Impact of Hiked Prices of Food and Basic Commodities on Poverty in Cambodia: Empirical Evidence from Five CBMS Villages

Try Sothearith and So Sovannarith

EXECUTIVE SUMMARY
This study on the impact of hiked prices of food and basic commodities on poverty is designed as a follow-up to a Community-Based Monitoring System (CBMS) survey conducted in 2006 in five villages of Battambang, a province in northwest Cambodia. The survey used the original CBMS questionnaires and added a number of questions concerning the impacts of hiked prices and the strategies that people used to cope and to maintain the status quo of their livelihoods and food security. This follow-up survey creates panel data of 1,132 households surveyed in 2006 and again in 2008. The CBMS panel data proved to be a powerful and cost-effective tool for monitoring poverty and assessing the impact of hiked prices on poverty, food security, and the coping strategies that rural people used in response to hiked prices. In the long run, it may also become a useful tool in keeping track of community development, growth, and the challenges that a community faces during periods of hiked prices. It is useful as well in making local planning more effective and helping communities cope with unexpected shocks and crises as well as in the implementation of national policy.

Cambodia and other CBMS sites experienced higher prices when there were changes in the demand for, and prices of, petrol, food, and other consumer goods in the international market in 2008. All consumer goods in rural areas increased at an alarming rate—86 percent higher.

*Deputy Director of Demography Statistics Census and Survey of the National Institute of Statistics (NIS), Cambodia and CBMS-Cambodia Team Leader; and Research Fellow, Rural Development and Livelihoods of the Cambodian Development Research Institute (CDRI), Cambodia, respectively
than the national rate (34%) of inflation within the most recent three-year period. In September 2008, food and nonfood items, on average, were 94 percent and 71 percent more expensive, respectively, than in September 2005. However, this microstudy indicates that low prices for agricultural produce are the norm instead of high prices. After reaching their highest record of annual inflation at 37 percent in August 2008, the prices of food consumer items started to decline although they still remained at 32 percent in November 2008, higher than the same period in 2007.

During the period of higher prices, only about 23 percent of CBMS households were able to seize opportunities to increase their income. These included large landholding farmers, petty trade entrepreneurs, and moneylenders. About 77 percent of households, including the landless and the land poor who possess one hectare or less, were struggling to earn enough food for household consumption and became net buyers of food. Some of the affected households had to take their children out of school to help the family cope with food shortage or to sustain a business. Every family member had to work harder to earn enough income to offset higher food prices. About half of CBMS households reported taking out and using loans for food consumption rather than for productive purposes in the eight months prior to the survey in September 2008. Some had to sell productive assets or small plots of land in order to repay a loan or meet food needs. Others earned income by selling their labor when they became landless. Rising prices immediately resulted in food insecurity for many people and pushed small landholders into indebtedness as well as reduced the capacity of the poor to cope with future shocks or crises.

This kind of situation requires a stronger social safety net program to help small farmers remain in the producer group, help poor children stay in school, and help the poor and the vulnerable through better and more targeted policy intervention. The social safety net program can be implemented more effectively if the capacity of the commune council can be further enhanced and strengthened and if the council can be empowered to implement national policy.

Higher prices are often viewed both as a constraint and as an opportunity for farmers to increase agricultural diversification. Lack of savings, ineffective extension services, and imperfect markets are still obstacles to agricultural development. Small landholding farmers
are being pushed out of the producer group due to lack of adequate support. The findings from the CBMS survey support stronger commitment and timely intervention for small farmers and the poor. Policy action should accelerate the development of rural infrastructure such as roads and irrigation facilities. It should also promote effective extension service to support farmers in crop and livestock production. Community development planning and funding should include special social safety net programs and vocational training for the landless poor.

INTRODUCTION
Cambodia has strengthened its capacity to respond to abnormal inflation of food and nonfood prices in order to sustain growth, ensure food security, and reduce poverty. Prices of food and nonfood items along with the price of energy rose gradually since the middle of the last decade. The prices increased more rapidly after January 2008 and reached double digits between May and October 2008. Although the sharp rise in prices of consumer goods was checked after October 2008, the prices of many consumer and productive goods remained higher in December 2008 than the previous year. This abnormal phenomenon has provoked enormous policy debates and myriad responses to ensure food security and speed up the pace of poverty reduction in Cambodia.

