs are not mutually exclusive. Some families may receive benefits from more than one program.

A striking feature of the Brazilian welfare system is that Type I error is very high and Type II error is very small. It means that programs are efficient with respect to leakage to the poor but a large proportion of the poor are left out of the programs. Except for the unemployment insurance, all programs

are pro-poor. That is, the probability of selecting a poor is higher than the probability of selecting a non-poor in the program. This is indicated by the positive values of the targeting indicator.

Comparing different programs, we find that three programs; namely, Bolsa Familia, Bolsa Escola, and Fuel Subsidy stand out as the best targeted programs with targeting indicator values equal to 0.28, 0.30 and 0.27, respectively. Bolsa Familia is a new program that provides transfers to families with children. Bolsa Escola is an old program that was designed to enhance school attendance by children coming from poor families.

The least efficient program is the unemployment insurance, which is not even pro-poor. The BPC is a program that provides pensions to the poor. Its targeting indicator value is only 0.09, which cannot be regarded as a well-targeted program.

The maximum targeting indicator value is 0.30, which means that the criteria for identifying the poor can explain for the plight of only 9 percent of the poor population. In other words, the other variables that should have cumulatively accounted for and predicted poverty in the population are actually undetected. These results suggest that welfare programs in Brazil, which are so famous, are not well targeted. This, however, may be a misleading conclusion because it ignores the loss of predictive power of the programs due to mismatch.

A targeting indicator is the product of targeting efficiency and mismatch. Targeting efficiency measures how good the decision rule is in identifying the poor population or to what extent the target indicator deviates from the situation of having perfect information about the poverty status of the population. Mismatch can occur even if we have perfect information. The targeting efficiency of Bolsa familia is 0.71, which is a reasonably good targeting system. The mismatch index is 0.6, which reduces the predictive power of targeting by about 60 percent. Thus, the Brazilian major welfare programs have reasonable targeting efficiency but they suffer from severe mismatch between the number of poor who are targeted for the programs and the number of beneficiaries who are included in the programs.

**Table 1. Targeting Efficiency of Welfare Programs in Brazil**

Welfare program	Proportion of Beneficiaries	Errors		Targeting indicator	Targeting Efficiency	Mismatch Index
		Type 1	Type 2			
Bolsa Familia	0.058	0.836	0.017	0.28	0.71	0.60
Fome Zero	0.020	0.940	0.005	0.18	0.76	0.77
Bolsa Alimentacao	0.015	0.960	0.005	0.13	0.64	0.80
Bolsa escola	0.109	0.742	0.051	0.30	0.53	0.44
Peti-child labor	0.011	0.971	0.004	0.10	0.61	0.83
Unemployment insurance	0.015	0.991	0.017	-0.03	-0.16	0.80
BPC	0.018	0.962	0.010	0.09	0.44	0.79
Fuel subsidy	0.093	0.782	0.044	0.27	0.52	0.49
Other benefits	0.010	0.978	0.005	0.08	0.47	0.84
Proportion of poor	0.280					

Source/s: Author's calculations based on The Brazilian National household Survey 2004 (PNAD).

## The People's Republic of China's Minimum Livelihood Guarantee Scheme

The PRC's Minimum Livelihood Guarantee Scheme, popularly known as *Di Bao* is one of the largest social protection programs in the developing world. The program started in 1999 and expanded rapidly. According to Ravallion (2009), the program covered 2.2 million people representing 6 percent of urban residents. It is ran by municipalities. Beneficiaries in the program are determined based on income reported by persons seeking assistance. A person is included in the program if his or her reported income is less than a stipulated "poverty line." Each locality determines its own poverty line. Although local authorities conduct checks on eligibility, it is difficult to believe that the potential beneficiaries will not underreport their incomes. Furthermore, Ravallion (2009) points out that local authorities have considerable power over the program, including setting the *Di Bao* poverty lines, funding, and implementation. This means that the process of selecting beneficiaries is subjective, which can cause horizontal inequity when the program is implemented at the national level. Suppose there are two persons *A* and *B* who belong to two different municipalities but have exactly the same standard

of living. It is possible that person A is classified as poor and person B is classified as non-poor. This can happen because the two municipalities are not using exactly the same criteria for selecting beneficiaries. There will be no consistency across the country.

Ravallion's (2009) has conducted a thorough evaluation of *Di Bao* using the PRC's Urban Household Short Survey for 2003–2004, covering 35 largest cities with the total sample of 76,000. He concluded that targeting performance is excellent by international standards. The program is a clear outlier in targeting performance internationally.

Across the 35 cities, 7.7 percent of the total population has a net income of less than the *Di Bao* poverty line. The percentage of beneficiary among the poor is found to be only 29 percent, which means that 71 percent of the poor are excluded from the program. This figure does not suggest that the *Di Bao* can be considered as an outlier in targeting performance internationally. However, the percentage of beneficiary among the non-poor is only 1.83 percent, which is very small. So the program has high under-coverage rate but low leakage rate. The targeting indicator  $\varphi$  proposed here is computed to be equal to 0.37, which falls well short of perfect targeting ( $\varphi = 1$ ). Still, *Di Bao* performs better than Brazil's most well known Bolsa Familia, for which the value of  $\varphi$  is equal to 0.28. This result is surprising because the Bolsa Familia is Brazil's flagship program that uses sophisticated objective criteria to identify its beneficiaries, whereas *Di Bao* uses subjective judgments by municipalities. To explain this anomaly, we calculated the mismatch index for *Di Bao*, which is found to be equal to 0.30 and resulted in a targeting efficiency of 0.53. The Bolsa Familia, on the other hand, has a much larger degree of mismatch with index value equal to 0.60. The targeting efficiency of Bolsa Familia was calculated to be equal to 0.71 as against the value of 0.53 for *Di Bao*.

Thus, although Bolsa Familia has a greater power than *Di Bao* in identifying the beneficiaries, it suffers from a more severe mismatch. Somehow, if Bolsa Familia had avoided a mismatch, it would have been much superior than *Di Bao*. We will discuss in this paper how we can avoid a mismatch.

## Mexico's Health, Education, and Nutrition Program (PROGRESA)

Conditional cash transfer (CCT) programs have been regarded as the modern way to reconcile safety nets (or more generally, social protection policies) with investments in the human capital of the poor. The basic idea behind these programs is that they reduce poverty in both the short and long run. Several Latin American countries have been pioneers of CCT programs. In particular, countries where large-scale CCTs have been implemented are Mexico and Brazil. The first national CCT program was pioneered by Mexico in 1997. This was the most comprehensive program on education, health, and nutrition, called ProgresA. It will be useful to evaluate the targeting efficiency of this program because it follows statistically rigorous methods to identify the beneficiary households who are supposed to be extremely poor.

The selection of beneficiary households is accomplished in three stages. At the first stage, communities are selected using a marginal index based on census data. The marginal index was developed for each locality in Mexico using the principal components method based on seven variables:

- Share of illiterate population aged 15 years or more.
- Share of dwellings without running water.
- Share of household dwellings without drainage.
- Share of household dwelling without electricity.
- Average number of occupants per room.
- Share of dwellings with earth floor.
- Percentage of labor force working in agricultural sector.

The marginality index was divided into five categories. It is not known how good these indicators are in identifying the poor localities. Ideally, if we know the percentage of poor households in each locality, we could rank the localities, but such information is not available. Skoufias, Davis, and Vega (2001) have attempted to assess the efficacy of selecting localities against consumption-based poverty maps. These poverty maps are themselves subject to large errors, and we therefore cannot have a proper assessment of how good the marginality index is.

At the second stage, households within the selected communities are chosen. It involves a rather complicated procedure, which we do not need to discuss here. At the third stage, the communities are presented with a list of potential beneficiaries, and the final list is prepared. These three stages are so complicated we cannot assess the overall targeting efficiency of the program. We, however, can assess the program at the second stage of selection using the information provided by Skoufias, Davis, and Vega (2001). They used data collected by Progresa in 1997 for 24,077 households residing in a sample of 506 marginal communities. On average, 78 percent of the households in the sample were Progresa beneficiaries. Table 2 presents the results on targeting indicator using three poverty lines.

**Table 2. Targeting Indicator at the Second Stage of Selection by Progresa**

Welfare program	Proportion Poor	Proportion Beneficiaries	Type 1 Errors	Type 2 Errors	Targeting indicator	Mismatch indicator	Targeting Efficiencies
Progresa targeting	25	78	6.63	72.97	0.21	0.69	0.70
Progresa targeting	50	78	10.80	66.94	0.27	0.47	0.51
Progresa targeting	78	78	16.27	57.98	0.26	0.00	0.26
Locality-level targeting	78	78	18.96	67.28	0.14	0.00	0.14

Source: Skoufias and Davis (2001)

The Type 1 error is 6.63 percent when extreme poverty of 25 percent is used. It means that 6.63 percent of extremely poor households are excluded by Progresa. As the poverty line increases, the exclusion error increases to 10.8 percent at the 50th percentile and 16.27 percent at the 78th percentile. The Type 2 error is very high, which means that a large proportion of the non-poor are included in the program. The targeting indicator has a value of only 0.21 for the 25th percentile. Compared to the other programs we have looked at, these results clearly indicate that the targeting by Progresa is very poor. The value of the targeting indicator at the local level using the marginality index is only 0.14, which shows that targeting is inferior at the local level. This conclusion should, however, be qualified because it provides only a partial assessment at the selection stage among households in the poorest communities.

## DESIGNING A SOCIAL PROTECTION PROGRAM

In most low-income countries, income is hard to measure. Moreover, many households consume from their own production. This situation makes it difficult to use income as a measure for identifying poor households. A proxy means test, which is now widely used in developing countries, enables us to identify beneficiaries based on easily identifiable variables that accurately predict a household deep in poverty. A nationally representative household survey makes it possible to conduct such a proxy means test.

### Proxy Variables

The first step in designing a proxy means testing is to identify a set of variables that are well correlated with households' poverty status. These variables generally include household characteristics such as household composition; dwelling characteristics: type of roof, toilet, electricity connection, water supply, sanitation, etc; households' labor force characteristics; land owned and operated; ownership of durables and so on. The variables selected must be easy to measure but at the same time can predict the poverty status of households with reasonable accuracy. To accomplish this objective, we should look at how a particular variable is correlated with poverty. Suppose, for instance, that we believe female-led households have more severe poverty than male-led households, then we can choose the female-led households as one of the proxy variables in designing the program. This variable will be a good selection if a large proportion of female-headed households are poor.

Suppose  $B_j$  is the proportion of beneficiary households based on the  $j$ th proxy variable in the population,  $H$  is the proportion of poor households in the population, and  $B_j^p$  is the proportion of beneficiary households among the poor, then the correlation coefficient between the  $i$ th proxy variable and the poverty status of households is given by

$$\rho_j = \frac{(B_j^p - B_j)}{B_j} \sqrt{\frac{HB_j}{(1-H)(1-B)}} \quad (16)$$

Using the Philippines' Family Income and Expenditure Survey (FIES) 2006 and official poverty line, we calculated that the Philippines had 24.23 percent poor households. The percentage of female-led households was 18.67 in the whole country. However, among the poor households, this percentage was 10.66. This means that poverty is less severe among the female-led households than among male-headed households. Using (16), the correlation between female-headed households and the poverty status of households is calculated to be equal to -0.12. From this result, we can conclude that a female-headed household is not a good proxy variable.

The variables relating to the ownership of assets generally have high correlation coefficient. For instance, possession of TV has a correlation coefficient of -0.44, which implies that poor households generally do not own television.

Proxy variables are generally determined on an ad-hoc basis. The correlation coefficient given in (16) can be used to develop a set of proxy variables in a more objective way. If the proxy variable is not a binary (dummy) variable, then the formula for the correlation coefficient in (16) will not be valid. Suppose the proxy variable  $Z_j$  is a continuous variable with mean  $u_j$  and variance  $\sigma_j^2$ , then the correlation coefficient between  $Z_j$  and the poverty status of households will be given by

$$\rho_j = (u_j^p - u_j) \sqrt{\frac{H}{(1-H)(1-B)\sigma_j^2}} \quad (17)$$

where  $u_j^p$  is the mean of  $Z_j$  among the poor households.

The household size is often used as a proxy variable because poor households have a generally larger household size than the non-poor households. In the case of the Philippines, the average household size of the population is 4.82, whereas poor households have an average household size equal to 5.88. The correlation coefficient from (17) is computed to be equal to 0.28, which is quite high and significant. Thus, household size can be regarded as a good proxy variable.

The complete list of proxy variables, along with their correlation with poverty, is presented in Table A.1 in the appendix. The correlations of the selected variables are all statistically significant.

## The Model Used

Having determined the proxy variables, the next step is to combine them into a composite index that can be used as the basis for identifying the beneficiary households. We should combine them in such a way that they provide the highest probability of a household being identified as poor; the larger the probability, the better the targeting would be.

A household is defined as poor if its per-capita income is less than the per-capita poverty line. Suppose  $y_i^*$  is a variable that determines the poverty status of the  $i$ th household and can be determined by a set  $k$  proxy variables  $X_i$  by means of the following model:

$$y_i^* = X_i\beta + \epsilon_i \quad (18)$$

where  $\beta$  is the vector of  $k$  coefficients and  $\epsilon_i$  is the stochastic error term, which has 0 mean and constant variance. Although  $y_i^*$  is not observable, we can still relate it to the observed poverty status of  $i$ th households  $z_i$  (which takes value 1 if the  $i$ th household is poor; otherwise, it takes the value 0) defined as

$$\begin{aligned} z_i &= 1 && \text{if } y_i^* > 0 \\ z_i &= 0 && \text{if } y_i^* \ll 0 \end{aligned} \quad (19)$$

It can be easily seen that

$$E(z_i) = \pi_i = P(z_i = 1) = P(y_i^* > 0)$$

$\pi_i$  is the probability that the  $i$ th household is poor. Our objective is to estimate  $\pi_i$  based on  $k$  proxy variables. We use the Logit model:

$$\pi_i = \frac{e^{X_i\beta} (B_j^p - B_j)}{1 + e^{X_i\beta}} \quad (20)$$

This model can be estimated using the maximum likelihood method. Table A2 in the appendix presents the estimates of the  $k$

coefficients in  $\beta$ . The table also gives the  $t$  values, which indicates whether a given proxy variable is statistically significant or not. If the  $t$  value is greater than 1.96, we can say that the proxy variable is statistically significant at the 5 percent level of significance. Note that the coefficients corresponding to almost all proxy variables are statistically significant. This means that the proxy variables chosen have a significant impact in the determination of the poverty status of households. Substituting the estimates of  $\beta$  from Table A2 in (20), we obtain the estimate of each household's probability of being poor.

## Decision Rule

Having estimated each household's probability of being poor, we can now design a decision rule to determine which household should or should not be included in the program. We can have a decision rule that the  $i$ th household is a beneficiary for the program if its estimated probability of being poor, denoted by  $\hat{\pi}_i$  is greater than  $\pi$ , which is an exogenously-determined cutoff point. Suppose  $B$  is the percentage of beneficiary households who are selected by this decision rule. Obviously,  $B$  will depend on the value of  $\pi$ ; the larger the value of  $\pi$ , the smaller  $B$  will be. Using the households survey data from the Philippines, we obtain the proportion of beneficiaries among households in the whole population as well as among the poor for different values of  $\pi$ . The results are presented in Table 3.

Based on the official poverty line, 24.23 percent of households in the Philippines are poor. This program has been designed to target all these households. It is noted that if  $\pi = 0.8931$ , the beneficiary households in the population are only 5 percent, which means there will be a high degree of mismatch. The percentage of beneficiaries among the poor and non-poor households is equal to 19.2 and 0.46, respectively. The targeting indicator is 0.37 and the mismatch index stands at 0.59.

Our objective is to maximize the targeting indicator. Figure 1 is an inverted U-shaped curve that shows the targeting indicator for different values of beneficiaries. The targeting indicator achieves the maximum value of 0.63 when the percentage of beneficiaries is

**Table 3. Targeting Indicator for Different Proportion of Beneficiaries**

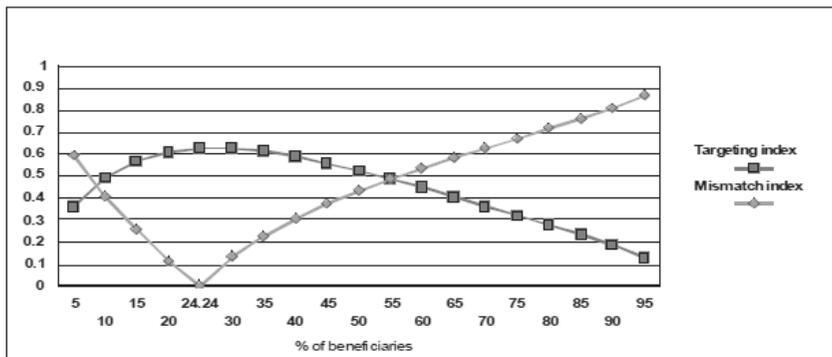
Cut Off Point for Probability	Proportion of Beneficiaries	Proportion of Beneficiaries	Targeting Index	Mismatch Index	Targeting Efficiency	
0.8931	5	19.20	0.46	0.37		0.59
0.91	0.788	10	36.35	1.58	0.50	
0.41	0.84	0.6682	15	51.01	3.48	0.57
	0.26	0.77	0.5376	20	63.30	6.15
0.61		0.12	0.69	0.4293	24.23	71.94
8.98	0.63		0.00	0.63	0.3139	30
81.00	13.69	0.63		0.14	0.73	0.2282
35	87.03	18.36	0.62		0.23	0.80
0.1641	40	91.23	23.61	0.59		0.31
0.85	0.1191	45	94.29	29.24	0.56	
0.37	0.90	0.084	50	96.56	35.11	0.53
	0.43	0.93	0.0571	55	98.10	41.22
0.49		0.49	0.96	0.0384	60	99.00
47.53	0.45		0.54	0.97	0.0254	65
99.51	53.97	0.41		0.59	0.99	0.0162
70	99.72	60.50	0.37		0.63	0.99
0.0102	75	99.86	67.05	0.32		0.67
0.99	0.0057	80	99.95	73.62	0.28	
0.72	1.00	0.003	85	99.98	80.21	0.24
	0.76	1.00	0.0013	90	100.00	86.81
0.19		0.81	1.00	0.0003	95	100.00
93.40	0.13		0.87	1.00		

Source/s: Author's calculations based on the Philippines' Household Income and Expenditure Survey (FIES) 2006.

equal to the percentage of poor households in the population. At this point, the mismatch index is equal to 0 and obviously, targeting efficiency will then be equal to the targeting index, which 0.63. This is the maximum degree of targeting we can achieve with the proxy variables selected in the design of this program. The percentage of beneficiaries for this program is 24.23, which is exactly equal to the percentage of target households. The percentage of beneficiaries among the poor is almost 72 percent, which means that 28 percent of the poor are left out of the program. Meanwhile, the percentage of beneficiaries among the non-poor households is about 9 percent.