Cambodia is one of the net importing countries of oil and various consumer goods, except rice. The integration of its economy with the international market has enhanced its economic performance and reduced poverty in the last decade or so. Any change in the demand for its produce and the prices of important products will unduly affect productivity and society as a whole. While economic and administrative reforms and infrastructure development are on track, Cambodia is still behind its neighbors in curbing shocks or seizing economic opportunities generated by rising prices. The recent fluctuation in prices has undermined the government’s efforts to reduce poverty. Like in other developing countries, the landless poor in Cambodia have been seriously affected. About 20 percent of the landless rural population is characterized as net food buyers. These people have to take a variety of measures to cope with higher prices, such as

reducing food consumption, which results in poor nutritional intake; taking their children out of schools; or working harder just to earn enough income to buy food commodities. In addition, 45 percent of Cambodians in rural areas are land poor, owning one hectare or less to grow rice for their own household consumption (Chan 2008). Rice growers are the dominant agricultural producers in the country. Many of the large-farm rice producers did not make any profits from selling their rice during the period covered by the price hikes since the price increase began after the harvests, and they had already sold their produce before the period of the price hike between July 2007 and July 2008. About 30 percent of Cambodia’s population, or 4 million people, are considered poor and are struggling to survive even though labor wages have been doubled or tripled in many cases. The irregular nature of available jobs have limited the people’s capacity to earn a stable income. As a result, children in poor households have to stop going to school to help earn income for the family and because their parents cannot continue to support their schooling any longer.

This study outlines the collective experiences of rural people in Cambodia in response to the abnormal inflation and change in prices of agricultural produce in the five CBMS sites. It is divided into seven sections. Section II lays out the research methodology and discussion of why the five CBMS sites were selected for this study. Section III discusses trends in the prices of food and nonfood items that are commonly consumed by the rural populace in Cambodia and the policy response of the government during the price hike. Section IV shows the impact of rising prices on poverty-reduction efforts at the village level while section V documents coping strategies in response to hike in food prices. Section VI presents the conclusion and policy implications from the micro perspective with a view to recommending more effective and appropriate interventions for coping with future abnormal economic phenomena like the price hikes discussed in this study.

RESEARCH METHODOLOGY
This study used the survey method to generate evidence of the positive and negative effects of surging prices on rural livelihoods and poverty
in the five CBMS sites. It was also designed to build on the CBMS method and create a panel household dataset (i.e., households that were interviewed in 2006 and again in 2008 for poverty monitoring and improving local planning in CBMS sites). The evidence from this microsurvey was expected to provide policy recommendations aimed at mitigating the negative effects and promoting the positive ones of the price hike. The study focused particularly on household experiences and poverty in the five CBMS sites. In addition, this study was also designed to increase understanding of the coping strategies that poor households used in response to hiked prices. Assessment was made to focus on any possible food shortages during the lean period (May-October 2008) and on existing interventions to prevent people from sliding deeper into poverty. As for the positive effects, local farmers and producers were assessed to determine whether they gained any benefits from the hiked food prices in terms of producing surplus that they could sell to increase their income and improve their food security. Some questions were added to the 2006 CBMS questionnaire to capture the changes in the livelihood conditions and constraints to long-term expansion of agricultural production.

**Site Selection**

With financial support from the CBMS network and the International Development Research Centre (IDRC), the 2006 survey was conducted in three communes of Krattie and Battambang province and six communes of Kompong Thom province. All villages and households were included in the 2006 survey. For the 2008 survey, Battambang was again selected since it is a fast-growing and developing area. It is also one of the rice surplus-producing provinces in Cambodia. In addition, Battambang province has experienced more dynamic economic activities and growth than the other two CBMS provinces. Five villages (Samraong Outrea, Bak Amraek, Svay Chrum, Reach Dounkeo, and Sdei Leu) under Phase I and II of CBMS sites were chosen from Prek Norint, Samrong Khnong, and Prek Luong Ek Phnom districts of Battambang province. Table 1 shows the number of total panel households and characteristics of each village.

The households interviewed in 2006 were also interviewed in September 2008 to create the panel household data made up of 1,132
Table 1. Village Selection Characteristics

<table>
<thead>
<tr>
<th>Village</th>
<th>NHHs</th>
<th>Commune</th>
<th>Village characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Svay Chrum</td>
<td>216</td>
<td>Prek Norin</td>
<td>Close to the market center; rice farming and petty trade are the main sources of income</td>
</tr>
<tr>
<td>Reach Dounkeo</td>
<td>150</td>
<td>Prek Norin</td>
<td>Remote; wet- and dry-season rice production and fishing are the main sources of income</td>
</tr>
<tr>
<td>Samraong Outrea</td>
<td>343</td>
<td>Samrong Khnong</td>
<td>Good road access and connection to market; sources of income are rice farming, fruit trees, and petty trade</td>
</tr>
<tr>
<td>Sdei Leu</td>
<td>234</td>
<td>Prek Luong</td>
<td>Sources of income are cash crops and wet-season rice farming</td>
</tr>
<tr>
<td>Bak Amraek</td>
<td>189</td>
<td>Prek Luong</td>
<td>Sources of income are wet- and dry-season rice farming and fishing</td>
</tr>
<tr>
<td>Total</td>
<td>1132</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

respondents and inform the findings that will shed light on the issues covered this study.

Design of Instruments
The questionnaires were developed and revised based on the previous CBMS questionnaire. As recommended during the meeting of the local CBMS team, individual information was used in this study. Items such as marital status, age, sex, literacy level, education, access to school, access to health care, reasons children drop out of school, occupation, child labor, disabilities, and price-related information were added to the questionnaires. The advisory team was consulted in the process of updating the instruments. The questionnaires were also pretested to uncover their weaknesses and form the basis for their revision. A total
of 156 indicators focusing on the impact of rising prices were included in the questionnaire.

Two forms were used in this study. Form A, the household listing form, was used to record preliminary information on the households and, at the same time, map each household in the village. This tool was used in conducting household interviews (Annex 1).

Form B, the household questionnaire, was used to collect a wide range of data. Basic data collected from each person included sex, age, relationship to the head of the household, education, and disabilities. The questionnaire also elicited information on the occupation and health of the individuals in the household as well as the physical condition of the house, energy sources used, source of drinking water, sanitation, household expenditures and income, animals taken care of by the members of the household, land ownership, occurrence of domestic violence, security and order, food, transportation, access to credit, employment, recreation, the well-being of the occupants of the household, any crises or “household disadvantages,” and the mortality rate of the household members (Annex 2).

The other forms used in data gathering were the house sticker, control form for the supervisor, summation sheet of daily supervision for the commune councilor, daily report form for the enumerator, and the form for age conversion.
Recruitment of Enumerators
Schoolteachers are usually employed to conduct the population census and to administer the general election in Cambodia. This survey employed schoolteachers as enumerators for one month during the school break.

Members of the village development committee, which has become part of the voluntary commune planning and budgeting committee, were recruited and trained by the commune councils and the supervisory team to become enumerators. Those with good quantitative skills were also trained in data processing.

The village chief was not considered for any substantial role in the survey because he could play a helpful role without being the interviewer. As in phase II, the village chiefs assisted the enumerators in pinpointing geographical locations and mapping and arranging appointments with households. Commune councilors served as supervisors, field editors, and did manual data processing and analysis as well.

Training Activities

Field Operation Training (Supervisors and Enumerators)
Thirty individuals, including village chiefs and commune councilors, were trained on data collection for three days. An extra day was included for pretesting of the questionnaire. It was found that the schoolteachers absorbed instructions more quickly than nonteachers. Former enumerators in CBMS phase II were also found to understand instructions quickly.

On the third day of the training, the participants were requested to interview one another using the household questionnaire. The respondent acted as head of household and was made to answer all the questions as read by the interviewer and then vice versa. The exercises using the questionnaires were collected and corrected by the lecturers (supervisory members). Feedback was solicited after each exercise and was discussed during the lecture. The exercises were done in all of the training sessions on data collection.
Pretests
The data-collection instruments were pretested for one day. Each enumerator was requested to interview at least two households, one small and one large, to gain experience in interviewing different household sizes. The pretesting aimed to get feedback from the enumerators and possibly rectify any unclear questions or omit questions that are not applicable. During the pretesting, supervisors and supervisory members observed every enumerator who was interviewing a particular household.

After each training session on data collection, training on pretesting was conducted to test the trainees on the following capabilities: (1) absorption, (2) strength capacity for field supervisors, (3) ability to encode for enumerators, and (4) accuracy in checking for local supervisors. After each pretesting session, feedback was discussed and adjustments and recommendations were made.

Pretesting made the questionnaire more accurate, which was beneficial to the conduct of the actual census. The enumerators and supervisors became well versed in interviewing, encoding, and checking for errors. Problems and constraints encountered during pretesting were easily solved since it was discussed in the presence of the advisory team.

Training on Manual Editing
Training on manual coding was conducted for commune councilors who were involved in the project. Completed questionnaires were checked and verified, and the answers were coded by trained commune council members. These commune council members were supervised by the district and provincial CBMS team members. After manual coding, the questionnaires were submitted to the provincial leader for automated processing.

Manual editing tools were developed. Manual editing is divided into three parts: (1) the enumerators check all questions and answers for every interview questionnaire in their village; (2) commune councilors (who are supervisors during data collection) check data gathered in their commune by using the instruction manual for editing data; and (3) district and provincial CBMS team members conduct preliminary checking of questionnaires at the districts before the questionnaires are accepted, even if the field supervisors have already
checked the questionnaires. All completed and checked questionnaires were sent to the National Institute of Statistics (NIS) for machine processing (data entry, analysis, and results). The instruction manual for manual editing and coding were printed in the Khmer language. All the data and results were translated into English before being sent to the CBMS network.

Training of Data Processors
At the NIS, the team selected and trained ten statistics officials to perform computerized data entry. An application frame in Statistical Package for the Social Sciences (SPSS) was developed and installed for them. The involvement of the statistics officials in this job was particularly helpful since some of them already had previous experience in data entry. However, there were not enough computers with the capacity for the SPSS program; thus, we had to use Excel instead.

Computer Processing
After manual data cleaning, data entry was done at the NIS. Before entering data, the CBMS team members at the NIS underwent training on the SPSS software. Training included data entry, data cleaning, and analysis. The CBMS supervisory team members from the central office supervised data entry and data cleaning. In case of errors, the concerned enumerator was requested to reinterview the household. Errors were mostly related to household income, expenditures, and assets.