Comparing the targeting efficiency of three major programs evaluated here, we find that this program is far superior. For instance, the value of the targeting indicator for Brazil's Bolsa Familia is only 0.28 and that for PRC's Di Bao is 0.37.

**Figure 1. Targeting and Mismatch indices**



## Implementation

It should be noted that the well-known social assistance programs discussed above have very complex procedures for targeting the poor. Each program has two or three stages for beneficiary selection. Their administrative costs of selecting beneficiaries can be very high because of their complex eligibility criteria. The proxy means test developed here is relatively very simple and at the same time has better targeting efficiency. We have used about 20 odd

proxy variables, which are well defined, and information required on them can easily be collected. One can then design a two-page form that seeks information from households that want to be included in the program. On the basis of information provided in the form, the decision rule developed here will indicate whether the household should be included in the program or not. The beneficiary households may be required to fill this form every year so that the decision can be made as to whether the household should continue or cease to be in the program. So that this approach will not introduce potential exclusion error by failing to assess those who do not apply for assistance, the program should be widely advertised within communities as well as nationwide. The aim here is to get households who are in real need of assistance to be aware of as well as avail of the programs.

The proxy means test developed here targeted the poorest 24.23 percent households because these are the households that are regarded as officially poor in the Philippines. To avoid a mismatch, the percentage of beneficiary households should also be 24.23 percent, and this entails large resources that many governments in developing countries may not be able to afford. The proxy means test developed could provide flexibility to the government with respect to the percentage of households that should be targeted. For instance, government resources might only allow targeting the bottom 10 percent of the poorest households. If so, the decision rule could then be designed to identify only the poorest 10 percent of the households. This methodology will allow such flexibility.

Once the beneficiaries have been selected, then the levels of payments should be determined so that we achieve a maximum reduction in poverty within a given budget. This can be achieved if payments are linked to meeting the minimum basic needs of households, which are determined by the poverty line. The rules governing the payments can be devised using the national household survey.

### **Community-Based Monitoring System (CBMS)**

The CBMS is a community based poverty monitoring system, which began in the Philippines under the leadership of

Dr. Celia Reyes of the Philippine Institute for Development Studies (PIDS) in the early 1990s, is now implemented in 14 countries in Asia and Africa. It is increasingly becoming an important tool to fighting poverty with facts.<sup>5</sup> It is an organized way of collecting ongoing or recurring information by communities. Its core indicators are designed to capture multiple dimensions of poverty. The information collected is used by “local governments, national governments, nongovernmental organizations and civil society for planning, budgeting, implementing local development programs as well as monitoring and evaluating their performance (Reyes and Due 2009).

Using the proxy variables, one can design a short questionnaire, which accurately provides the values of proxy variables from households. Communities may conduct this survey on a regular basis and identify poor households using the decision rule as designed here. This procedure, while is carried out by communities, will provide poverty maps that are comparable across the country. Communities can, however, do some fine-tuning if there are obvious odd cases. The bottomline is that one can have a community-based monitoring as well as targeting system that has greater consistency across the country.

## SOME CONCLUDING REMARKS

This paper has developed a new targeting indicator, which is a function of four factors:

- The percentage of poor targeted by the program.
- The percentage of beneficiaries in the program.
- Type I error: percentage of poor not included in the program.
- Type II error: percentage of non-poor included in the program.

The main objective of targeted programs is to reduce poverty. Most national programs target households that have been identified as poor on the basis of certain poverty line. So that

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<sup>5</sup> For an excellent description of CBMS, see the recent book by Reyes and Due (2009).

no poor is left out of the program, the percentage of beneficiary households must be at least equal to the percentage of poor households. However, the inclusion of every beneficiary in the program involves cost to the government. Generally, the poorer a country, the greater the cost of the program. Because many governments cannot afford these costs, most social programs cover only a very small proportion of beneficiaries relative to the target population. This creates a mismatch, which reduces the targeting efficiency of programs. In this paper, we developed a mismatch index that shows the extent a mismatch reduces the targeting efficiency. The computations mismatch index shows that the three biggest programs; namely, Bolsa Familia in Brazil, Di Bao in the PRC, and Progress in Mexico, suffer from severe mismatch, which results in huge loss of targeting efficiency. The issue of mismatch can easily (and should) be addressed right at the design stage of any program.

The two types of errors do not move in the same direction: Attempts to reduce Type II error lead to increased Type I errors and vice-versa. There is always a tradeoff between the two errors. The targeting indicator derived here addresses the issue of this tradeoff by combining the two types of errors in a composite index. The indicator is derived using the Cramer's phi statistics, which measures the association between poverty status of households or individuals and selection of beneficiary households or individuals. Here, the higher the value of this indicator, the better the targeting power. This indicator has been shown to be closely linked with poverty reduction. Our empirical illustration based on the Philippine data shows that the proposed targeting can be useful to designing a well-targeted program.

The well-known social assistance programs mentioned in this paper have very complex procedures for targeting the poor. Each program has two or three stages of selecting the beneficiaries and the administrative costs of such selection can be very high because of the complex eligible criteria. The proxy means test developed here is relatively very simple and at the same time has better targeting efficiency. Our study shows that designing complex selection procedures do not guarantee higher targeting efficiency.

In many African countries, 50 percent to 60 percent of the population lives in poverty, and the governments cannot afford to target all the poor. The proxy means test developed here could provide flexibility to the governments with respect to the percentage of households that should be targeted. For instance, government resources might only allow targeting the bottom 10 percent of the poorest households. If so, the decision rule could then be designed to identify only the poorest 10 percent of the households.

Using the proxy variables, one can design a short questionnaire aimed to accurately determine the values of proxy variables from households. Communities may conduct this survey on a regular basis and identify poor households using the decision rule as designed here. This procedure, while carried out by communities, will provide poverty maps that are consistent across the country.

This paper has covered a wide range of issues that relate to evaluating and designing social programs in developing countries. It has developed simple techniques to tackle the complex targeting issues. Any future work should henceforth focus on the application of the techniques to designing social protection programs in as many developing countries as possible.

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## APPENDIX

**Table A.1. Correlation Coefficients of Proxy Variables**

	Percentage of Beneficiary in Population	Percentage of Beneficiary Among Poor	Correlation Coefficient
<b>Ownership of assets</b>			
Television	69.6	33.5	-0.44
DVD/VCR	45.0	12.8	-0.37
Refrigerator	39.5	5.5	-0.39
Washing machine	29.6	2.6	-0.33
Air Conditioner	7.1	0.2	-0.15
Car	6.9	0.3	-0.15
Telephone	52.7	15.6	-0.42
Computer	6.6	0.1	-0.15
Microwave	6.0	0.1	-0.14
Electricity	82.1	54.5	-0.41
<b>Sanitary toilet facilities</b>			
No toilet	9.0	21.9	0.26
Others	1.5	3.0	0.07
Open pit	4.9	11.3	0.17
Closed pit	8.9	15.2	0.13
Water Sealed	75.8	48.7	-0.36
<b>Household size</b>			
Household size 1	3.9	0.7	-0.09
Household size 2	8.6	3.4	-0.11
Household size 3	14.0	6.7	-0.12
Household size 4	19.2	13.4	-0.08
Household size 5	18.9	19.1	0.00
household size 6	14.3	19.3	0.08
Household size more than 6	21.1	37.4	0.23
<b>Age of household head</b>			
less than 30	7.1	7.0	-0.00
30–39	22.6	28.6	0.08
40–49	27.0	30.2	0.04
50–59	21.6	17.6	-0.05
60+	21.7	16.5	-0.07
<b>Education of household head</b>			
Less than elementary	24.7	44.4	0.26
Elementary	18.9	25.5	0.10
High school incomplete	12.4	13.1	0.01
High school complete	21.8	13.0	-0.12
College incomplete	11.8	3.5	-0.14
Complete college	10.5	0.5	-0.18
Household headed by female	18.7	10.7	-0.12
Head not engaged in agriculture	75.8	44.5	-0.41
Urban households	49.6	20.2	-0.33
Dependency ratio	41.2	66.8	0.29
Percentage of poor households	24.2		

**Table A.2. Estimates of Logit Model**

	<b>Coefficient</b>	<b>t_value</b>
<b>Ownership of assets</b>		
Television	-0.534	-11.3
DVD/VCR	-0.438	-9.1
Refrigerator	-0.839	-14.4
Washing machine	-1.105	-14.1
Air Conditioner	-0.752	-3.5
Car	-0.965	-4.1
Telephone	-0.940	-21.9
Computer	-1.377	-3.8
Microwave	-1.384	-3.3
Electricity	-0.320	-6.6
<b>Sanitary toilet facilities</b>		
No toilet	0.613	11.2
Others	0.305	2.6
Open pit	0.246	3.8
Closed pit	0.235	4.5
Water Sealed		
<b>Household size</b>		
Household size 1	-	-
Household size 2	1.043	7.3
Household size 3	1.395	9.9
Household size 4	1.898	13.8
Household size 5	2.374	17.2
household size 6	2.888	20.3
Household size more than 6	3.437	24.4
<b>Age of household head</b>		
less than 30	-	-
30-39	0.079	1.1
40-49	0.193	2.7
50-59	0.218	2.8
60+	0.479	6.0
<b>Education of household head</b>		
Less than elementary	1.669	10.7
Elementary	1.434	9.1
High school incomplete	1.276	8.1
High school complete	1.057	6.7
College incomplete	0.949	5.7
Complete college	-	-
Household headed by female	-0.032	0.6
Head not engaged in agriculture	-0.690	-17.7
Urban households	-0.778	-19.2
Dependency ratio	2.263	14.0
Pseudo	0.466	

# Measuring Household Welfare Using the Principal Components Analysis (PCA) Method

Akhmadi, Ashri Yusrina and Athia Yumna<sup>1</sup>

## ABSTRACT

In formulating policies and development plans, the government needs accurate and updated data. The regional governments, especially at the district level, have started to play a very strategic role in the implementation of development plans in their territory since the central government enacted the law on regional autonomy. The results of the Community-Based Monitoring System (CBMS) pilot project in Indonesia show that the system can accurately enumerate regions based on family welfare category. Moreover, it can predict family welfare enumeration in a manner that is highly accurate and completely consistent with what the local people say about family welfare status, especially the poor's.

The results were presented to the Kota Pekalongan stakeholders, and the local government was interested in implementing the data collection system in their city. It became the first district in Indonesia to officially implement the CBMS. Given Indonesia's geographical size and the decentralization policy that puts more power in the hands of the district governments in determining poverty

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<sup>1</sup> Members of the CBMS Research Team in Indonesia

alleviation programs, we believe that this monitoring system is the most suitable for Indonesia.

The objective of CBMS data collection in Kota Pekalongan was to generate a comprehensive database that could be accessed, used, and analyzed by local government agencies and other institutions under the administration of the Kota Pekalongan government. It is also hoped that the results of this data collection could be used as recommendations to the Kota Pekalongan government, especially in the preparation of the budget and development plans.

## INTRODUCTION

### Background

The SMERU Research Institution introduced a data collection system called the Community-Based Monitoring System (CBMS), which has been tried out in four villages in Kabupaten Cianjur and Kabupaten Demak. The system utilizes a list of intelligible questions and involves the local community members in the implementation. The data collected and the information gathered were analyzed both quantitatively and qualitatively. The quantitative analysis was done using Principal Components Analysis (PCA), a statistics method that reduces dataset multidimensionality but, at the same time, maintains as many variations in the dataset as possible.

The results of the CBMS tryouts in the four villages show that the system can accurately enumerate regions at the *dusun*<sup>2</sup> or *RW*<sup>3</sup> levels based on family welfare category. It can also predict family welfare enumeration in a manner that is highly accurate and completely consistent with what the local people say about family welfare status, especially the poor's. The results were presented before the stakeholders of Kota Pekalongan. The local government

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<sup>2</sup> A *dusun* is an administrative area within a village, consisting of a number of RT (neighborhood units).

<sup>3</sup> *RW* is a unit of local administration consisting of several RT (neighborhood units).

was interested in implementing the data collection system in their city. Thus, Kota Pekalongan became the first *kabupaten/kota* in Indonesia to officially implement the system.

Preparation for CBMS data collection of family welfare information started in 2007. Unlike the tryouts in Kabupaten Cianjur and Kabupaten Demak, CBMS data collection in Kota Pekalongan—as the local government required—was comprehensive. The data collected can be accessed, used, and analyzed by the local government work unit (SKPD) and other institutions under the administration of the Kota Pekalongan government. It is hoped that the CBMS data collection will reduce the time and money spent for data collections done separately by each office of the Kota Pekalongan administration.

## Kota Pekalongan Profile

Kota Pekalongan is located 384 kilometers from Jakarta (the capital province of Indonesia) and 101 kilometers from Kota Semarang (the capital city of Central Java Province). It is administratively divided into four *kecamatan* (subdistricts); namely, Kecamatan Pekalongan Selatan, Kecamatan Pekalongan Timur, Kecamatan Pekalongan Utara, and Kecamatan Pekalongan Barat.

Considering the large number of households in Kota Pekalongan, data collection was done in two stages. The first stage covered Kecamatan Pekalongan Selatan and Kecamatan Pekalongan Timur in 2008. The second stage covered Kecamatan Pekalongan Utara and Kecamatan Pekalongan Barat in 2009.

Kecamatan Pekalongan Selatan occupies a land area of 10.80 square kilometers and is divided into eleven *kelurahan*<sup>4</sup>, 64 *RW*, and 247 *RT*<sup>5</sup>. It has a population of 50,198 and a population density of 4,648 per square kilometer. In 2007, there were 12,592 households in Kecamatan Pekalongan Selatan. Of the total number of residents, 50.46 percent is female. Most of the residents work in garment or batik factories or in the batik-making home industry.

<sup>4</sup> A *kelurahan* is a village level administrative area located in an urban center.

<sup>5</sup> *RT*, or a neighborhood unit, is the smallest unit of local administration consisting of a number of households.

Kecamatan Pekalongan Timur, with a total land area of 9.52 square kilometers, is divided into 13 *kelurahan*, 79 *RW*, and 378 *RT*. It has a total population of 63,045, with a population density of 6,662 per square kilometer. In 2007, there were 15,742 households in the area. Like Kecamatan Pekalongan Selatan, there were more women than men in Kecamatan Pekalongan Timur, with the ratio at 51.99 percent to 48.01 percent. Some *kelurahan* (e.g., Kelurahan Jenggot, Kelurahan Buaran, Kelurahan Banyu Ageng, and Kelurahan Banyu Alit) in that *kecamatan* are known as the places of origin of local migrant workers who work in Saudi Arabia and Malaysia. In Kelurahan Noyontaan, there are some textile factories and a tea factory where the local people work.

Kecamatan Pekalongan Utara occupies a land area of 14.88 square kilometers and is divided into 9 *kelurahan*<sup>6</sup>, 82 *RW*, and 399 *RT*<sup>7</sup>, with a population size of 71,753 inhabitants and a population density of 4,822 per square kilometer. In 2007, there were 17,810 households in Kecamatan Pekalongan Utara. Most of the residents work in garment/batik factories, in the batik-making home industry, or as fishers. Of the total residents, 51.3 percent are women. Kecamatan Pekalongan Barat, with a land area of 10.05 square kilometers, is divided into 13 *kelurahan*, 90 *RW*, and 442 *RT*. It has population of 86,994, with a population density of 8,656 per square kilometer. In 2007, there were 21,056 households in the area. Like in Kecamatan Pekalongan Utara, there are more women than men in Kecamatan Pekalongan Barat, with the ratio at 51.58 percent to 48.42 percent.

## Poverty Profile of Kota Pekalongan

This section provides a poverty profile of Kota Pekalongan as a whole, rather than an analysis by *kecamatan*. The source of the data is secondary data from Statistics Indonesia (BPS). The poverty profile based on the PCA analysis by *kecamatan* will be examined in the following chapter.

<sup>6</sup> A *kelurahan* is a village level administrative area located in an urban center.

<sup>7</sup> *RT*, or a neighborhood unit, is the smallest unit of local administration consisting of a number of households.

For almost a decade (2002 to 2007), there was a decreasing trend in the number of people living below the poverty line as well as with the poverty rate in Pekalongan. Table 1 shows that the regional poverty rates in Pekalongan were remarkably lower than those at the national level. During this period, the poverty rates were always below 10 percent, a high achievement compared to other regions. An exception to this trend was the year 2006 when the poverty rate increased to 7.38 percent from 6.37 percent the previous year, while the number of poor people also leaped to 19,900 from 17,500 in 2005. The government policy to increase domestic fuel prices by an average of 120 percent in late 2005 was the main reason for this jump. The hikes in fuel prices led to increases in the prices of commodities, particularly the price of rice, the commodity with the highest share of consumption among the poor.

Significantly, very different figures came up in 2008 for the number of poor people, the poverty rate, and the poverty line data. This was possible because Statistics Indonesia implemented a new methodology on poverty measurement in that year, causing a jump in the numbers for those three indicators compared with the previous year.

**Table 1. Poverty Indicators for Kota Pekalongan, 2002–2008**

Year	Number of People Below Poverty Line (thousands)	Poverty Rate (%)	Depth of Poverty (P1)	Severity of Poverty (P2)	Poverty Line (Rupiah/cap/month)	National Poverty Rate (%)
2002	26.3	9.90	1.30	0.27	95,947	18.19
2003	20.7	7.64	0.81	0.13	108,653	17.42
2005	17.5	6.37	1.27	0.29	136,266	15.97
2006	19.9	7.38	1.25	0.30	144,066	17.75
2007	17.9	6.62	0.87	0.19	151,517	16.58
2008	28.0	10.29	1.03	0.18	223,167	15.40

Source: Poverty Data and Information, BPS, various years

Table 1 shows the depth of poverty using the poverty gap ratio (P1), which is used to measure the distance between the average income of the poor and the poverty line. From the data, we can see that the poverty gap in Pekalongan was quite fluctuant. The poverty gap

showed an improvement in 2007 compared with 2006. In 2008, however, the poverty gap increased in comparison with 2007, implying a decline in the total expenditure of the poor.

Another indicator used to examine income poverty from various angles is the poverty severity index (P2), which is the result of the expenditure disparity of the poor multiplied by the poverty line. This index gives higher weight to those who live below the poverty line. An improvement in the poverty severity index shows an improvement for those who are extremely poor (National Development Planning Agency 2007). The poverty severity index in Pekalongan was also quite fluctuant. From 0.27 in 2002, it decreased to 0.13 in the next year, and then rose again in the period of 2005–2006. In 2008, the index declined slightly in comparison to that of 2007.

## **Objective of CBMS Data Collection**

The data collection or the family welfare census in Kota Pekalongan was aimed at getting information and/or accurate and comprehensive data on the social condition and welfare status of households in the city. The data collected included the characteristics of household heads, households' consumption patterns, the condition of houses and facilities, ownership of goods or valuable assets, loans and savings, participation in development and politics, access to information as well as to government programs in education, health, and infrastructure.

The data and information gathered were then analyzed in order to get a profile of the social condition, welfare status, and the rate of unemployment and poverty in the area. In addition, the analysis of the results of this data collection could be used as recommendations to the Kota Pekalongan government, especially in the preparation of the budget and development plans.

## **Data Collection Method**

The data collection or census in Kota Pekalongan used CBMS, which is a system to monitor the community welfare. It is supported by, and done with, the local people's active participation. Basically,

the CBMS data collection was done by the Kota Pekalongan government with some technical assistance provided by SMERU. Funding for technical assistance was provided by the International Development Research Centre (IDRC), Canada, through the CBMS Network Coordinating Team, which is based at the Angelo King Institute for Economic and Business Studies at the De La Salle University in Manila.

To conduct the CBMS data collection, the Kota Pekalongan government formed a CBMS team under the directive of the head of Kota Pekalongan Bappeda No. 050/1686/2008 the Establishment of the CBMS Team of Year 2008. The team was divided into four smaller teams: the managing team, the technical team, the advocacy team, and the secretariat. The managing team consisted of eight members, mostly senior officials in their respective agencies. Its role was to give directions and/or instructions to technical and secretariat teams for well-run and successful CBMS activities. The technical team consisted of 24 members, most of whom were officials of Bappeda and other government agencies of Kota Pekalongan, Pattiro<sup>7</sup> Pekalongan, and academics from Universitas Pekalongan. The counterpart team consisted of SMERU researchers. This team played the role of mentor and gave assistance to technical matters from beginning to end to ensure that CBMS activities ran smoothly. The secretariat consisted of five members, all Bappeda officials.

Two types of structured questionnaires were used in the CBMS data collection. These were questionnaires for households and for *RT* staff members. Information and data collected were then analyzed using descriptive analysis and basic components analysis (PCA). By using the PCA, the data can show the welfare enumeration (or poverty enumeration) of the households in an area. Moreover, this method can also help identify more specifically the variables that affect the level of family welfare in an area since welfare status or poverty factors vary across different regions. In other words, welfare status or poverty factors are location specific.

## **CBMS MODULES AND DATA COLLECTION PROCESS**

For the data collection in Kota Pekalongan, SMERU prepared two sets of questionnaires (one for the households and the other

for *RT* staff) and the guidelines on how to do the questionnaires. The questionnaire for households was used to record the data of every household in the city, while the one for *RT* staff was used for the staff in every chosen area. There was a guideline on how to do the questionnaires.

## Family Questionnaire

The questionnaire for households used in the Kota Pekalongan CBMS data collection was created based on the CBMS tryouts in Kabupaten Cianjur and Kabupaten Demak. Some questions relevant to the information or data needed by the Kota Pekalongan government offices (local contexts) were also added.

For the purpose of data collection, the definition of the term “household” in the questionnaire for households was based on Law No. 23/2006 on Civil Administration. The law states that the Family Card (KK) is a household identity card that contains the names, the relationships, and the identity of family members. If a couple already has a family card, the couple is considered as one family even if they still live with their parents. However, there were cases in which some families did not have a family card, and these cases needed clarification. For example: (1) a married couple was regarded as one family even though they did not have a family card; (2) a woman who got pregnant and bore a child out of a wedlock was regarded as a family and the child received status as the woman’s offspring; (3) a woman and a man who got married under religious law (*sirri*) and then had children were considered as one family and the head of the family was the man; (4) if a man marries two or more women, he is regarded as the household head only in his first marriage, while his second wife is regarded as the household head in the second marriage; and (5) if one family lives at a *kelurahan* but administratively registered as residents of another *kelurahan*, then the information recorded in the questionnaire is based on the information contained in the civil administration document. Every household got the same questions in the questionnaire for households.

The questionnaire for households comprised seven types of questions: the characteristics of the head and members of the household, poverty eradication, the family’s health, economic

condition, participation in area development, security, and information and communication technology.

## RT Questionnaire

The questionnaire for *RT* comprised a list of questions for the *RT* staff (the head and secretary) in the data collection areas. The questions were used to get information and data regarding the general condition of an area (e.g., population size, number of households, number of houses, number of religious facilities, means of transportation, health facilities, education facilities, sports facilities, security, post office, and telecommunication facilities). In addition, the questionnaire was also aimed at finding out the condition or the existence of economic activities in an *RT* (e.g., small industry, service industry, goods trading, fishery, markets, banking, social activities, and social organizations).

The questionnaire also included questions about housing conditions. A house was not considered decent if it had at least three of the following features: (1) the floor was predominantly made of dirt; (2) the walls were mostly made of bamboo; (3) the roof mostly consisted of sugar palm or sago palm leaves or bamboo; (4) there lacked toilet facilities; (5) the house was severely damaged; (6) the house lacked proper ventilation; (7) the house lacked room partitions; (8) there was no source of fresh water for the occupants or if there was, the water came from a well.

## Data Collection Training

A series of training sessions preceded the CBMS data-collection process in Kota Pekalongan. The training sessions, held in September 2008, consisted of training for trainers-to-be, training for *kecamatan*- and *kelurahan*-level coordinators, and training for enumerators. These sessions were a part of the capacity-building program for government staff, academics, nongovernment institutions, and the general public in Kota Pekalongan.

The three training sessions were conducted in seven consecutive days (September 9 to 12, 2008) followed by ten days of supervision. The problems that cropped up during the sessions and the

enumeration process were the following: (1) some enumerators did not follow the training; (2) some enumerators were either only primary-school graduates or above 55 years old; (3) some enumerators turned out to be government staff. These problems resulted in either incorrect or incomplete questionnaires and somewhat affected data entry.

## **Data Entry Training**

The data-entry process (including the training on data entry) of the results of the CBMS data enumeration done in Kecamatan Pekalongan Selatan and Kecamatan Pekalongan Timur in 2008 was conducted by CV (Comanditer Venootschap) Waditra, a company in the information and technology sector. CV Waditra had been a partner of the Kota Pekalongan government for five years when this undertaking began. CV Waditra processed data on 28,249 households, the output for which was in a web-based or MySQL form.

Training on the data-entry process for the 2009 CBMS data-enumeration results of Kecamatan Pekalongan Utara and Kecamatan Pekalongan Barat was done by the SMERU Research Institute. The institute processed data from 42,230 households, the output for which was in a STATA file.

## **PCA RESULTS**

### **Descriptive Analysis: Kecamatan Pekalongan Timur and Selatan**

In general, poverty is defined as the condition of limited capability to properly fulfill one's basic needs. The limitations come in various forms, such as the limitations of income, skills, health conditions, mastery of economic assets, and access to information.

Due to its multidimensional nature, poverty can also be measured by other aspects such as access to education, health, basic infrastructure, and public information facilities; ownership of valuable goods; opportunities to participate in public activities; and

the ability to express one's political views. Poverty is not measured only through the monetary approach.

The survey in Kecamatan Pekalongan Timur and Kecamatan Pekalongan Selatan covered 111,008 residents from 28,189 families across both *kecamatan*. There are 13 *kelurahan* in Kecamatan Pekalongan Timur and 11 *kelurahan* in Kecamatan Pekalongan Selatan.

Table 2 shows that there are 15,476 families in Kecamatan Pekalongan Timur, with an average family size of 3.8 people. Of the total population, 50.38 percent is male. Of the total number of families in the area, 17.09 percent are headed by a female, usually widows and divorcees. The number of families in Kecamatan Pekalongan Selatan is 12,713. The average family size is four people per family. The percentage of male residents is 50.47 percent and 15 percent of families are headed by females.

**Table 2. Quantitative Analysis of CBMS**

Characteristics	Kecamatan Pekalongan Timur	Kecamatan Pekalongan Selatan
Number of residents	59,178	51,830
Number of families	15,476	12,713
Average family size	3.82	4.07
Female: Male ratio (%)	50:50	50:50
Share of female family heads (%)	17.09	15.00

Table 3 shows the percentage of the cross tabulation of the age groups and the marital status categories of household heads in the total number of families in Kecamatan Pekalongan Timur and Kecamatan Pekalongan Selatan. There are three age categories and less than 2 percent of the household heads in both *kecamatan* are under 25 years old, with most of them married. Household heads under 25 years old and single are adults living separately from their main family to pursue their studies or career in either the same or a different *kecamatan* in Kota Pekalongan. Divorced household heads are those who are legally divorced or have been left by their spouse. The percentages of household heads in terms of marital status and age in both *kecamatan* are relatively the same. Almost 90 percent of the household heads, female or male, are of productive age.

**Table 3. Ages and Marital Status of Household Heads, 2008 %**

Household Head's Age	Kecamatan Pekalongan Timur				Kecamatan Pekalongan Selatan			
	Not Married	Married	Divorced	Widowed	Not Married	Married	Divorced	Widowed
<25 years old	0.16	1.43	0.03	0.02	0.17	1.45	0.02	0.02
25–65 years old	1.88	72.78	2.35	8.46	1.01	75.91	2.47	8.78
>65 years old	0.25	5.87	0.28	4.49	0.06	4.54	0.13	3.64

The researchers divided the educational attainment of household heads into five categories based on the categories drawn up by Statistics Indonesia. This allowed researchers to compare the educational attainment of household heads in Kota Pekalongan with that of residents aged 10 or older at the national level.

According to 2007 BPS educational attainment data, 7.57 percent of Indonesians aged 10 or older never attended school, 20.37 percent did not finish primary school, 31.19 percent finished primary school, 17.49 percent finished junior high school, and 23.37 percent finished senior high school. The number of household heads that did not finish primary education and other education levels is lower than that at the national level.

**Table 4. Educational Attainment of Family Heads, 2008 (%)**

Educational Attainment	Kecamatan Pekalongan Timur	Kecamatan Pekalongan Selatan
Never attended school	6.97	7.83
Did not finish primary school	11.26	13.58
Finished primary school	35.74	44.28
Finished junior high school	17.69	16.64
Finished senior high school and higher education level	28.33	17.67

The percentage of household heads that finished high school was higher than those who never attended or did not finish primary school. This indicates that household heads in Kota Pekalongan are relatively well educated. The education level of household heads influences their plans to give their children at least the same level of education as they received. The education level of household heads, therefore, is an indicator that can be used to analyze how

high their children's education level may reach or what their future economic status will be.

The job sector to which the head of the family belongs can also affect the family's welfare. Based on 2007 data from the Kota Pekalongan Statistics Indonesia, more than 50 percent of the population worked in the industrial sector. The CBMS census, however, shows that about 40 percent of the family heads in Kecamatan Pekalongan Timur and Kecamatan Pekalongan Selatan worked in the services sector. This percentage was higher than that of the family heads who worked in the industrial sector. The difference in the results was due to the fact that several sectors (e.g., transportation and financial sectors) were included in the services sector. Another probability was that SMERU simplified the categorization of the family heads' occupations into these sectors. There were a lot of family heads working as entrepreneurs or private workers who were categorized as working in the services sector.

Through a discussion with some local officials and nongovernment organizations (NGOs) in Kota Pekalongan, SMERU learned that the industrial sector depends mostly on the following commodities—batik, garments, and handicrafts. The latter are made mostly from bamboo, a commodity that is also exported.

The data in Table 5 show that, out of 24.5 percent of family heads working in the industrial sector in Kecamatan Pekalongan Timur, around 10 percent were involved in the batik industry. In Kecamatan Pekalongan Selatan, around 30 percent of the family heads (out of the 34.20 percent who worked in the industrial sector) were involved in the batik industry.

**Table 5. Working Sector of Family Head (%)**

Working Sector of Family Head	Kecamatan Pekalongan Timur	Kecamatan Pekalongan Selatan
Agriculture	1.64	2.66
Industry	24.5	34.20
Trade	10.82	14.47
Services	46.94	35.19
Receive Transfers/ pension	5.91	3.82
Others	3.85	4.04

Family heads working in the batik industry were either the owners of, or workers in, a batik home industry. The workers include the *tukang colet* (the person who colors in the motifs on a batik cloth or batiste); *tukang mbabar* (the person involved in the process of making the batik from a plain white sheet into batiste); *tukang ngerombe* (the person who weaves the edges of a batiste to turn it into a neat, well- made garment).

The next tables present information on families' behaviors and conditions in Kecamatan Pekalongan Timur and Kecamatan Pekalongan Selatan.

Data on food-consumption patterns obtained from the CBMS census in Kota Pekalongan provide information on the number of meals a family usually has in a day and their consumption of meat, eggs, and fish per week. Researchers also added a question about the families' milk consumption. Milk consumption data provide information on how many times any family member, with the exception of infants, drinks any kind of milk in one week.

**Table 6. Food-Consumption Patterns, 2008 (%)**

Consumption Patterns	Kecamatan Pekalongan Timur	Kecamatan Pekalongan Selatan
Share of families whose members eat three times per day	92.81	96.11
Share of families who consume meat at least once a week	51.48	48.17
Share of families who consume egg at least once a week	75.17	70.45
Share of families who consume fish at least once a week	72.16	66.07
Share of families who consume milk at least once a week	51.62	43.58

Most families in both *kecamatan* had at least three meals each day. Although the percentage of people in Kecamatan Pekalongan Timur who ate three times daily was lower than that in Kecamatan Pekalongan Selatan, their meat consumption was high—51.48 percent of families consumed meat at least once a week. Overall, since there were more families in Kecamatan Pekalongan Timur

than in Kecamatan Pekalongan Selatan, the consumption of meat, eggs, fish, and milk of families in Kecamatan Pekalongan Timur was relatively higher.

The next section provides information about the government's poverty reduction programs. The programs, from which families in both *kecamatan* benefited, include those run by the central government and by the local government; namely, Raskin (Rice for Poor Households), BLT (Direct Cash Transfer), and several environment quality-improvement programs.

Raskin is a large-scale social protection program, so the number of families receiving *raskin* was bigger than the number of those who were beneficiaries of other programs. In both *kecamatan*, Raskin recipients made up more than 50 percent of the population. This high percentage was the result of inaccurate program targeting. The *raskin* distributors, or village officials, included both the poor and the nonpoor as program beneficiaries to either prevent public conflict or to score some political points. The actual amount of *raskin* received by the beneficiaries was less than the amount of rice they should have (Hastuti et al. 2008, 23).

The number of families who received BLT in 2005 and 2008 were relatively the same. However, if cross tabulation is constructed between the 2005 and 2008 recipients, it can be seen that 267 families in Kecamatan Pekalongan Timur and 161 families in Kecamatan Pekalongan Selatan received the allowance in 2005 but did not receive it in 2008.