The input documents were derived from the CBMS questionnaires, and the data entry system was designed to input data for each type of questionnaire separately. The household questionnaire (Form B) had two parts: the individual data file called the individual file (File A) and the household data file (File B). The listing form (Form A) and the household questionnaire (Form B) were used to create separate files for each village.

Analysis and Validation of the Survey Results
The most challenging part here was to determine the poverty line for each commune and the proportion of poor households in the village and commune. This was done on the basis of consumption expenditure
per capita in line with the adopted national definition. The poverty line (PL) was defined as follows:

- The national rural poverty line in 2004 was used as a base to generate the PL for 2006 and 2008.
- The PL was adjusted for rural inflation based on the 2005-2008 CDRI/NIS rural price survey covering 106 items.
- PL was determined to be 1,753 riels with 2004 as base:
  - PL 2006 = 2,079 riels (1,753 riels adjusted for 18.59% inflation between 2004 and 2006)
  - PL 2006 = 2,427 riels (1,753 riels adjusted for 38% inflation between 2004 and 2008)
- Movement in and out of poverty of panel households between 2006 and 2008

**TRENDS IN PRICES OF FOOD AND NONFOOD ITEMS**

**National Trends in Prices of Food and Nonfood Items**

Consumer prices in Cambodia remained somewhat stable between 2000 and 2003; however, prices increased beginning mid-2004 and reached the highest record between May and October 2008. Although the prices of consumer food items started to decline after reaching their highest recorded annual inflation rate of 37 percent in August 2008, prices still remained 32 percent higher in November 2008, which is higher than the same period in the previous year. Concerns about food security and poverty reduction in Cambodia stem from the increased prices of staple food, especially rice. Official statistics show that the price of rice has become more stable or at least has begun to decline from previous highs. However, the average price of rice in November 2008 was 2,780 riels per kilogram, which was still 77 percent higher than the same period in 2007. The price of meats such as pork, beef, and chicken remained 17 percent more expensive.

At the time this study was conducted, the official rural consumer price index (CPI) was not available from the Ministry of Planning. Therefore, for the purpose of this study, the authors used the change in prices from the CDRI price surveys of 106 food and nonfood items conducted in a number of village and district/provincial markets.
in October 2005 and again in March and September 2008. The survey suggests that the actual prices of all food and nonfood consumer items in rural areas were much higher than the national rate of price increase released by the government. All consumer goods in rural areas increased by 86 percent, which is alarming considering that the official CPI reported in Phnom Penh in the last three-year period was only 34 percent. The gap in the prices between urban and rural areas may be due to the high transaction cost and transportation cost of goods and services since infrastructure development is still in progress. Food and nonfood items, on average, were 94 percent and 71 percent higher, respectively, in September 2008 than the same month in 2005. This further increased by 13 percent for food and 30% for nonfood consumer items in rural areas.

Figure 1 shows the changes in the prices of selected agricultural commodities in Cambodia since mid-2005 along with increase in the price of oil and the increase in demand for cereal and oil crops in the international markets (FAO June 2008). High price events, like low price events, are not rare in agricultural markets and for farmers in Cambodia. High prices are often temporary compared to low prices, which persist for longer periods. What distinguishes the current situation for Cambodian farmers is the occurrence of higher prices of not just a select few but nearly all major food and other necessary commodities, and the possibility that prices may continue to remain high after the effects of the short-term shocks dissolve.

The recent price increases were driven mostly by changes in the demand for, and prices of, food and oil in the international markets where concerns about food security and poverty reduction are focused on the short-, medium-, and long-term impacts. The prices of food and other necessary commodities are historically highly volatile and started to rise along with the price of oil in 2003. The upward trend continued and reached double digits between 2007 and 2008 in most developing countries (ADB April 2008). Initial causes of the late-2006 price spikes included unseasonable droughts in grain-producing nations and rising oil prices. Oil prices further increased the cost of fertilizers, food transport, and industrial agriculture. The increasing use of biofuels in developed countries as a substitute for oil and the increasing demand

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1 Andrew Bounds (2007-09-10), "OECD Warns Against Biofuels Subsidies", Financial Times
for a more varied diet (especially meat) among the expanding middle-class populations of Asia also contributed to the price increase. All of these factors coupled with dwindling food stockpiles worldwide spurred the dramatic increase in global food prices. Short- and medium-term causes and their impacts on poverty reduction in developing countries remain a topic of debate in discussions on poverty reduction, inequality, and growth in developing countries. These may include structural changes in trade and agricultural production, agricultural price support and subsidies in developed nations, diversion of food commodities to high-input foods and fuel, commodity market speculation, and climate change.

**Figure 1. Trend in Prices of Selected Agricultural Products, January 2000-November 2008**

![Price Trend Graph]

Source: CPI, NIS, Ministry of Planning

**Government and Donor Responses to Rising Prices to Ensure Food Security and Sustain Growth for Poverty Reduction**

The Cambodian government and other donors crafted an immediate policy in response to the food crisis to ensure sustainable growth for poverty reduction. The policy measures included a US$3.5-million fund from the government and the Asian Development Bank (ADB)
for food security, a temporary prohibition on the export of paddy rice in order to increase internal stocks, and the sale of low-priced paddy rice to the poor before the 2008 national election. To increase employment and provide support to labor migrants, the government in late 2008 decided to issue passports to Cambodian cross-border migrants free of charge and encouraged recruitment companies to allow labor migrants to pay visa fees on credit. In addition, a health equity fund was established for the poor in 2007, which gave them better access to health care. The government also subsidized advanced farming practices that increase agricultural productivity, a measure meant to benefit agricultural producers. It also drew up an import policy for agricultural machinery and committed itself to further boosting agricultural growth through infrastructure development and other development strategies.

**Farm Productivity and the Rising Prices of Farm Inputs**

Prices of farm inputs such as fuel, transportation, fertilizers, and wage labor also increased at an alarming rate. For example, in May 2008, gasoline and diesel prices increased by 50 percent and 80 percent, respectively, higher than the same period in 2007. At the same time, the price of fertilizers increased by 80 percent to 200 percent and wage labor by 50 percent. The increase in the prices of farm inputs jacked up production costs by 30 percent for dry-season rice; by 70 percent for wet-season rice; and by 45% for maize, cassava, and soybean between May 2007 and May 2008. Higher cost of farm inputs and inadequate irrigation were cited as limiting factors to agricultural intensification and diversification in the CBMS sites.

Table 2 shows the rice yield for the crop calendar 2007-2008 of landholding groups in each of the villages included in this study. On average, farmers in the CBMS villages produced around 2,380 kilograms of paddy rice per hectare. This yield was higher than the national average 1,889 kilograms of rice per hectare for wet-season rice. In contrast, the yield obtained by CBMS farmers for dry-season rice was lower than the national average of 3,684 kilograms per hectare in the same harvest season of 2008. While most CBMS villages obtained

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4 Quoted from Chan Sophal and Phim Runsinirth's Presentation at CDRI, 12 August 2008
good harvest due to good weather conditions, Samraong Outrea experienced the lowest yield of paddy rice. Despite adequate rain, about 68 percent of farming households in Samraong Outrea reported lower returns from their farming activities while 22 percent reported the same volume of returns. A remarkably smaller proportion of farming households in the other village experienced a decline or no change in the yield of paddy rice obtained in the same harvest period.

Only farmers with large landholdings, traders, and dry-season rice growers benefited from the opportunities generated by the hiked food prices (CDRI 2008; Fitzgerald and So 2007). In CBMS sites, only 11 percent of farming households that grew dry-season rice gained from the higher prices of paddy rice by selling some of their harvest. Therefore, the large majority of farmers who were wet-season rice growers did not gain anything from the price hikes, or if they did, made only meager marginal profits because of high production costs. Small landholding farmers were more productive than large landholding farmers in terms of the amount of paddy rice harvested per hectare (table 2). However, only 20 percent of small farmers who cultivated one hectare or less of rice land compared to 47 percent of large landholding farmers reported obtaining better returns from their rice farming at the time of the survey than the previous year. Again, this was due to rising prices and demand for paddy rice.

About half of small farmers could not afford the higher prices of farm inputs to increase farm productivity and experienced no change in their yield of paddy rice and lower net profits from their rice farming (figure 2). Chan (2008) said that while increasing demand and rising prices of agricultural produce opened up economic opportunities for many farmers in other areas of the country to produce surplus for sale, such opportunities were not cited by the village leaders and panel households in CBMS sites. In contrast to dry-season rice growers, the large majority of wet-season rice growers did not gain anything from the higher price of paddy rice since most of them had to sell their produce immediately after harvest or before the price of rice started to rise in February 2008.

Unpredictable changes in the price of agricultural produce and farm inputs are the most common constraint to agricultural growth and development in CBMS sites. These changes also limit Cambodian
farmers’ response to rising prices. High prices of, and high demand for, farm produce are often temporary while high prices of farm inputs persist for a longer period. This is to be expected since most farm inputs are imported from neighboring countries, and the cost of these inputs need to be adjusted based on the prevailing price of fuel and