With regard to sanitation problems, the Kota Pekalongan government carried out a number of programs to improve the quality of the environment; namely, the P2KSBM (Community-Based Family Welfare Acceleration Program), the Program for Settlement and Environment Improvement, and the Program for the Improvement of Housing Complex and Settlement. The motto used in the handling of sanitation problems was "Free from Slums" (Sanitation Development Technical Team 2010). Plastering of house walls and provision of toilets and wells were part of the Program for the Improvement of Settlement and Environment while provision or improvement of roofing was part of the Program for the Improvement of Housing Complex and Settlement. Those programs were basically conducted by the local government to

reduce the number of houses that were unfit to live in. Such houses had no bathroom/toilet facilities, no clean water source, had only dirt floors, and were poorly ventilated. The Kota Pekalongan government's commitment to improve housing facilities required clean rivers. Unfortunately, the rivers in the city continue to be in poor condition due to the batik industry that somewhat contributes to environmental degradation.

Basic information about housing conditions was needed to get the description of the economic condition of each household. Even though the number of families in Kecamatan Pekalongan Timur was bigger than that in Kecamatan Pekalongan Selatan, the percentage of families in Kecamatan Pekalongan Timur that lived in their own house was smaller (see Table 7). This, however, did not mean that the people in that *kecamatan* were less wealthy than those in Kecamatan Pekalongan Selatan. If we compare the number of families in the two *kecamatan* who stated that their houses represented undivided inheritance, we can see that the number of families who lived in their own homes in Kecamatan Pekalongan Timur was bigger. In traditional Javanese culture, married couples tend to stay in their parents' house instead of moving to their own house so that they can take care of their parents or so that their parents can help take care of their children, especially if both husband and wife worked.

**Table 7. House Ownership (%)**

Ownership of the House	Kecamatan Pekalongan Timur	Kecamatan Pekalongan Selatan
Own house	58.28	68.09
Inheritance not yet divided	22.31	14.21
Rented house	3.49	1.31
Government housing	1.78	0.24
Relative's house	4.43	6.92
Living with another family in their house	9.10	8.57

**Table 8. Floor Material (%)**

Type of Floor Material	Kecamatan Pekalongan Timur	Kecamatan Pekalongan Selatan
Marble/ceramic/terazzo	48.28	51.43
Floor tiles	22.73	18.74
Plaster/cement	1.54	2.03
Wood	0.10	0.11
Bamboo	5.52	3.96
Dirt	20.97	22.95

Table 8 shows that almost 50 percent of the families in Kecamatan Pekalongan Timur and Kecamatan Pekalongan Selatan used marble, ceramic, or terrazzo materials for their house floor. The numbers of families whose houses had either tile or dirt floors in both *kecamatan* were relatively similar and lower than the number of families whose flooring consisted of marble, ceramic, or terrazzo materials. In Kecamatan Pekalongan Selatan, 22.95 percent of the houses still had dirt floors while 18.74 percent already had tile floors. In Kecamatan Pekalongan Timur, 20.97 percent of houses had dirt floors while 22.73 percent had tile floors. These figures should heighten the government's awareness of the existence of houses unfit for habitation. These houses can be the targets of the Program for the Improvement of Housing Complex and Settlement.

The percentage of families with in-house toilets was 77.16 percent in Kecamatan Pekalongan Timur and 87.12 percent in Kecamatan Pekalongan Selatan (see Table 9). Another sanitation program conducted by the Kota Pekalongan government was the provision of public toilets, also known as MCK.<sup>8</sup> Table 9 also shows that the provision of the MCK was among the community's essential needs. This can be seen mainly from the percentage of families in Kecamatan Pekalongan Timur that used public toilets, which was higher than that in Kecamatan Pekalongan Selatan. The percentage of families in Kecamatan Pekalongan Timur with their own toilet was smaller than that in Kecamatan Pekalongan Selatan. Moreover, approximately 6 percent of the families in both *kecamatan* still relieved themselves in the river. Discussions with the enumerators

<sup>8</sup> MCK stands for *mandi, cuci, kakus*, or public washing, bathing, and toilet facilities.

revealed that most people living near rice fields also considered the rice fields' drainage systems as "small rivers." Families without their own toilet used the toilets of their neighbors, who may actually be members of their extended families since extended families tend to live close to one another.

**Table 9. Families with Toilet Facilities (%)**

Toilet Facilities	Kecamatan Pekalongan Timur	Kecamatan Pekalongan Selatan
Use own toilet	77.16	87.12
Use public toilet	13.42	2.49
use the river	6.67	6.17
Use another family's toilet	1.20	2.18

**Table 10. Drinking Sources (%)**

Type of Drinking Source	Kecamatan Pekalongan Timur	Kecamatan Pekalongan Selatan
Packaged bottled drinking water	2.77	2.31
Drinking water in refilled bottle	5.65	1.82
PDAM <sup>1</sup> /tap water	14.15	4.45
Water from protected well/well with jet pump	34.57	26.96
Water from unprotected well	41.46	63.05
River water/rainwater	0.05	0.12
Water from public well	0.16	0.13

Unprotected wells were still the primary sources of drinking water for 41.46 percent of the families in Kecamatan Pekalongan Timur and 63.05 percent of the families in Kecamatan Pekalongan Selatan. Except for packaged drinking water or drinking water in refillable bottles, water from all other sources must be boiled before use. Although provision of public wells is part of the Kota Pekalongan government's sanitation program, the number of these facilities, especially protected public wells, has not been enough to cover the needs of more than 1 percent of the population in each *kecamatan*. Based on observation, most of the rivers across Kota Pekalongan are polluted with liquid waste from the batik industry, evidence of which can be seen in the murkiness of the water.

The researchers assumed that about 0.1 percent of families in both *kecamatan* use the river water from the rice fields' drainage systems or rainwater that they collected.

Most families in Kecamatan Pekalongan Timur (98.86 percent) and Kecamatan Pekalongan Selatan (98.82 percent) used the electricity distributed by the PLN (state-owned electricity company) as their primary source of lighting (see Table 11). The main concern in dealing with the availability of electricity was no longer about the source but the type of connection used to access the source. In Kecamatan Pekalongan Timur, 84.01 percent of the families that used the national electricity service were legally connected to the direct electricity source while 14.34 percent of the families sourced electricity from another house. The number of families in Kecamatan Pekalongan Selatan that was legally connected to the electricity source was 82.52 percent while 15.54 percent of families obtained electricity from another house. The researchers assumed that the families that obtained electricity from another house did so legally in the sense that the owners of the other house are aware that their electricity was being used by their neighbor and thus received payment for this.

**Table 11. Primary Lighting Source (%)**

Type of Primary Lighting Source	Kecamatan Pekalongan Timur	Kecamatan Pekalongan Selatan
PLN	98.86	98.82
Non-PLN (generator set)	0.23	0.20
Kerosene lamp	0.04	0.02
Wall lamp/oil lamp	0.26	0.29

Table 12 shows that 72.43 percent of the families in Kecamatan Pekalongan Timur and 65.54 percent in Kecamatan Pekalongan Selatan still used kerosene for cooking. Surprisingly, the number of families who used firewood in Kecamatan Pekalongan Selatan was higher than the number of families who used LPG. Those firewood-using families are the target of the kerosene-to-gas conversion program of the central government. The Kota Pekalongan government should try to uncover the reasons why people still preferred to use firewood. Is it because of problems with the availability of LPG tanks, the high price of LPG, or because of their misconceptions about LPG (which make them afraid to use it)?

**Table 12. Fuel Used for Cooking (%)**

Type of Fuel Used for Cooking	Kecamatan Pekalongan Timur	Kecamatan Pekalongan Selatan
Electricity	1.38	0.98
Gas/LPG	14.27	9.85
Kerosene	72.43	65.54
Firewood	10.75	22.67
Coal	0.03	0.06

The city's infrastructure affects the people's economic and health situation. The Kota Pekalongan government seeks to maintain and improve the availability of basic infrastructure, such as roads and sanitation services. Table 13 shows the types of materials used for the construction of roads near the respondents' houses. The same table also shows that more than 50 percent of the families live in areas with good infrastructure. The percentage of roads made of dirt or sand is higher in Kecamatan Pekalongan Selatan than in Kecamatan Pekalongan Timur but those kinds of roads are found in every area in both *kecamatan*. For that reason, there were no specific locations that could be categorized as being disadvantaged.

**Table 13. Road Materials (%)**

Type of Road Material	Kecamatan Pekalongan Timur	Kecamatan Pekalongan Selatan
Asphalt	58.82	58.31
Cement/concrete/paving	32.04	26.20
Gravel/hardened rock	2.57	3.49
Dirt/sand	6.20	11.56

To ensure that the road infrastructure is always in good condition, the Kota Pekalongan government must know if there are water drains and waste canals in the area. In Kecamatan Pekalongan Timur, the percentage of families whose house is located along an asphalt road and lack water drains or waste canals was 2.52 percent while in Kecamatan Pekalongan Selatan, it was 6.62 percent. If not carefully handled, liquid waste could gradually erode or damage roads, which will eventually affect public budget.

The regional government, with its commitment to sanitation programs, must pay attention to the city's waste disposal system. Table 14 shows that the public budget for waste disposal (directly collected by the local government workers) covered only 14.43 percent of the families in Kecamatan Pekalongan Timur and 13.39 percent in Kecamatan Pekalongan Selatan. The percentage of families in Kecamatan Pekalongan Timur (35.18 percent) willing to pay a worker to collect their garbage was 26.17 percent, which is higher than that in Kecamatan Pekalongan Selatan (9.01 percent). The neighborhood worker collects the garbage and takes it to the temporary waste disposal site. After that, the local government workers will take the garbage to the terminal waste disposal site in Kabupaten Pekalongan. Families in Kecamatan Pekalongan Selatan chose to burn their garbage although this practice may reduce air quality in the *kecamatan* and eventually jeopardize their own health. They should be made aware of the hazardous effect of this practice on their health and on the environment. Local government intervention is needed if such practices happen be caused by the people's limited economic ability, which prevents them from having access to a better environment.

**Table 14. Waste Disposal Method (%)**

Waste Disposal Method	Kecamatan Pekalongan Timur	Kecamatan Pekalongan Selatan
Collected by local government workers	14.43	13.39
Collected by workers paid by residents	35.18	9.01
Disposed of by the people at a terminal waste disposal site	17.35	10.22
Piled up	1.62	1.12
Made into compost	0.48	0.46
Burnt	25.78	62.24
Thrown into water canals/river	4.40	2.20
Thrown away randomly	0.39	0.96

Financial characteristics in Kota Pekalongan were viewed from four aspects to see how families fulfill their financial needs. In both *kecamatan*, the percentage of families who availed themselves of the services of formal financial institution (e.g., banks) was higher than the percentage of families who accessed

informal financial institutions or personal financial sources (Table 15). We assumed that a family accesses formal institutions if they need to finance their own business or buy valuable assets (e.g., land, house, car, etc.). Families access informal institutions by borrowing from their neighbors to fulfill their basic needs if they do not have enough money. The percentage of families in Kecamatan Pekalongan Timur with savings was 19.02 percent; in Kecamatan Pekalongan Selatan, 20.48 percent. Finally, the percentage of families in Kecamatan Pekalongan Timur that have been forced to sell assets to pay off debts was 8.59 percent; in Kecamatan Pekalongan Selatan, it was 10.69 percent. These are still relatively small numbers.

**Table 15. Access to Financial Institutions (%)**

Access to Financial Institutions	Kecamatan Pekalongan Timur	Kecamatan Pekalongan Selatan
Proportion of families with access to formal financial institutions	21.37	22.90
Proportion of families with access to informal financial institutions or personal resources	0.11	0.15
Proportion of families with savings in formal institutions	19.02	20.48
Proportion of families who have to sell assets to pay off debt	8.59	10.75

More than 60 percent of the families in both *kecamatan* used their own money to access health facilities (see Table 16). The number of families with health insurance or have their health expenses reimbursed by employers was small. This can be explained by the fact that most of the family heads were labors. With regard to the households in both *kecamatan* that are beneficiaries of the Jamkesmas (public health insurance) program, the percentage in Kecamatan Pekalongan Timur was bigger than that in Kecamatan Pekalongan Selatan—23.88 percent and 16.07 percent, respectively.

**Table 16. Main Financial Source to Access Health Facilities (%)**

Main Financial Sources to Access Health Facilities	Kecamatan Pekalongan Timur	Kecamatan Pekalongan Selatan
Private	69.98	79.70
Health insurance	3.77	2.82
Askeskin <sup>a</sup> /JPKM <sup>b</sup> /Jamkesmas	23.88	16.07
Reimbursed by employer	1.06	0.54
Aid/loans	0.97	0.49

<sup>a</sup> Asuransi kesehatan masyarakat miskin (health insurance for the poor)

<sup>b</sup> Jaminan Pemeliharaan Kesehatan Masyarakat (public healthcare insurance)

## Descriptive Analysis: Kecamatan Pekalongan Barat and Utara

The CBMS survey was continued in 2009 for Kecamatan Pekalongan Barat and Kecamatan Pekalongan Utara. The population of both *kecamatan* was bigger than that of Kecamatan Pekalongan Timur and Kecamatan Pekalongan Selatan. The survey in 2009 covered 158,697 residents from 41,651 families in both *kecamatan*. Kecamatan Pekalongan Barat consists of 13 *kelurahan* while Kecamatan Pekalongan Utara has 10 *kelurahan*.

There were 22,095 families in Kecamatan Pekalongan Barat, with an average family size of 3.84 persons. About 15.19 percent of the families were headed by females. The number of families in Kecamatan Pekalongan Utara was 19,556. The average family size was 3.77 persons per family. The percentage of families headed by female was slightly higher there (15.24 percent) than in Kecamatan Pekalongan Barat (15.19 percent).

**Table 17. Quantitative Analysis of CBMS**

Characteristics	Kecamatan Pekalongan Barat	Kecamatan Pekalongan Utara
Number of residents	84,919	73,778
Number of families	22,095	19,556
Average family size	3.84	3.77
Sex ratio (Female: Male)	50:50	50:50
Share of Female Family Heads (%)	15.19	15.24

Based on their age, the family heads in Kecamatan Pekalongan Barat and Kecamatan Pekalongan Timur were classified into three categories. Table 18 shows that around 75 percent of the family heads were 25–65 years old, of productive age, and married. The ages of the family heads ranged widely between 18 and 104. Taking into account the number of families in each *kecamatan*, we saw that the proportion of family heads under 25 years old and married was relatively higher in Kecamatan Pekalongan Utara than in Kecamatan Pekalongan Barat.

**Table 18. Ages and Marital Status of Household Heads**

Household Head's Age	Kecamatan Pekalongan Barat				Kecamatan Pekalongan Utara			
	Never Married	Married	Divorced	Widowed	Never Married	Married	Divorced	Widowed
<25 years old	0.12	1.17	0.04	0.01	0.16	1.72	0.05	0.03
25-65 years old	1.64	76.07	2.44	8.28	1.37	75.46	2.69	8.23
>65years old	0.10	5.15	0.16	3.05	0.10	4.67	0.15	3.27

**Table 19. Educational Attainment of Household Heads**

Educational Attainment	Kecamatan Pekalongan Barat	Kecamatan Pekalongan Utara
Never attended school	4.41	6.77
Did not finish primary school	10.44	11.13
Finished primary school	35.38	35.65
Finished junior high school	15.18	16.16
Finished senior high school and higher education level	32.91	28.19

The characteristics of both *kecamatan's* locations were very much connected with the education level and job sector of the family heads in both areas. There were more family heads that finished senior high school and worked in the service sector in Kecamatan Pekalongan Barat than in Kecamatan Pekalongan Utara. Most local universities and academies are located in that *kecamatan*. Moreover, most officials of the regional government who are at least senior high school graduates also lived in that *kecamatan*. Tables 19 and 20 present clearer depictions of these findings.

The national data from Statistics Indonesia. Data from Statistics Indonesia on the educational attainment of Indonesians aged ten and above in 2009 show that 6.7 percent of these people never attended school, 21.58 percent did not finish primary school, 29.16 percent finished primary school, 17.55 percent finished junior high school, and 25.01 percent finished senior high school and a higher education level. Data in Table 19 also show that the percentage of family heads in Kecamatan Pekalongan Barat and Kecamatan Pekalongan Utara who never attended school and did not finish primary school was lower than the percentage of family heads with the same educational attainment at the national level. On the other hand, the percentage of family heads who finished primary school and senior high school was higher than that at the national level. This shows that there has been an increase in awareness among the people of Kota Pekalongan of the importance of obtaining higher education.

Kecamatan Pekalongan Utara is located in the northern part of Kota Pekalongan. To its north is the Java Sea. Due to its location, this *kecamatan* is known for its fishery industry, which consists of pond aquaculture and fish processing (e.g., fish salting, boiling, and smoking). Table 20 shows that 8.15 percent of the family heads in Kecamatan Pekalongan Utara work in the farming sector, including fishery. This is higher than the percentage of family heads working in the same sector in Kecamatan Pekalongan Barat and two other *kecamatan* (see Table 5). There are also several factories (e.g., garment factories) in Kecamatan Pekalongan Utara. The industrial sector employed 26.29 percent of family heads in this *kecamatan*. Kecamatan Pekalongan Barat, on the other hand, is the center of the Kota Pekalongan administration. The office of the head of the *kota*, the local House of Representatives, and other local government offices are located in this *kecamatan*. The service sector employed 47.10 percent of the *kecamatan's* family heads.

**Table 20. Job Sectors of Family Heads (%)**

Job Sectors	Kecamatan Pekalongan Barat	Kecamatan Pekalongan Utara
Farming	1.22	8.15
Industry	25.95	26.29
Trade	11.40	9.02
Service	47.10	42.85
Receiving transfers	4.30	4.01
Others	4.33	2.58

Table 21 provides information on the families' food-consumption pattern in Kecamatan Pekalongan Barat and Kecamatan Pekalongan Utara. It shows the families' daily meal frequency and their weekly consumption of meat, fish, eggs, and milk.

**Table 21. Food Consumption Patterns (%)**

Consumption Patterns	Kecamatan Pekalongan Barat	Kecamatan Pekalongan Utara
Proportion of families whose members eat at least three times per day	92.32	92.13
Proportion of families who consume meat at least once a week	51.46	45.70
Proportion of families who consume egg at least once a week	77.23	76.42
Proportion of families who consume fish at least once a week	70.32	78.81
Proportion of families who consume fish at least once a week	51.84	51.94

In general, families in both *kecamatan* show normal consumption patterns, with almost every family eating at least three meals a day. The level of regular fish consumption is relatively high for families in Kecamatan Pekalongan Utara since this *kecamatan* is located in a coastal area. Consumption of fish, compared to that of meat, is relatively high in both *kecamatan*.

Kecamatan Pekalongan Barat and Kecamatan Pekalongan Utara are beneficiaries of various programs on poverty reduction from both the central government and the Kota Pekalongan government. An example of such a program from the *kota* government is the

Program for the Improvement of Settlement and Environment, which includes the plastering of house walls, provision of toilets and wells, and house renovation.

Based on location characteristics, residents in Kecamatan Pekalongan Utara were more vulnerable since most of them are fishers and labors in either the garment or fishery industry. Consequently, there were more beneficiaries of Raskin, Jamkesmas, and BLT in Kecamatan Pekalongan Utara than in Kecamatan Pekalongan Barat.

The coverage level of well provision in Kecamatan Pekalongan Utara was 1.63 percent or 0.68 percent lower than that in Kecamatan Pekalongan Barat. The program faces problems in the coastal areas (e.g., seawater intrusion in the water table), which degrades the quality of groundwater. This is a big problem for the community in Kecamatan Pekalongan Utara, especially in Kelurahan Bandengan, Kelurahan Panjang Baru, Kelurahan Krapyak Lor, and Kelurahan Degayu. The severity of the problem has made the well-provision program a less-than-good choice in the provision of better sanitation facilities for people in coastal areas.

**Table 22. House Ownership (%)**

Ownership of the House	Kecamatan Pekalongan Barat	Kecamatan Pekalongan Utara
Own house	58.35	58.78
Inheritance not yet divided	20.26	17.70
Rented house	4.38	4.07
Government housing	0.97	1.48
Relative's house	7.00	5.03
Living with another family in their house	8.89	12.66

More than 50 percent of the families in both *kecamatan* had their own house; however, the percentage of families living with another family was relatively high in Kecamatan Pekalongan Utara. Most of these were young couples, as seen in data presented in Table 22. The data show that Kecamatan Pekalongan Utara has a higher number of families whose head is below 25 years old (1.72 percent) than Kecamatan Pekalongan Barat (1.17 percent).

Since Kecamatan Pekalongan Barat is the center of the regional government administration, the settlements in and around this area are relatively organized and well structured, typical of a housing complex. On the other hand, settlements in Kecamatan Pekalongan Utara are densely populated and not well structured, typical of village housing areas. As Table 23 shows, the percentage of families in Kecamatan Pekalongan Barat living in houses with marble or ceramic floor was 53.28 percent, higher than the percentage of families living in houses with wood flooring (0.08 percent) or bamboo flooring (0.04 percent).

**Table 23. Floor Material (%)**

Type of Floor Material	Kecamatan Pekalongan Barat	Kecamatan Pekalongan Utara
Marble/ceramic/terazzo	53.28	51.41
Floor tiles	18.52	19.91
Plaster/cement	22.33	22.09
Wood	0.08	0.10
Bamboo	0.04	0.07
Dirt	4.15	4.97

The percentage of families with an in-house toilet was 84.61 percent in Kecamatan Pekalongan Barat and 69.79 percent in Kecamatan Pekalongan Utara (see Table 24). Since it is hard for families in coastal areas to get groundwater of good quality, those who lived in Kecamatan Pekalongan Utara somewhat depended on the provision of public toilets. Lack of access to public toilets has caused 12.71 percent of the families there to relieve themselves in rivers, water canals, or even in the drainage systems of rice fields.

**Table 24. Toilet Facilities (%)**

Toilet Facilities	Kecamatan Pekalongan Barat	Kecamatan Pekalongan Utara
Use own private toilet	84.61	69.79
Use public toilet	8.69	14.80
Use river/water canals	4.20	12.71
Use another family's toilet	1.34	1.04

The unavailability of a good groundwater source in Kecamatan Pekalongan Utara was compensated by the provision of PDAM/tap water (see Table 25). The percentage of families in Kecamatan Pekalongan Utara using this service was 54.06 percent, significantly higher than that in Kecamatan Pekalongan Barat. Some of these families, however, were not customers of PDAM services. They got PDAM water either from their neighbor or from another family living next to them. They also bought clean water from a neighborhood water seller. About 30 percent of the families in Kecamatan Pekalongan Barat got water from a protected well or a well with a jet pump, which means that the people here can still rely on the availability of the groundwater source.

**Table 25. Sources of Drinking Water (%)**

Sources of Drinking Water	Kecamatan Pekalongan Barat	Kecamatan Pekalongan Utara
Packaged bottled drinking water	5.18	4.65
Drinking water in refillable bottle	5.27	4.13
PDAM/tap water	29.41	54.06
Water from protected well/well with jet pump	33.73	18.29
Water from unprotected well	23.99	11.56
River water/rain water	0.07	0.06
Water from public well	2.10	6.16

Most families in Kecamatan Pekalongan Barat (95.96 percent) and Kecamatan Pekalongan Utara (95.42 percent) used the electricity distributed by the PLN as their primary source of lighting (see Table 26). In Kecamatan Pekalongan Barat, 80.02 percent of families using the national electricity services were self-connected while 15.73 percent of the families accessed the service through another house. The number of families in Kecamatan Pekalongan Utara with self-connected to electricity services was 78.08 percent while 17.20 percent of families accessed electricity from another house. About 50 percent of families in both *kecamatan* that subscribed to the national electricity services and were self-connected used 450-watt voltage.

**Table 26. Primary Lighting Source (%)**

Type of Primary Lighting Source	Kecamatan Pekalongan Barat	Kecamatan Pekalongan Utara
National Electricity Services (PLN)	95.96	95.42
Non-national electricity services (generator set)	2.43	2.64
Petromax	0.64	0.71
Wall lamp/oil lamp	0.44	0.52

**Table 27. Fuel for Cooking (%)**

Type of Fuel Used for Cooking	Kecamatan Pekalongan Barat <sup>a</sup>	Kecamatan Pekalongan Utara <sup>b</sup>
Electricity	1.78	1.38
Gas/LPG	18.33	12.79
Kerosene	51.37	53.87
Firewood	6.53	8.75
Coal	0.03	0.02

<sup>a</sup> 21,78% of values missing

<sup>b</sup> 23,05% of values missing

Errors made during the data-entry process caused the information on fuels used by households in Kecamatan Pekalongan Barat and Kecamatan Pekalongan Utara to contain 22 percent missing values of the total households in both *kecamatan*. Table 27, however, shows that more than half of the households in both *kecamatan* still used kerosene. The situation was not much different from that in Kecamatan Pekalongan Timur and Kecamatan Pekalongan Selatan. In May 2009, the Kota Pekalongan government carried out a kerosene-to-gas conversion program and distributed gas stoves and three-kilogram gas tanks to the citizens. When the 2009 CBMS data collection was conducted at the beginning of August 2009, we found that only a small number of the community members actually used LPG because they were worried by the news from various parts of the country about how the gas tanks distributed by the government exploded.

In Kecamatan Pekalongan Barat, 48.45 percent of the roads were made of asphalt; in Kecamatan Pekalongan Utara, it was 49.05 percent (see Table 28). Maintaining the quality of the asphalt roads in Kecamatan Pekalongan Utara was a problem since the rate of sea water attrition is quite severe.

**Table 28. Road Materials (%)**

Type of Road Material	Kecamatan Pekalongan Barat	Kecamatan Pekalongan Utara
Asphalt	48.45	49.05
Cement/concrete/paving	37.31	35.94
Gravel/hardened rock	3.44	5.37
Dirt/sand	5.73	4.29

The percentage of families in Kecamatan Pekalongan Barat willing to pay a worker to collect their garbage was 36.72 percent; in Kecamatan Pekalongan Utara, 35.96 percent. There was quite a great number of families that still burned their garbage instead of choosing other waste-disposal methods. Unexpectedly, the number was high for families in Kecamatan Pekalongan Barat (35.24 percent). The percentage of families who disposed of their garbage in public places (2.68 percent) and in water canals/streams (6.99 percent) was relatively high in Kecamatan Pekalongan Utara (see Table 29).

**Table 29. Waste Disposal Method (%)**

Waste Disposal Method	Kecamatan Pekalongan Barat	Kecamatan Pekalongan Utara
Collected by local government workers	11.58	5.97
Collected by workers paid by residents	36.72	35.96
Disposed of themselves at a waste disposal site	11.02	16.58
Piled up	1.68	1.74
Made into compost	0.33	0.52
Burnt	35.24	28.84
Thrown into water canals/river	2.80	6.99
Thrown away randomly	0.16	2.68

The study conducted by the Center for Policy and Implementation Studies (CPIS) in 1992 recommended a solution to the waste-disposal problem, which the Kota Pekalongan government can adopt. The solution is to run a business model that offers two kinds of activities to deal with household wastes and market wastes at the same time. The activities involve recycling the compost produced from waste (CPIS 1992). Recycling unused products by turning them into other valuable things that can be sold has the added

benefit of enabling the people to earn extra money. Additionally, it can create employment, save some space at the terminal disposal site, save some of the budget for waste disposal, and is good for the environment because it helps reduce pollution and preserve natural resources.

The different data format caused a significant gap between the data pertaining to the families' access to informal financial institutions or personal financial resources in the *kecamatan* visited in 2008 and in the *kecamatan* visited in 2009. The data for 2008 show that 1 percent of the families accessed informal financial institutions or personal financial resources while in 2009, data indicate that 10 percent of the total number of families did so. The percentage of families in Kecamatan Pekalongan Barat who kept their money in formal institutions (e.g., banks, people's credit bank or BPR, cooperatives, or microcredit organizations) was 5.46 percent higher than that in Kecamatan Pekalongan Utara. The percentages of families who had to sell assets to pay off debts in both *kecamatan* were quite similar (see Table 30).

**Table 30. Access to Financial Institutions (%)**

Access to Financial Institutions	Kecamatan Pekalongan Barat	Kecamatan Pekalongan Utara
Proportion of families with access to formal financial institutions	17.04	16.53
Proportion of families with access to informal financial institutions	13.22	14.03
Proportion of families with savings in formal financial institutions	21.72	16.26
Proportion of families who had to sell assets to pay off debt	8.73	8.48

**Table 31. Main Financial Source to Access Health Facilities (%)**

Main Financial Source to Access Health Facilities	Kecamatan Pekalongan Barat	Kecamatan Pekalongan Utara
Private	73.05	66.12
Health Insurance	10.18	10.38
Askeskin/JPKM/Jamkesmas	13.86	20.80
Reimbursed by employer	1.59	1.22
Aid/loans	0.67	0.62

Table 31 shows the financial sources used by families in Kecamatan Pekalongan Barat and Kecamatan Pekalongan Utara to access health facilities. Evidently, a significant number of families—73.05 percent in Kecamatan Pekalongan Barat and 66.12 percent in Kecamatan Pekalongan Utara—still used personal funds as their main financial source to access health facilities. The number of families who used *Jamkesmas* was relatively high in Kecamatan Pekalongan Utara—about 20.80 percent.

## Result of Principal Component Analysis (PCA)

Ideally, in measuring household welfare, we use the income, consumption, or expenditure data of each household. However, collecting such data, especially in large amounts, is difficult in terms of time and money. Another problem has to do with the reliability of the data. Households could give false information regarding their expenditure or income during interviews. By using the PCA method, each household's welfare is predicted based on the information provided about asset ownership, such as home ownership, the condition of the house, ownership of a vehicle, etc. This is an alternative to recording details of consumption expenditure. The PCA method also allows researchers to determine location-specific welfare indicators.

This report provides information about the welfare ranking of each *kecamatan* in Kota Pekalongan. However, the available data used in this analysis was less than it should have been because of several missing values or unavailable data. The PCA in STATA calculates only households/questionnaires with no missing values.

Through the PCA, it was possible to rank the ten highest welfare indicators, which are relevant in explaining the welfare ranking of a family. The negative score of a variable indicates that the variable is more likely to reduce a family's welfare ranking while a positive score indicates that a variable boosts the rank of a family.

## PCA Result: Poverty Profile of Kecamatan Pekalongan Timur

Table 32 lists seventeen indicators that have the highest coefficients among the sixty-four welfare indicators in Kecamatan Pekalongan Timur. Nine of the seventeen indicators listed in the table are related to asset ownership. This shows that the ownership of assets, especially ownership of electronics and motorized vehicles, acts as the best welfare differentiator between families.

There is only one indicator from the variables involving the sector in which the household head works—family head working in the industrial sector, especially the batik industry. Although the industrial sector has generated the most employment in Kota Pekalongan, the trend is negative. This means that people who work in the industrial sector are more likely to be poor. Another interesting finding is related to the ownership of a gas stove. More than 50 percent of the families in Kecamatan Pekalongan Timur and Kecamatan Pekalongan Selatan still use kerosene as their cooking fuel.

**Table 32. Ten Highest-Ranked Welfare Indicators in Kecamatan Pekalongan Selatan**

Variable	Score	Rank
Family head working in industrial sector	-0.29	1
Owning refrigerator	0.27	2
Owning gas stove	0.26	3
Owning cellular phone	0.24	4
Owning motorcycle	0.24	5
Owning electric fan	0.22	6
Connected to a permanent phone line	0.22	7
Having access to magazines or newspaper	0.20	8
Consuming meat at least once a week	0.20	9
Having savings account	0.20	10
Owning car	0.18	11
Owning computer set	0.18	12
Owning DVD player	0.18	13
Consuming milk at least once a week	0.18	14
Using private toilet	0.17	15
Family head's education: primary school graduate	-0.16	16
Having an air-conditioning device installed at home	0.16	17

Table 33 provides the characteristics of the 10 percent richest and 10 percent poorest families to show that there are indeed significant differences between them. No family among the 10 percent of the poorest group has a refrigerator, gas stove, or computer. In contrast, most of the rich families own the three items. Only a small percentage of the poor have a permanent phone connection, mobile phone, motorcycle, or fan. The percentage of family heads from the poorest families working in the industrial sector is 65.09 percent while for household heads from the richest families, it is 2.54 percent.

In terms of education, 65.70 percent of the household heads from the poorest families finished primary school. The percentages of those families having higher levels of education show a decreasing trend, which eventually flattens to zero at the diploma and university degree levels. The gap between the richest and the poorest is even wider in the education level of husband and wife. For the richest families, almost 50 percent of the family heads and their spouses were senior high school graduates. For the poorest families, most of the family heads and their spouses were primary-school graduates.

About 84.14 percent of the family heads from the richest families worked in the services sector along with 38.65 percent of the spouses. On the other hand, more than 50 percent of the family heads from the poorest families worked in the industrial sector, most of them as labors. In the poorest families, a slightly higher percentage of the spouses (41.84 percent) worked.

In terms of food-consumption patterns, the poorest families were more likely to have fewer than three meals a day. The percentage of the poorest families that consumed egg at least once a week was 38.68 percent while 9.74 percent of them consumed meat once a week, 45.09 percent consumed fish once a week, and only 14.39 percent drank milk at least once a week.

There was no significant difference between the use of modern healthcare facilities by the richest and the poorest families. The same pattern occurred in infant mortality in families for the past three years. The percentage of the richest families using private toilets was 99.74 percent while the percentage with access to potable drinking-water sources was 90.88 percent. These figures were

considerably higher than the percentage of the poorest families for the same indicators, 33.60 percent with access to private toilets and 24.65 percent with access to potable drinking-water sources. However, 1.40 percent of the richest families still lived in houses with dirt floors.

Viewed from the perspective of access to formal financial institutions, 67.05 percent of the richest families had savings while only 1.05 percent of the poorest families did. In the past three years, 11.83 percent of the richest families were indebted to formal financial institutions but not to informal institutions or to individuals. The percentage of families who had to sell assets to pay off debts was higher for the poorest families who most likely borrowed money to fulfill their basic needs.

An electricity supply is accessible for people in the city, so both the rich and the poor had access to electricity. While most of the rich families had access to newspapers and magazines since they can afford these materials, only 1.84 percent of poor families had access to these sources of information.