Table 2. Rice Yield of Landholding Groups by Village, 2008

<table>
<thead>
<tr>
<th>Village</th>
<th>&lt;0.5 ha</th>
<th>0.5-0.99 ha</th>
<th>1-1.99 ha</th>
<th>2-2.99 ha</th>
<th>&gt;3 ha</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Svay Chrum</td>
<td>3,425</td>
<td>2,300</td>
<td>2,122</td>
<td>1,379</td>
<td>1,273</td>
<td>2,509</td>
</tr>
<tr>
<td>Reach Dounkeo</td>
<td>4,201</td>
<td>1,754</td>
<td>2,092</td>
<td>1,812</td>
<td>1,638</td>
<td>2,610</td>
</tr>
<tr>
<td>Samraong Outrea</td>
<td>2,291</td>
<td>1,801</td>
<td>1,623</td>
<td>1,918</td>
<td>1,686</td>
<td>1,967</td>
</tr>
<tr>
<td>Sdei Leu</td>
<td>3,598</td>
<td>2,056</td>
<td>1,711</td>
<td>1,700</td>
<td>1,471</td>
<td>2,565</td>
</tr>
<tr>
<td>Bak Amraek</td>
<td>3,172</td>
<td>1,555</td>
<td>1,694</td>
<td>1,750</td>
<td>1,687</td>
<td>2,455</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>3,181</td>
<td>1,914</td>
<td>1,828</td>
<td>1,730</td>
<td>1,515</td>
<td>2,380</td>
</tr>
</tbody>
</table>

Figure 2. Changes in Rice Income by Landholding Households Compared to the Previous Cropping Calendar in 2006-2007 (% of 448 respondents)

Farmers’ response to rising prices. High prices of, and high demand for, farm produce are often temporary while high prices of farm inputs persist for a longer period. This is to be expected since most farm inputs are imported from neighboring countries, and the cost of these inputs need to be adjusted based on the prevailing price of fuel and...
transportation. In addition, farmers often lack savings and therefore have to take out loans either from microcredit or microfinancing institutions (MFI) or from private moneylenders or traders. MFIs continue to provide small loans to farmers at an affordable monthly interest rate of 3 percent. Many farmers in CBMS sites have to buy farm inputs on credit or take out a loan with a monthly interest of 10 percent to 15 percent and promise to sell their harvest to their private credit providers who, in most cases, are traders or merchants. In such cases, many small landholding farmers who often cannot afford increased production expenditures or make just very marginal gains from their rice production find rice farming not worth the effort. Others simply decide to sell their small plots of land and are evicted from the producer groups (Table 3).

**Table 3. Percentage of Households with No Agricultural Land**

<table>
<thead>
<tr>
<th>Village</th>
<th>2006</th>
<th>2008</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Svay Chrum</td>
<td>45</td>
<td>47</td>
<td>2</td>
</tr>
<tr>
<td>Reach Dounkeo</td>
<td>33</td>
<td>39</td>
<td>6</td>
</tr>
<tr>
<td>Samraong Outrea</td>
<td>45</td>
<td>50</td>
<td>5</td>
</tr>
<tr>
<td>Sdei Leu</td>
<td>35</td>
<td>38</td>
<td>3</td>
</tr>
<tr>
<td>Bak Amraek</td>
<td>44</td>
<td>40</td>
<td>-4</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>44</td>
<td>3</td>
</tr>
</tbody>
</table>

**Impacts of Hiked Prices on Food Security**

In CBMS sites, about 56 percent of the total 1,132 panel households were farmers. The rest of households (44%) are landless and get their livelihood from off-farm income-generating activities. Almost half (60%) of rice-producing households that cultivated one hectare or less of land produced just enough rice for a maximum of 4 to 6 months a year. This means they were also net buyers of rice especially between May and October 2008. Only about 21 percent of rice farmers produced enough rice for household consumption; another 19 percent of rice farmers produced surplus rice for sale at high prices (Table 4).
Nonetheless, about 77 percent of the households in CBMS villages were the net buyers of rice between May and October 2008. This percentage included landless households (44%) and small farmers (33%) who cultivated less than one hectare of land and could not produce enough rice for household consumption. This group of net buyers were the ones most affected by the rising prices of food and other necessary consumer items.

**Table 4. Average Yield and Total Production by Size of Landholding Households**

<table>
<thead>
<tr>
<th>Landholding size</th>
<th>NHH</th>
<th>% HH</th>
<th>Yield (Kg/ha)</th>
<th>Total Production (Kg/hh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;0.5 ha</td>
<td>272</td>
<td>43</td>
<td>3,181</td>
<td>820</td>
</tr>
<tr>
<td>0.5-0.99 ha</td>
<td>104</td>
<td>16</td>
<td>1,914</td>
<td>1,408</td>
</tr>
<tr>
<td>1-1.99 ha</td>
<td>136</td>
<td>21</td>
<td>1,828</td>
<td>2,195</td>
</tr>
<tr>
<td>2-2.99 ha</td>
<td>59</td>
<td>9</td>
<td>1,730</td>
<td>3,733</td>
</tr>
<tr>
<td>&gt;3 ha</td>
<td>65</td>
<td>10</td>
<td>1,515</td>
<td>7,199</td>
</tr>
<tr>
<td>Total</td>
<td>636</td>
<td>100</td>
<td>2,380</td>
<td>2,132</td>
</tr>
</tbody>
</table>

**Increased Incomes and Household Food Security**

According to CBMS panel data, food expenditure or consumption accounted for about 63 percent of total household expenditure in 2008, a decline from the 73 percent of total household expenditure in 2006. This figure suggests a general improvement in the well-being of people in CBMS villages. The proportion of food to nonfood expenditures changes when households have better income. According to a national survey on the impact of rising prices on food security conducted by CDRI in mid-2008, an increase of about 47 percent in income was enough to offset rising food prices between 2007 and 2008. Figure 3 shows the real per capita income (PCI) of CBMS panel households by landholding groups and changes in the PCI between 2006 and 2008. All landholding groups dramatically increased their PCI between 2006 and 2008. Nonetheless, only about 23 percent of CBMS households with more than one hectare of land enjoyed an average annual growth in PCI of more than 50 percent a year. The landless and the land poor (who own one hectare or less) reported an annual growth...
Figure 3. Real Per Capita Income and Percentage Changes, 2006-08

About 23% percent of CBMS households with annual income growth of over 50% or more needed for offsetting increased food prices.

Table 5. Adequacy of Income of Landholding Groups 8 Months Before September 2008 (% of 1,132 panel households)

<table>
<thead>
<tr>
<th>Landholding size</th>
<th>Income for Household Expenditure</th>
<th>Food Shortage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Enough</td>
<td>Not enough</td>
</tr>
<tr>
<td>Landless</td>
<td>13.5</td>
<td>86.3</td>
</tr>
<tr>
<td>&lt;0.5 ha</td>
<td>15.4</td>
<td>84.2</td>
</tr>
<tr>
<td>0.5-0.99 ha</td>
<td>24.0</td>
<td>75.0</td>
</tr>
<tr>
<td>1-1.99 ha</td>
<td>39.7</td>
<td>60.3</td>
</tr>
<tr>
<td>2-2.99 ha</td>
<td>39.0</td>
<td>61.0</td>
</tr>
<tr>
<td>&gt;3 ha</td>
<td>53.3</td>
<td>44.6</td>
</tr>
<tr>
<td>Total</td>
<td>21.7</td>
<td>77.9</td>
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</tbody>
</table>

rate in PCI of 29 percent to 40 percent, which is lower than the level needed to offset the increase in food prices (Figure 3).
The respondents were also asked whether they earned enough to meet household expenditures and if they ever faced any food shortage in the eight months prior to the survey period in September 2008. The answers are summarized by landholding group in Table 5. The responses again confirmed that any increase in the income of the landless and the small landholders was not sufficient to offset rising food prices in the eight months prior to the survey. Rising food prices pushed 33 percent of CBMS households into food insecurity. About 41 percent of the landless and approximately 30 percent of the small landholding farmers experienced food shortage since most of them depended heavily on unreliable income from selling their labor.

**Impact on Poverty Reduction at the Village Level**

While hiked prices between late 2007 and October 2008 affected every aspect of life, the poor were the hardest hit since majority of them were either landless or land poor (owning one hectare of land or less) with limited ability to earn enough income to offset higher food prices. No official poverty data was available for 2008. The CSES 2004, however, showed that 27 percent of households in Battambang were considered poor in 2004. At 1 percent rate in poverty reduction (World Bank 2006), poor households should have been reduced from 27 percent in 2004 to approximately 23 percent in 2008. A total of 42,775 poor households or 269,217 individuals in this province were considered poor. They were more likely to be negatively affected by rising prices between January and October 2008.

Table 6 shows the proportion and changes in poor households in the five CBMS villages between 2006 and 2008. Poverty incidence in CBMS villages was reduced by 15 percent, on average, over this three-year period. Four out of five study villages experienced some reduction in poverty: Reach Dounkeo by 4 percent; Samraong Outrea by 27 percent; and Svay Chrum by 16 percent. In 2008, about 43 percent of total households in CBMS villages, higher than the average provincial statistics, were poor and more likely to be hit hard by rising prices.

Table 6 also suggests that the impact of higher prices varied according to the specific location of CBMS villages. People in Svay Chrum, which is closer to the market center, suffered the most from higher prices due to the increase in the number of poor households. Villages dependent on agriculture such as Sdei Leu and Bak Amraek,
fared relatively well in the midst of rising food prices because the households were able to sell farm produce. This directly contributed to the high rate of poverty reduction in these villages. In contrast, higher prices slowed down poverty reduction in the remote village of Reach Dounkeo.