**Table 33. Characteristics of the 10% Richest Families and 10% Poorest Families in Kecamatan Pekalongan Selatan**

Variable Group	Variable	Share of 10 percent Richest Families (%)	Share of 10 percent Poorest Families (%)
Marital Status	Family head is married	100	100
Sex of family head	Family head is female	0.18	0.18
Family head and spouse education level	Family head education: never attended school	18.16	0.35
	Family head education: primary school	65.70	2.02
	Family head education: junior high school	9.21	8.41
	Family head education: senior high school	2.11	53.29
	Family head education: diploma	0	10.96
	Family head education: university	0	23.14
	Spouse education: never attended school	18.07	0.44
	Spouse education: primary school	64.74	2.89
	Spouse education: junior high school	9.56	10.78
	Spouse education: senior high school	1.32	51.53
	Spouse education: diploma	0	14.46
Spouse education: university	0	18.32	
Sector of employment of family head	Family head in agriculture sector	3.68	0.79
	Family head in industrial sector	65.09	2.54
	Family head in trade sector	4.56	9.82
	Family head in service sector	19.39	84.14
	Family head receiving transfer (unemployed)	4.12	0.53
	Family head in other sector	3.16	2.19
Occupation	Family head is working	94.12	93.25
	Spouse is working	41.84	38.65
	At least one family member aged 6–15 works	5.70	0.18
Food consumption	Eat three meals a day	88.16	97.11
	Eat egg at least once a week	38.68	96.23
	Eat meat at least once a week	9.74	94.48
	Eat fish at least once a week	45.09	90.45
	Drink milk at least once a week	14.39	92.38
Asset ownership	Own radio	26.32	78.35
	Own black and white television	3.07	2.28
	Own color television	36.14	99.21
	Own refrigerator	0	95.88

Table 33 continued...

Variable Group	Variable	Share of 10 percent Richest Families (%)	Share of 10 percent Poorest Families (%)
Asset ownership	Own fixed line phone	1.05	78.00
	Own mobile phone	2.81	97.72
	Own gas stove	0	86.24
	Own DVD player	7.19	86.85
	Own electric fan	5.09	92.99
	Own computer	0	49.26
	Own tape recorder	0.79	27.87
	Own air conditioner	0.09	37.16
	Own bicycle	68.07	64.86
	Own motorcycle	4.56	95.62
	Own car	0.09	47.77
	Own boat	0	0.70
	Own motor boat	0	0.44
	Own house	42.72	72.48
Farm animal ownership	Own cow	0.09	0.79
	Own goat	0.44	0.96
	Own chicken	8.51	3.16
Health indicators	Use private toilet	33.60	99.74
	Live in dirt floor house	45.61	1.40
	Drink water from protected source	24.65	90.80
	Seek modern medical treatment when sick	89.47	93.34
	Experienced death of an infant in the past three years	4.21	2.19
Other welfare indicators	Use electric light source	95.35	99.82
	Most members bought new clothes in the last year	80.79	98.95
	Read newspaper or magazine	1.84	77.13
	Victim of a crime in the past year	1.32	2.45
	Active in neighborhood organization	10.61	34.18
	At least one family member aged 6–15 discontinues school	17.11	1.23
	Higher dependence rate (more than half of family members are below 15 years old)	9.39	8.41
Access to financial institution	Own savings	1.05	67.05
	Received credit from formal financial institution	32.81	11.83
	Received credit from informal financial institution	0.44	0
	Had to sell assets to pay debts	12.81	4.56

## PCA Result: Poverty Profile of Kecamatan Pekalongan Selatan

Of the seventeen welfare indicators listed in Table 34, the most positive variable is the ownership of a refrigerator and the most negative is if the household head working in the industrial sector. Welfare indicators in Kecamatan Pekalongan Selatan are mostly the same as those in Kecamatan Pekalongan Timur. Two welfare indicators with the highest coefficient that distinguish the two *kecamatan* is the ownership of a color TV and radio. The trend of the working sector of the household heads is also negative, although the coefficient of the variable in Kecamatan Pekalongan Selatan is relatively small compared to that in Kecamatan Pekalongan Timur. Welfare indicators such as ownership of a refrigerator and gas stove were ranked first and second.

**Table 34. Seventeen Highest-Ranked Welfare Indicators in Kecamatan Pekalongan Selatan**

Variable	Score	Rank
Own refrigerator	0.28	1
Own gas stove	0.26	2
Household working in industrial sector	-0.24	3
Owning electric fan	0.24	4
Owning mobile phone	0.24	5
Own motorcycle	0.23	6
Connected to a fixed phone line	0.23	7
Owning computer	0.21	8
Having savings account	0.21	9
Owning car	0.20	10
Having access to newspapers and magazines	0.20	11
Owning DVD player	0.20	12
Consuming meat at least once a week	0.20	13
Consuming milk at least once a week	0.17	14
Owning color TV	0.16	15
Owning radio	0.15	16
Family head education: primary school	-0.14	17

Based on the welfare scores of each family, we are able to isolate the 10 percent richest and 10 percent poorest families. Table 35 provides the characteristics of the 10 percent richest families compared to those of the 10 percent poorest families based on the sixty-four welfare indicators. The poor families did not have refrigerators, gas stoves, computers, air conditioners, or cars as assets. It was also less likely for them to have cellular phones, DVD players, electric fans, or motorcycles.

With regard to the job sector of the family heads and their spouse, the pattern in Kecamatan Pekalongan Selatan was no different from that in Kecamatan Pekalongan Timur. The percentage of family heads from poor families who worked in the industrial sector was 67.66 percent while 63.49 percent of the rich families worked in the services sector. The percentage of spouses who worked was relatively the same for poor and rich families, at 43.63 percent and 48 percent, respectively.

More heads of the rich families graduated from senior high school compared with those of the poor families while 68 percent of the heads of poor families were primary-school graduates. The highest percentage for spouses' education level in the poor families was 66.12 percent (primary-school graduates).

In terms of food consumption, 98.26 percent of the richest families and 92.81 percent of the poorest of families ate three times a day. The percentage of families that consumed egg at least once a week was 93.74 percent for the richest families and 33.57 percent for the poorest families.

**Table 35. Characteristics of the 10% Richest and 10% Poorest Families in Kecamatan Pekalongan Selatan**

Variable Group	Variable	Share of 10 percent Richest Families (%)	Share of 10 percent Poorest Families (%)
Marital Status	Family head is married	100	100
Sex of family head	Family head is female	0	0
Family head and spouse education level	Family head education: never attended school	16.22	1.64
	Family head education: primary school	69.40	10.97
	Family head education: junior high school	7.70	15.90
	Family head education: senior high school	0.72	39.59
	Family head education: diploma	0	9.85
	Family head education: university	0	20.10
	Spouse education: never attended school	15.71	1.64
	Spouse education: primary school	66.12	11.49
	Spouse education: junior high school	10.37	18.26
	Spouse education: senior high school	1.03	39.79
	Spouse education: diploma	0	10.46
	Spouse education: university	0	16.10
Sector of employment of family head	Family head in agriculture sector	4.93	1.03
	Family head in industrial sector	67.66	10.48
	Family head in trade sector	4.62	17.64
	Family head in service sector	18.69	63.49
	Family head receiving transfer (unemployed)	1.95	0.41
	Family head in other sector	2.16	6.97
Occupation	Family head is working	97.02	93.85
	Spouse is working	43.63	48.00
	At least one family member aged 6–15 works	6.57	0.21
Food consumption	Eat three meals a day	92.81	98.26
	Eat egg at least once a week	33.57	93.74
	Eat meat at least once a week	7.49	90.77
	Eat fish at least once a week	38.19	85.85
	Drink milk at least once a week	10.37	85.33
Asset ownership	Own radio	25.05	89.74
	Own black and white television	1.64	2.05
	Own color television	30.80	98.05
	Own refrigerator	0.10	88.82

Table 35 continued...

Variable Group	Variable	Share of 10 percent Richest Families (%)	Share of 10 percent Poorest Families (%)
Asset ownership	Own fixed line phone	0.51	69.64
	Own mobile phone	6.06	97.03
	Own gas stove	0	75.59
	Own DVD player	3.59	83.18
	Own electric fan	2.46	92.00
	Own computer	0	46.26
	Own tape recorder	0.31	29.03
	Own air conditioner	0	19.08
	Own bicycle	71.36	85.03
	Own motorcycle	6.57	97.85
	Own car	0	45.44
	Own boat	0	0.31
	Own motor boat	0	0.31
	Own house	49.79	82.77
Farm animal ownership	Own cow	0.21	1.54
	Own goat	2.05	1.44
	Own chicken	13.76	8.51
Health indicators	Use private toilet	59.55	99.69
	Live in dirt floor house	48.67	0.92
	Drink water from protected source	16.63	74.26
	Seek modern medical treatment when sick	88.50	88.41
	Experienced death of an infant in the past three years	2.77	3.69
Other welfare indicators	Use electric light source	95.79	99.69
	Most members bought new clothes in the last year	84.60	99.69
	Read newspaper or magazine	1.54	68.00
	Victim of a crime in the past year	0.31	5.13
	Active in neighborhood organization	9.75	47.69
	At least one family member aged 6–15 discontinues school	16.63	1.33
	Higher dependence rate (more than half of family members are below 15 years old)	10.88	10.46
Access to financial institution	Own savings	1.03	68.82
	Received credit from formal financial institution	24.64	25.03
	Received credit from informal financial institution	0.82	0
	Had to sell assets to pay debts	10.99	7.38

There are no significant differences between the poor and the rich in terms of the use of modern medical treatment. However, the percentage of families that experienced the death of an infant in the past three years was higher for rich families. Also, 0.29 percent of the richest families still lived in a dirt-floored house. The percentage of the richest families with their own toilet was 99.69 percent while that of the poorest families was 59.55 percent. In general, the percentage of the use of private toilets was higher in Kecamatan Pekalongan Selatan than in Kecamatan Pekalongan Timur, for both the richest and the poorest families. The percentage of rich families who drank water from a protected source was 74.26 percent; for poor families, it was 16.63 percent.

The percentage of rich families with savings was 68.82 percent, while that of poor families was only 1.03 percent. There was a significant difference in credit access from formal or informal financial institutions between the rich and poor families. The percentage of rich families who borrowed from formal financial institutions was 25.03 percent, which was higher than the percentage of the poor families who borrowed from informal financial institutions. The percentage of poor families who borrowed from formal institutions was 24.64 percent while 0.82 percent of them borrowed from informal financial institutions.

The percentage of richest families who were able to buy new clothes in the past year was 99.69 percent; for the poorest families, the percentage was 84.60 percent, which is quite high. The percentage of rich families who were actively involved in neighborhood organizations, including as RT or RW officials or as members of *karang taruna* (local neighborhood youth association), was 47.69 percent. On the other hand, the percentage of poor families who were active in neighborhood organizations was only 9.75 percent. This was most likely because poor families probably spent most of their time working to fulfill their basic needs.

The percentage of rich families who accessed information from newspapers or magazines was significantly higher than that of poor families. With regard to the crime rate, the pattern with rich and poor families was the same. The percentage of rich families who were victims of crime was also higher than that of poor families because of the fact that rich families had more assets.

## PCA Result: Poverty Profile of Kecamatan Pekalongan Barat

Table 36 shows that families whose head worked in the industrial sector were more likely to be poor. On the other hand, ownership of a refrigerator and gas stove would indicate higher probability that a family was rich. The ability to access information from newspapers or magazines also contributed to a family's welfare ranking. Families with access to information, subscribed to a newspaper or magazine, or had a tendency to read newspapers and magazines were categorized as relatively wealthy families.

**Table 36. Seventeen Highest-Ranked Welfare Indicators in Kecamatan Pekalongan Barat**

Variable	Score	Rank
Family head working in industrial sector	0.31	1
Owning refrigerator	0.26	2
Owning gas stove	0.25	3
Owning computer	0.23	4
Owning electric fan	0.22	5
Own motorcycle	0.21	6
Having savings account	0.21	7
Connected to fixed phone line	0.21	8
Having access to newspaper or magazine	0.21	9
Owning mobile phone	0.21	10
Owning car	0.20	11
Owning DVD player	0.19	12
Consuming meat at least once a week	0.18	13
Consuming milk at least once a week	0.18	14
Having air-conditioning device installed at home	0.17	15
Family head's education: S1 degree	0.17	16
Family head's education: primary school graduate	-0.16	17

Based on the welfare scores of each family, we are able to isolate the 10 percent richest and 10 percent poorest families. Table 37 provides the characteristics of the 10 percent richest families compared to 10 percent poorest families based on the sixty-four welfare indicators.

In terms of education, 67.66 percent of the heads of poor families finished primary school, while 64.75 percent of the spouses did so. The percentage of poor families with a high educational background

was lower than that of rich families. A high percentage (43.54 percent) of the heads of the richest families graduated from university while their spouses mostly graduated from senior high school.

**Table 37. Characteristics of the 10% Richest Families and 10% Poorest Families in Kecamatan Pekalongan Barat**

Variable Group	Variable	Share of 10 percent Richest Families (%)	Share of 10 percent Poorest Families (%)
Marital Status	Family head is married	100	100
Sex of family head	Family head is female	0.49	0.12
Family head and spouse education level	Family head education: never attended school	16.81	0.24
	Family head education: primary school	67.66	1.52
	Family head education: junior high school	10.13	4.06
	Family head education: senior high school	2.18	33.90
	Family head education: diploma	0.06	13.04
	Family head education: university	0.06	43.54
	Spouse education: never attended school	17.48	0.30
	Spouse education: primary school	64.75	1.64
	Spouse education: junior high school	11.35	7.16
	Spouse education: senior high school	2.25	40.27
	Spouse education: diploma	0	16.56
Spouse education: university	0.06	32.87	
Sector of employment of family head	Family head in agriculture sector	2.79	0.24
	Family head in industrial sector	68.20	2.12
	Family head in trade sector	6.92	4.12
	Family head in service sector	13.96	90.12
	Family head receiving transfer (unemployed)	3.34	0.67
	Family head in other sector	4.79	2.73
Occupation	Family head is working	95.69	90.12
	Spouse is working	43.26	55.55
	At least one family member aged 6–15 works	5.10	0.24
Food consumption	Eat three meals a day	82.16	97.15
	Eat egg at least once a week	42.48	96.24
	Eat meat at least once a week	8.88	92.54
	Eat fish at least once a week	41.38	90.36
	Drink milk at least once a week	11.65	92.06
Asset ownership	Own radio	21.30	79.50
	Own black and white television	1.46	5.94
	Own color television	35.74	99.21
	Own refrigerator	0.18	98.36

Table 37 continued...

Variable Group	Variable	Share of 10 percent Richest Families (%)	Share of 10 percent Poorest Families (%)
Asset ownership	Own fixed line phone	1.76	83.44
	Own mobile phone	8.86	98.85
	Own gas stove	0.30	90.96
	Own DVD player	4.85	89.02
	Own electric fan	5.22	95.21
	Own computer	0.06	77.44
	Own tape recorder	0.61	33.29
	Own air conditioner	0	49.24
	Own bicycle	69.11	74.89
	Own motorcycle	6.13	97.15
	Own car	0	62.64
	Own boat	0	3.94
	Own motor boat	0	3.64
Own house	34.59	83.93	
Farm animal ownership	Own cow	0.08	4.18
	Own goat	0.18	3.82
	Own chicken	10.98	6.73
Health indicators	Use private toilet	53.70	99.09
	Live in dirt floor house	18.75	0.06
	Drink water from protected source	51.76	97.09
	Seek modern medical treatment when sick	89.26	89.69
	Experienced death of an infant in the past three years	4.19	1.70
Other welfare indicators	Use electric light source	90.47	97.63
	Most members bought new clothes in the last year	73.54	98.30
	Read newspaper or magazine	2.37	83.02
	Victim of a crime in the past year	1.46	5.03
	Active in neighborhood organization	9.77	46.33
	At least one family member aged 6–15 discontinues school	15.29	1.70
	Higher dependence rate (more than half of family members are below 15 years old)	9.16	5.58
Access to financial institution	Own savings	0.55	76.53
	Received credit from formal financial institution	7.89	30.62
	Received credit from informal financial institution	27.91	4.49
	Had to sell assets to pay debts	12.32	6.31

The percentage of family heads from poor families who worked in the industrial sector was 68.20 percent, while 90.12 percent of the heads of rich families worked in the services sector. The percentage of working spouses from the richest and poorest families had a slight difference of about 10 percent.

In terms of food-consumption patterns, the poorest families were more likely to consume less meat in a week. The percentage of the richest families that consumed meat once a week was 92.54 percent; the poorest families, only 8.86 percent. Both groups, however, ate three meals daily, with the percentage level being more than 80 percent.

The gap between the rich and poor was quite wide in terms of ownership of air-conditioning units, cars, refrigerators, gas stoves, and computers, which explains the ten highest-ranked welfare indicators. However, the gap was not too significant in terms of bicycle ownership.

Just like the case of Kecamatan Pekalongan Timur and Kecamatan Pekalongan Selatan, there were no significant differences between the poor and the rich in terms of the use of modern medical treatment. The percentage of the richest who sought modern medical treatment when sick was 89.69 percent; the poorest, 89.27 percent. The percentage of families with private toilets and who drank from protected water sources was 40 percent higher in the richest families.

Most of the rich families had access to newspaper and magazines since they can afford to buy these or purchase a subscription, while only 2.37 percent of poorest families had access these sources of information. The richest families were more likely to have members actively involved in neighborhood organizations. It was probably their economic status that raises their social status and gives them an opportunity to be involved in those activities as well as the leisure time that they have.

In terms of access to formal financial institutions, 76.53 percent of the richest families had savings, while only 0.55 percent of the poorest families had the same. In the past three years, 30.62 percent of rich families had received credit from formal institutions; 4.49 percent of them received credit from informal institutions or from individuals.

## PCA Result: Poverty Profile of Kecamatan Pekalongan Utara

The welfare indicators in Kecamatan Pekalongan Utara (Table 38) were mostly the same as those in Kecamatan Pekalongan Barat (Table 37). The differences were only in the order of the ranking of each indicator. Nine of the seventeen indicators were still about asset ownership, which shows that asset ownership serves as the best differentiator of welfare between families. The first rank of welfare indicators, similar to the analysis done for Kecamatan Pekalongan Barat, is of family heads that work in the industrial sector. It also showed the same negative trend as that in Kecamatan Pekalongan Barat. The second and third ranks were also the same as those in Kecamatan Pekalongan Barat. Two welfare indicators in Kecamatan Pekalongan Utara that were different from the analysis on Kecamatan Pekalongan Barat were the use of private toilets (positive trend) and family heads working in the agricultural sector (negative trend).

**Table 38. Seventeen Highest-Ranked Welfare Indicators in Kecamatan Pekalongan Utara**

Variable	Score	Rank
Family head works in industrial sector	-0.32	1
Owning refrigerator	0.27	2
Owning gas stove	0.24	3
Own motorcycle	0.24	4
Own cellular phone	0.23	5
Own fan	0.22	6
Read newspaper or magazine	0.21	7
Own savings	0.21	8
Own computer	0.21	9
Consume meat at least once a week	0.19	10
Own DVD player	0.19	11
Connected to fixed phone line	0.19	12
Use private toilet	0.18	13
Family head works in agricultural sector	-0.18	14
Own car	0.17	15
Family head's educational background: primary school	-0.16	16
Consume milk at least once a week	0.16	17

Table 39 provides the characteristics of the 10 percent richest and 10 percent poorest families and shows that there are indeed significant differences between them, in addition to the seventeen highest-ranked welfare indicators.

In the rich families, a high percentage of family heads (about 48.92 percent) finished senior high school. In the poorest families, 66.34 percent of the heads reached up to elementary level. Spouses' education in Kecamatan Pekalongan Utara had the same pattern as that in Kecamatan Pekalongan Barat. Spouses from the poorest families were generally graduates of primary school (64.19 percent) while those from the richest families were generally senior high school graduates (49.20 percent).

Many family heads from the richest families still worked in the services sector (90.34 percent) while only 9.67 percent of the poorest families were in this sector. The heads of the poorest families in this *kecamatan* mostly worked in industrial sector (62.45 percent). However, the percentage of family heads from the poorest families working in the agricultural sector in Kecamatan Pekalongan Utara (17.80 percent) was relatively higher than that in Kecamatan Pekalongan Barat (2.79 percent). Kecamatan Pekalongan Utara is located in a coastal area so the number of family heads working in the agricultural sector (as fishers and labors in the fishery market) was higher than that of the heads of the poorest families in Kecamatan Pekalongan Barat.

**Table 39. Characteristics of the 10% Richest Families and 10% Poorest Families in Kecamatan Pekalongan Utara**

Variable Group	Variable	Share of 10 percent Richest Families (%)	Share of 10 percent Poorest Families (%)
Marital Status	Family head is married	100	100
Sex of family head	Family head is female	0.28	0.14
Family head and spouse education level	Family head education: never attended school	17.80	0.21
	Family head education: primary school	66.34	1.60
	Family head education: junior high school	8.34	5.84
	Family head education: senior high school	1.11	48.92
	Family head education: diploma	0	11.81
	Family head education: university	0.07	29.33
	Spouse education: never attended school	16.83	0.49
	Spouse education: primary school	64.19	3.34
	Spouse education: junior high school	8.90	8.55
	Spouse education: senior high school	1.81	49.20
	Spouse education: diploma	0.07	15.29
	Spouse education: university	0	22.38
Sector of employment of family head	Family head in agriculture sector	17.80	0.49
	Family head in industrial sector	62.45	1.95
	Family head in trade sector	3.27	4.80
	Family head in service sector	9.67	90.34
	Family head receiving transfer (unemployed)	3.41	0.90
	Family head in other sector	3.41	1.53
Occupation	Family head is working	95.69	94.58
	Spouse is working	44.02	55.04
	At least one family member aged 6–15 works	4.94	0.42
Food consumption	Eat three meals a day	82.13	97.43
	Eat egg at least once a week	44.30	95.97
	Eat meat at least once a week	5.35	89.30
	Eat fish at least once a week	62.38	89.44
	Drink milk at least once a week	15.09	89.09
Asset ownership	Own radio	10.78	78.11
	Own black and white television	0.63	2.57
	Own color television	35.12	98.66
	Own refrigerator	0.07	94.72

Table 39 continued...

Variable Group	Variable	Share of 10 percent Richest Families (%)	Share of 10 percent Poorest Families (%)
Asset ownership	Own fixed line phone	1.74	64.42
	Own mobile phone	5.01	97.29
	Own gas stove	0.14	82.14
	Own DVD player	4.03	86.87
	Own electric fan	4.03	93.26
	Own computer	0	58.17
	Own tape recorder	0.42	31.97
	Own air conditioner	0.07	31.34
	Own bicycle	64.46	69.70
	Own motorcycle	3.06	97.15
	Own car	0	37.94
	Own boat	0.07	1.25
	Own motor boat	0.07	1.11
	Own house	38.46	81.10
Farm animal ownership	Own cow	0.35	1.46
	Own goat	0.70	1.25
	Own chicken	10.57	3.47
Health indicators	Use private toilet	23.78	98.96
	Live in dirt floor house	21.42	0
	Drink water from protected source	66.62	98.05
	Seek modern medical treatment when sick	87.55	92.49
	Experienced death of an infant in the past three years	3.69	2.43
Other welfare indicators	Use electric light source	90.26	98.26
	Most members bought new clothes in the last year	68.98	98.61
	Read newspaper or magazine	1.04	73.66
	Victim of a crime in the past year	1.11	4.03
	Active in neighborhood organization	10.43	52.74
	At least one family member aged 6–15 discontinues school	15.65	1.32
	Higher dependence rate (more than half of family members are below 15 years old)	9.04	6.81
Access to financial institution	Own savings	0.49	69.77
	Received credit from formal financial institution	9.60	31.97
	Received credit from informal financial institution	29.49	6.05
	Had to sell assets to pay debts	13.21	4.59

There were considerable contrasts between the richest and poorest families in terms of consumption pattern. Although just about every family ate three times a day, the protein intake was relatively different. More than 89 percent of rich families consumed egg, meat, and fish at least once a week, while only 44.30 percent, 5.35 percent, and 62.38 percent of poor families regularly consumed egg, meat, and fish respectively.

There were relatively large gaps in asset ownership between the richest and the poorest groups. There were two assets owned by the rich but not by the poor: computers and cars. The asset that was generally owned by both the rich and the poor was the bicycle. Considering the geographical area of Kecamatan Pekalongan Utara, we assumed that with most of the residents being fishers, there would have been a significant percentage of boat or motor boat ownership. However, from informal discussions with enumerators in Kelurahan Panjang Baru, most family heads who worked as fishers were simply labors on a boat or ship owned by other people or companies.

As many as 92.49 percent of the richest families sought modern health services when ill while only 87.55 percent of the poorest families did so. Of the poorest families, 21.42 percent still lived in dirt-floored houses while only 23.78 percent had private toilets.

Access to an electricity source was high for both groups since the national electricity source is widely available in the city. The percentage of the richest families who were able to buy new clothes in the past year was 98.61 percent; for the poorest families, it was 68.98 percent. More than 70 percent of the richest families had access to newspapers or magazines, while only around 1 percent of poor families had such access.

In keeping with asset ownership, rich families also had greater access to formal financial institutions. Most rich families (69.77 percent) and a small number of the poor families (0.49 percent) had savings accounts. In the past three years, 31.97 percent of the richest families had received credit from formal and 6.05 percent from informal institutions or individuals. The percentage of poor families who had pawned their assets to pay debts was relatively high (13.21 percent).

## CONCLUSIONS

The CBMS data collection in Kota Pekalongan aimed to get information and/or accurate and comprehensive data on the social condition and welfare status of households in the area. There were a lot of valuable lessons learned from the exercise, including the process of selecting enumerators, the supervision of enumerators during data processing, and the process of data entry. These lessons need to be taken into serious consideration so that the CBMS data collection can be done smoothly.

The following are a number of lessons learned in the implementation of the CBMS in Kota Pekalongan:

- a) High turnover of government officials at the local level hinders smooth coordination among the institutions involved in this initiative. During the CBMS implementation, five different technical officers-in-charge from the local government were assigned one after the other. This caused delays in the project schedule.
- b) Coordination among the involved institutions requires special effort and attention, especially in terms of commitment, time, and technical understanding of the CBMS itself.
- c) Enumerators who were already above 55 years old, were only primary-school graduates, and were government staff members had difficulties during the data enumeration. In addition, enumerators who did not attend the training but were involved in the data enumeration contributed to inaccurate data processing.
- d) Training of enumerators requires a longer time because of the different educational backgrounds and ages of the enumerators. This somewhat affected their ability to comprehend the questionnaires.
- e) The entry of the data collected in 2008 (Kecamatan Pekalongan Selatan and Kecamatan Pekalongan Timur) was done by CV Waditra, a subcontractor of the local government in Information Technology and data processing. CV Waditra, however, used MySQL application, which is different from the one used by SMERU (STATA). As a result, SMERU had to export these data into STATA. This process was time consuming.

- f) The training on data entry, which was the responsibility of the Kota Pekalongan government, was not fully effective because the number of data-entry people far exceeded the number of computers available. Other training equipment (e.g., projectors) were not available on the training day.
- g) The data entry was done in two separate places. This made exerting control over data entry a difficult task. Moreover, the number of data-entry people far exceeded the number of computers available so they had to take turns using the computers.
- h) During the data-entry process, the questionnaires were grouped by RT instead of by *kelurahan*. The vast number of RT made data verification difficult to do.

From the analysis of the CBMS data, we can conclude that (1) the level of educational attainment of the family heads is still low; (2) the local government has to pay more attention to the primary net enrollment ratio; (3) a substantial number of families still use unprotected wells as sources for clean water; and (4) some families still use burning as a garbage-disposal method.

## RECOMMENDATIONS

Based on these lessons learned, researchers made the following recommendations:

- a) Recruitment of enumerators and data-entry people must be done selectively.

Accurate data are needed as the basis for planning and their availability can reduce the possibility of mismanagement of poverty-reduction programs. For that reason, enumerators are an important factor in data processing. An enumerator must be (1) a local resident; (2) literate; (3) at least a junior high school graduate; (4) experienced in data collecting; (5) 55 years old or younger; and (6) female. The recruitment of enumerators is crucial and must be done very selectively. The educational background of a prospective enumerator should

be carefully considered as it can indicate how well the person can comprehend the questionnaires used. Enumerators' understanding of the questionnaires is critical so that they do not make mistakes when collecting data, which can affect data validity.

During data processing, especially at the beginning of the process, enumerators must be intensively attended to and supervised. This can reduce or even eliminate errors during the data entry that follows. Trainers and the *kelurahan*-level coordinators play significant roles at the beginning of data processing. In order to get accurate and valid data, training and data entry should not be separated from the overall data- collection process. Appropriate data-entry method is as important as the proper filling out of the questionnaires so that accurate data can be obtained.

The methodology that we chose could be used to identify the poor in every *kelurahan*. We have also indicated that, given enough support and supervision, locals were able to conduct their own poverty monitoring.

- b) The Kota Pekalongan government should increase the capacity of family heads.

More than 50 percent of the family heads in Kota Pekalongan have low educational levels being mostly primary school graduates. The local government can help improve their people's welfare by giving technical assistances in the form of business training for family heads so that their capacity can be increased.

- c) The Kota Pekalongan government should improve their services with regard to the provision of clean water.

Families in Kota Pekalongan get clean water from various sources, mostly from unprotected wells. To respond to the of the populace for clean water, the local government can work together with the Ministry of Public Works to channel clean water through pipes to families who live in areas where clean water is not available.

- d) The Kota Pekalongan government should build an integrated waste-disposal system for households.

Households dispose of their wastes in various ways. Most of them burn their wastes; only a small number use the service of garbage-collecting facilities provided by the local government. This clearly affects the condition of the air and environment. An integrated waste disposal system will benefit both the local government and the people in the area. For example, every *kecamatan* can develop a waste-recycling and compost-production site built on a piece of state-owned land. Wastes from households and markets can be taken to the site to be sorted out into three categories: waste materials that (1) can be turned into compost, (2) can be recycled, and (3) can no longer be used.

To conclude, after studying the facts resulted from the CBMS implementation in Kota Pekalongan, we hope that all the stakeholders in other *kabupaten/kota* can be informed about this accurate monitoring system. Involving local community, designed specifically to adjust to local characteristics, objective, and applicable to *kabupaten/kota* administration, the system can certainly help local governments in their effort to increase public welfare in their territory more effectively.

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# Tracking Achievements in the Millennium Development Goals: Issues and Challenges

Grace Bediako<sup>1</sup>

In September 2000, the General Assembly of the United Nations composed of 189 countries and represented by 147 heads of state adopted the Millennium Development Goals (MDGs). The MDGs has eight goals, translated into 21 targets and 60 indicators. The list of indicators has actually evolved. It used to be 46 with fewer targets. But as the years went by, it was clear that some targets had to be added and with each added target comes additional indicators. Thus, the number has now reached 60.

The MDGs cover a wide range of topics, from those covered by routine data collection such as education to new areas such as environment and non-traditional areas like development aid.

This presentation will look at the basic requirements for MDG monitoring and review the practice of monitoring MDGs at the global, regional and national levels. It will also consider the prospects for assessing achievements in 2015 when most of the goals are being targeted to be reached. For instance, what can be done to improve the chances for tracking achievements with only five years left? Are there systems in place that can tell the various governments that they have met or missed meeting the MDGs?

## MONITORING THE MDGS: ROLE OF STATISTICS

The MDGs are a special kind of declaration. Before these were adopted, there had been a series of conferences targeting different areas. There were, for example, the social summit and

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<sup>1</sup> Government Statistician, Ghana Statistical Service, and member of the CBMS Steering Committee

the education for all, each dealing with blocks of issues of social and economic development. The MDGs, however, seem to bring everything together since they deal with poverty which requires that all areas are looked into together. In that sense, the MDGs are unique. But like most international commitments and conventions, the MDGs also undergo periodic reviews.

But there is something distinct about the MDGs apart from bringing together all these other targets that have been set in other conferences. The MDGs have a very strong component of statistics unlike any other. And the MDGs are really a structured system with goals, targets and specific indicators that the whole world has agreed to use to assess individual country achievement. For this, the United Nations (UN) Statistics Division is the one coordinating the global assessment with all the UN bodies based on the latter's area of mandate. For instance, United Nations Educational, Scientific and Cultural Organization (UNESCO) provides data on education, the International Labour Organization (ILO) on labor, the World Health Organization (WHO) on health and so on and so forth. There is an inter-agency collaboration and an annual assessment. Hence, every year, there is a report on the MDGs where the indicators are compiled. There are also regional and country program reviews. Some do better than others. In Africa, for example, there has not really been a systematic regional review even as some sub-regions are seen to do better. But at the country level, there are no systems at all for monitoring the MDGs.

The following constitute the set of MDGs:

- ◆ Goal 1: Eradicate extreme poverty and hunger
- ◆ Goal 2: Achieve universal primary education
- ◆ Goal 3: Promote gender equality and empower women
- ◆ Goal 4: Reduce child mortality
- ◆ Goal 5: Improve maternal health
- ◆ Goal 6: Combat HIV/AIDS, malaria and other diseases
- ◆ Goal 7: Ensure environmental sustainability
- ◆ Goal 8: Develop a global partnership for development

Goals 3 and 5 are really directed at improving women's situation but when it comes to the matter of statistics and how countries have prepared to monitor the MDGs, the issues that have plagued

the Beijing Platform for Action implementation may also be seen as having affected the MDGs. Many statistical offices have not really focused on the MDGs or the Beijing Platform for Action. The goals and targets of MDGs require statistics. They cannot be monitored without statistics and the whole framework points to that. In essence, many of these international declarations require statistics but the process is done without regard for statistics. Statistics therefore seem to also be playing a catch-up game.

Very few statistical systems have really adjusted to respond to the requirements. Many national statistical offices are still not responsible for the monitoring of the MDGs. There are other institutions but the data have not been produced to provide that direction systematically.

It is not easy to actually measure achievement because it is really a function of statistical development in various countries. If a country is not yet up to provide these data, it means that there is no way that these data can be provided systematically.

To actually measure the achievements in the way that is required, benchmarks have to be established. Many of the targets are related to a point in time. Targets 1A and 1C have to measure indicators between 1990 and 2015; this means that there should have been indicator sets in 1990. The MDG commitments were, however, made in 2000 and not many have systems in place before then. Thus, it would be difficult to know if, for instance, a country has been able to halve its poverty incidence. And very few have data on all target areas covering the regular intervals between 2000 and now.

There are different levels of reporting for the MDGs. At the national level, some countries place the responsibility with their National Statistics Office (NSO). In other countries, with the planning agency. Still in some countries, it is the UN agency, primarily the United Nations Development Programme (UNDP), that is driving the monitoring at the national level. Or it could be a collaborative undertaking in others. There are also regional MDG programs. As mentioned earlier, some regions do better than others. But in Africa, it is only recently that the MDGs have been taken up because at some point, there was a slow decline in the work of the UN Economic Commission for Africa (UNECA). As such,

the Commission could not provide strong direction in statistics. There has since been a revamp in this office and so, the MDG work has picked up. But there are only five more years left. The global MDG monitoring program is the one that is really set. On an annual basis, this global program has an MDG report and this year, the general assembly is going to be the one to do a review of the MDGs.

At the global level, while there are a lot of gaps, the UN nonetheless fills these gaps. The UN agencies have their way of estimating or smoothening or making their datasets consistent with each other. So when one looks at the global estimates, there are no gaps. But at the national level, there are a lot of gaps. Because of the different levels of provision of the data, it could be said that a country has met the targets but the data may indicate something different. Hence, there is a potential for inconsistency between the global, regional and national data. But that is primarily because of the national level. Since the international bodies are not the ones completing or doing the data, they are constrained in filling the gaps with their estimates.

To what extent then are national statistical systems able to respond to the needs of the MDGs? Many have just gone about their normal business and unless these agencies have previously covered these areas, then it is going to be difficult to respond to the demands of the MDGs. When it comes to Goal 3, the monitoring could have been facilitated by the implementation of the Beijing Platform for Action but even if the data are available, they are not routinely disseminated. With administrative sources, meanwhile, it is a challenge to get the administrative systems to even adjust in the way they collect the data. Thus, the challenges are within as well as across the system.

The main questions about the data have to do with their availability. The areas of the MDGs are not all being covered routinely. Ghana, for example, tries to compile and disseminate data on environmental aspects but these come from the Environmental Protection Agency and allied agencies which do not even have a way of collecting these data nor understand the issues enough to provide the data. Then there is the issue about quality of the data. This is why when the data get to the global level, the international agencies have a way of adjusting them since they believe that there

are some issues about coverage and concepts. There is also the issue of timeliness of the data. Data can become available but many times with long time lags. Comparability of data across time and sources can also be a problem. Even within countries, the concepts and measurements that are used change from time to time. One case in point is access to safe water in Ghana. There are a lot of concepts used within the country and even within the Ministry of Water itself. Hence, work and coordination are being done with all the stakeholders so that there could be standardized concepts. This would also have to be done for most of the other areas. Otherwise, different sources will provide different concepts underlying the indicators.

Some of the following are basically what are needed to be looked at in order to get good and consistent indicators across time and data sources. Unfortunately, these are not being done systematically.

- |              |                                   |
|--------------|-----------------------------------|
| ❖ Accurate   | - errors minimized                |
| ❖ Complete   | - all important facts             |
| ❖ Economical | - low cost capturing & processing |
| ❖ Reliable   | - depended on/same results        |
| ❖ Relevant   | - must aid decision effectively   |
| ❖ Timely     | - before decision is made         |
| ❖ Simple     | - not overloaded                  |
| ❖ Verifiable | - possible to check               |

## SUMMING UP

Just to summarize, the following are some of the data gaps and deficiencies that are being encountered in monitoring the MDGs:

- *Coverage of topics* is limited. Data from administrative sources are not regularly compiled and disseminated. The absence of a national household survey program in many countries is also observed. Time series are maintained for only a few surveys.
- *Comprehensiveness of coverage* for data obtained from administrative records, including civil registration
- *Level of geographical disaggregation* for many surveys is

still at the regional level, whereas many of the development activities are at the district or locality level. When the country has met the goal, does it mean that everybody is all right within that country for that goal? No. And this is what CBMS is trying to tackle.

- *Consistency of concepts and methods*: data collection efforts have tended to be governed by different standards.
- *Timeliness of data*: the time span between the actual data collection and the release of the results is unacceptably long.
- *Comparability of different sources*: the use of different methods and concepts renders the different data collection results incomparable.
- *Accessibility to the data* needs to be increased to promote the utilization of data. National data collection is also a very costly undertaking.

The problem with the MDGs and their monitoring has to do with the fact that the production of statistics has not changed significantly even with the adoption of the MDGs. Data required for assessing achievements of the MDGs are basic (except for poverty and environment). Ordinarily, national statistical systems should be able to generate most data required to compile the indicators. In reality, though, this has not been the case for still too many countries.

Several things need to be done to change the situation, however late it is. Many countries have strategic plans on the production and dissemination of data. In Ghana, this is a way of getting more buy-ins from other agencies and administrative sources. At least, this helps the Ghana Statistical Office to take a central role. And since technically, the Office will be responsible for this strategic plan, then somehow, the other agencies will look up to the statistical office. Because without this, it is very difficult for them to respond and give the data that are needed. But it means that the statistical office will have to take a decision to respond to the MDGs as a statistical organization. This is what is primarily lacking in many countries where the MDGs are not tracked systematically.

Meanwhile, with regard to gender statistics, the following are some of the things that the Beijing Platform for Action said should be done:

- The *regular production* of a statistical publication on gender that presents and interprets topical data on women and men in a form suitable for a wide range of non-technical users
- The *regular review* by *producers and users* of statistics on the *adequacy of official statistical system and its coverage of issues (including gender)* The *regular preparation of a plan for needed improvements, where necessary.*
- *The routine use of more gender-sensitive data in the formulation of policy and implementation of programs and projects*

The following, on the other hand, are the challenges for the national statistical system.

- Support for statistics is limited (and has not necessarily changed since MDGs were adopted)
- Many statistical offices have limited capacity (easier to do things that are continuation of normal routines)
- There is a lack of coherence within the national statistical system
- The production of gender statistics is even more challenging
- Gender mainstreaming in statistics is not fully taken on board in national statistics programs

Things, though, are changing. Many national statistical systems now have national strategies for the development of statistics but require substantial resources to implement them. Many statistical offices are undergoing organizational reforms, particularly in Africa, but political, technical and financial support is needed. Capacity building programs are also being initiated but national statistics offices are facing challenges in attracting and retaining experienced staff. The UN used to be very active in providing technical assistance to countries but this has somewhat dwindled. With the strategic plans, however, it should be possible for countries to do a better job with the MDGs.

The main challenge is to maintain a careful balance between meeting international requirements for monitoring and ensuring that this is a meaningful and beneficial exercise to the country. What is being done and to be done should inform policy, strengthen the

statistical and information bases, involve different stakeholders, create space for research to inform policy, design programs, bring clarity to the situation, and provide some directions.

Statistics should be mainstreamed into the development efforts, including financing for development. Gender should be fully integrated into national development processes, policy formulation, programming, statistical information systems, monitoring and evaluation. With the necessary financial support, national offices should be more responsive to data requirements of international agreements.

Clearly at the national level, funds for statistical development system-wide would be required to assure systematic and continued improvements. Special data collection and compilation exercises would be needed to provide the requisite information. At the international level, global agreements should clearly define the statistical requirements, restore coherence in programs for national/regional capacities in statistics, and solicit technical assistance for support.

# Actual Uses of CBMS for MDG Monitoring in Kenya

Pauline Wamwea<sup>1</sup>

## BACKGROUND

### Introduction

Kenya is located in the eastern part of the African continent with the southeastern part bordering the Indian Ocean. The country lies between latitude 4° north to 4° south and longitude 34° east to 41° east. It is bordered to the north by Sudan and Ethiopia, to the northeast by Somalia, to the west by Uganda, and to the south by Tanzania. The total land area is 582,650 square kilometers, 2.3 percent of which is covered by inland and marine waters. About 80 percent of Kenya's land area is arid and semiarid and is considered unfavorable for agricultural production. Since Kenya is an agro-based country, this has a significant effect on the growth of the economy and its capacity to feed its population. This, coupled with other challenges such as diseases, presents Kenya with special development needs which are well articulated by the Millennium Development Goals (MDGs).

### Demographics

The population of Kenya was projected to be approximately 39 million in 2009 (Economic Survey, 2009), up from 28.7 million recorded in the 1999 Population and Housing Census.

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<sup>1</sup> Programme Officer, Ministry of State for Planning, National Development & Vision 2030-Kenya

This figure is expected to increase to 42.4 million in 2012. The population is predominantly rural (80%). The population segment aged 15-24 years old was estimated at 6 million in 1999 and is projected to increase to 8 million by 2012. The government's focus will be reviewing the current population policy in order to align its strategies and programs around the MDGs and Vision 2030.

Government's effort in tackling poverty in the country has resulted in an increase in gross domestic product (GDP) per capita from US\$650 in 2006 to US\$793.51 in 2008. Kenya has also managed to significantly reduce the population below the poverty line from 56 percent in 2000 to 46 percent in 2006. This translates to over 18 million Kenyans living below the poverty line. Community-based monitoring information will show poverty levels at the local level and assist in the continuous planning for interventions to facilitate the achievement of the MDGs.

## Recent Economic Performance

With the implementation of the Economic Recovery Strategy for Wealth and Employment Creation (ERSWEC) from 2003 to 2007, Kenya's economy grew remarkably, reaching a peak growth rate of 7 percent in 2007. However, real GDP growth slowed to 1.6 percent in 2008 as a result of both domestic and external shocks, including post-election violence, drought, high food and fuel prices, and an external financial crisis. The shocks affected the key sectors of the economy, almost reversing the gains in poverty reduction achieved from 2003 to 2007. The key sectors that were adversely affected include agriculture, transport, manufacturing, and tourism. The shocks also resulted in high inflation and poor balance of payments position, among others. However, the short periods of rainfall in the last quarter of 2009, the interventions being implemented in line with Kenya's Vision 2030 and its first Medium-Term Plan, the 2009/2010 budget, and the Economic Stimulus Program, nudged economic performance towards an upward trend, registering a growth in GDP of 2.6 percent in 2009. This growth rate is projected to double in 2010.

The government is committed to the achievement of the MDGs by 2015. The current economic blueprint—Kenya Vision 2030—was developed with MDGs in mind. Vision 2030 is anchored on three

key pillars, namely, economic, social, and political governance. It has the MDG-related sectors covered under the social pillar while the other pillars enable the achievement of the MDGs. Vision 2030 has identified a number of flagship projects. At the same time, the Medium-Term Plan 2008-12, which constitutes the first phase in the implementation of Vision 2030, is aimed at accelerating the achievement of the MDG by 2015. The government has also increased funding to all the MDG-related sectors, which include agriculture, health, and education. The emphasis given to the MDGs in Vision 2030 and the increased funding to the MDG-related sectors show the government's commitment to achieving the MDG targets by 2015.

## **Overview of the MDG Process in Kenya**

Kenya started its MDG implementation process in September 2002 when a national stakeholders' workshop was held to build consensus and promote understanding of the significance of the MDGs, their links to the national planning frameworks, and to determine the best mode and frequency of country-level reporting. Since then, the Kenyan government and its development partners have committed substantial resources to meeting the country's MDGs. The government, with the support of its development partners, assessed Kenya's performance in each of the eight goals and published the first MDG status report for Kenya in July 2003.

The government has continued to collaborate with other stakeholders, such as civil society organizations, in the implementation of the MDGs. There is, however, a need for harmonized coordination of development initiatives if the MDGs are to be achieved by 2015.

## **Policy Setting for the MDGs**

The economic and social development policies pursued in post-independence Kenya have focused on alleviation of poverty, improvement of literacy levels, and reduction of the incidence of diseases. Sessional Paper No. 10 of 1965 focused on the elimination of poverty, disease, and ignorance. The paper also supported a

policy of rapid economic growth in order to generate resources to meet the equity goal. Subsequent national development plans, the Poverty-Reduction Strategy Papers, and the Economic Recovery Strategy 2003-07, have pursued goals that were closely focused on growth, poverty reduction, employment, and the general well-being of the people. Vision 2030 and its first Medium-Term Plan 2008-2012 go a step further to identify regional development priorities. These processes have the same focus as the MDGs and therefore, the MDGs are of continuous appeal to Kenyans.

In most of the cases, however, the long-term plan (Vision 2030), the medium-term plan, the district development plans, the sector plans, and the baseline surveys undertaken do not identify the neediest members of the community but give a general picture of the country. In 2007, there was a realization that the government was not specifically targeting the poorest people in the country. The Community-Based Monitoring System (CBMS) thus solves this problem because as a census, it depicts the actual poverty levels and vulnerabilities of local communities. CBMS will ensure proper targeting of the needy people.

## **CBMS IN KENYA**

The interest in the CBMS process started when a government mission from the Ministry of State for Planning, National Development visited the Philippines from November 18 to 24, 2007 to learn and share experiences on the implementation of the MDGs with government and nongovernment partner organizations in the Philippines. The mission learned that CBMS was being implemented by the African Institute for Health and Development (AIHD) through a Local Poverty Monitoring System (LPMS) in Tana River District.

The ministry realized that CBMS could be utilized to collect information for planning on the welfare status and needs of the people at the community- and household-levels. At the same time, it could be used to monitor the implementation of the MDGs at the local level because it had indicators that were similar to MDG indicators. CBMS also encourages participatory planning and development at the local level. This led to a joint collaboration on CBMS implementation with the AIHD in 2009.

During the first phase of the MDG project implementation, the ministry funded the first CBMS National Conference in June 2009. It was during this conference that the CBMS concept was introduced to stakeholders and the results of the LPMS (Local Poverty Monitoring System) pilot study in Tana River District was disseminated. Various stakeholders were sensitized on the CBMS concept and an action plan on the implementation of CBMS in Kenya was developed. This conference resulted in other CBMS programs and activities that have been undertaken by the AIHD and the ministry.

The ministry, in collaboration with the AIHD, carried out a pilot study of CBMS in three of its nine MDG districts, namely, Kilifi, Kisumu, and Muranga. It is in these districts that three local authorities were selected. The study then narrowed down to one ward in every council. The findings of this study were shared with the stakeholders so that they could use the data in planning and resource allocation in those councils. The councils involved in the study committed themselves to mobilizing resources to address the priority needs identified.

The ministry also funded the Training of Trainers CBMS workshop in February 2010. The objective of this activity was to train a pool of trainers in preparation for the upscaling of CBMS activities in Kenya.

The ministry, in collaboration with the Association of Local Government Authorities in Kenya (ALGAK), organized a workshop for civic leaders and the technical officers of 175 local authorities. The objective of the workshop was to sensitize local authorities on the MDGs with a view to mainstreaming MDGs in local authorities. It was in this forum that AIHD disseminated the findings of the pilot study and briefed the participants on the concept of CBMS. The local authorities felt that CBMS could complement the Local Authority Service Delivery Action Plans (LASDAP) and provide factual information to guide resource allocation. All of them also expressed willingness and commitment to implement CBMS in their councils.

## BENEFITS OF CBMS

Since CBMS is a census and not a survey, it provides accurate baseline information on poverty and the welfare status of citizens at the local level. It also provides reliable and comprehensive data, which are very important in the planning and implementation of development programs focused on poverty alleviation and the MDGs, in particular.

The CBMS process is able to generate area-specific data on poverty. Poverty varies from one community to another, i.e., it is localized. Local communities know what they need and can prioritize their needs. This makes the tool flexible while at the same time generating information on what people feel are their needs.

Local authorities and civil society organizations can use CBMS data to allocate resources and guide their investment decisions. Since CBMS can capture the felt needs of local communities, local authorities and other stakeholders can develop interventions that specifically address the needs of local communities, thus improving their service delivery.

The CBMS is useful in monitoring the implementation of the MDGs, Vision 2030 and its medium-term plan, and district development plans. The CBMS indicators have incorporated MDG concerns. The indicators are also easily understood by local communities and can be used by the locals to monitor the implementation of MDGs in their communities.

Local communities and authorities are able to understand and own the process of MDG implementation at the local level due to the participatory approach of CBMS. The CBMS utilizes the skills and inputs of local communities, making it a community-led and community-owned process.

It also supports policy formulation by the government because of its ability to provide up-to-date information on the welfare status and needs at the community- and household-levels. For example, the government can use CBMS data in targeting and prioritizing programs like the Constituency Development Fund (CDF), the Local Authority Transfer Fund (LATF), and the School Bursary Scheme.

## **STRATEGIES FOR INSTITUTIONALIZING CBMS IN KENYA**

The Ministry of Planning is working closely with the Ministry of Local Government (Reforms Programme), AIHD, and ALGAK to institutionalize CBMS at the local level. The AIHD will lead as the Ministry of State for Planning, National Development and Vision 2030 supports the CBMS process.

The CBMS data that will be generated will be used for national and local planning. This means that the National Plans and Local Authorities Service Delivery Action Plans (LASDAP) will be based on the actual needs of the local communities. Allocation of resources will also be needs-based and prioritized.

In recognition of the role played by local authorities in the implementation of the MDGs, the ministry, in collaboration with ALGAK, will continue to build the capacity of local authorities to ensure efficient service delivery. This will encourage more local authorities to adopt CBMS as a planning tool.

The trainers who were trained on CBMS will assist in training more stakeholders in the country on the methodology.

## **UPSCALING OF CBMS IN KENYA**

The Ministry of Planning intends to upscale CBMS activities in Muranga Municipal Council and Kilifi Municipal Council.

The ministry will also continue supporting CBMS capacity-building activities in local authorities in the future.

It is thus clear that the CBMS is useful in identifying needs and poverty levels in local communities. It can, therefore, be utilized in the reduction of poverty and in monitoring the MDGs. The CBMS also improves governance and ensures proper utilization and allocation of resources.