Table 6. Poverty Head Count and Village Characteristics, 2006-08

<table>
<thead>
<tr>
<th>Village</th>
<th>Poverty Head Count</th>
<th>Change</th>
<th>Village characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Svay Chrum</td>
<td>216</td>
<td>16</td>
<td>Close to the market center; rice farming and petty trade are main sources of income</td>
</tr>
<tr>
<td>Reach Dounkeo</td>
<td>150</td>
<td>-4</td>
<td>Remote village; wet- and dry-season rice production and fishing</td>
</tr>
<tr>
<td>Samraong Outrea</td>
<td>343</td>
<td>-27</td>
<td>Good road access and connection to market; rice farming; fruit trees and petty trade</td>
</tr>
<tr>
<td>Sdei Leu</td>
<td>234</td>
<td>-23</td>
<td>Cash crop and wet-season rice farming</td>
</tr>
<tr>
<td>Bak Amraek</td>
<td>189</td>
<td>-25</td>
<td>Wet- and dry-season rice farming and fishing</td>
</tr>
<tr>
<td>Total</td>
<td>1132</td>
<td>-15</td>
<td></td>
</tr>
</tbody>
</table>

Good road access and connection to market for selling farm produce and petty trading helped reduce poverty faster in Samraong Outrea compared to the other villages. This study also notes the important role of infrastructure development, such as the recent construction of roads and irrigation dams, in buttressing rural
livelihoods against the negative impacts of rising prices of consumer goods. Infrastructure development promotes agricultural intensification and diversification, trading, and labor migration. This argument is supported by the movement in and out of poverty summarized in Table 7.

Table 7. Movement In and Out of Poverty of Panel Households, 2006 and 2008 (% of 1,132 households)

<table>
<thead>
<tr>
<th>Village</th>
<th>Stayed nonpoor</th>
<th>Moved out of poverty</th>
<th>Fell into poverty</th>
<th>Stayed poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Svay Chrum</td>
<td>47</td>
<td>10</td>
<td>25</td>
<td>18</td>
</tr>
<tr>
<td>Reach Dounkeo</td>
<td>9</td>
<td>23</td>
<td>19</td>
<td>49</td>
</tr>
<tr>
<td>Samraong Outrea</td>
<td>27</td>
<td>36</td>
<td>9</td>
<td>27</td>
</tr>
<tr>
<td>Sdei Leu</td>
<td>35</td>
<td>27</td>
<td>4</td>
<td>34</td>
</tr>
<tr>
<td>Bak Amraek</td>
<td>25</td>
<td>34</td>
<td>9</td>
<td>31</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>27</td>
<td>13</td>
<td>30</td>
</tr>
</tbody>
</table>

Percentage of households who moved out of poverty between 2006 and 2008 was found to be higher in villages with good road access and connection to markets (e.g., Samraong Outrea) and villages with irrigation for the production of dry-season rice and cash crops (e.g., Bak Amraek). In contrast, in villages where a large proportion of household income came from off-farm activities and where households bought food from markets (e.g., Svay Chrum and the remote village of Reach Dounkeo), there was a relatively higher proportion of people that fell into and remained stuck in poverty.

**HOUSEHOLD COPING STRATEGIES**

**Use of Child Labor**

In the CBMS sites, 128 households (11% of the panel households) withdrew their children from schools so that the children could help earn additional income for the family. It is surprising that among the villages under study, increased incidence of child labor was high in
areas where there is fast growth and development. The number of migrants searching for employment in urban areas or selling labor along the Cambodia-Thai border or inside Thailand has been increasing since the late 1990s. This gradually became the more important and dominant source of household income for the CBMS villages in 2008.

According to village leaders consulted during the survey, the number of households that encouraged their children to take time off from school to help in running the family business or to collect edible items from common fields could be higher than 11 percent. Since more and more people are searching for work outside the villages, there has also been some labor shortage for farming. Such shortage has been filled in by either elderly or child labor. Wages for translation and ploughing were two to three time more expensive at the time of the survey compared to two or three years ago. Farm inputs such as fertilizers and chemical pesticides were also expensive. To save money, children and the elderly became valuable assets as far as providing labor is concerned; every household member has had to work hard to cope with rising food prices. The situation was even worse for children whose parents are migrant laborers. Because some migrant laborers also bring their children along to work sites, these children have been unable to benefit from the government’s free universal education for all and from the free food provided to poor children in schools. All respondents and village leaders interviewed wished for the prices of food commodities to go down.

**Credit Access and Use**

Rising prices of food and other goods pushed many CBMS households into indebtedness. About half of the CBMS panel households took out loans from either MFIs or relatives in the eight months prior to the survey in September 2008. About 53 percent of the poor households and 48 percent of nonpoor households had outstanding loans. Of the 565 households who took out loans within the eight-month period prior to the survey, 51 percent used the loan to support business accounts; 29 percent used it to buy food; and 17 percent used it for health care purposes.
Table 8. Uses of Loans by Poor and Nonpoor Households in the Last 8 Months (% of 565 households with outstanding loans)

<table>
<thead>
<tr>
<th></th>
<th>Nonpoor</th>
<th>Poor</th>
<th>Total</th>
<th>Nonpoor</th>
<th>Poor</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MHH</td>
<td>FHH</td>
<td>Total</td>
<td>MHH</td>
<td>FHH</td>
<td>Total</td>
</tr>
<tr>
<td>Farming</td>
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<td>3</td>
<td>4</td>
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<tr>
<td>Support business</td>
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<td>47</td>
<td>51</td>
<td>52</td>
<td>48</td>
<td>51</td>
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<td>30</td>
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<td>21</td>
<td>24</td>
<td>22</td>
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<td>12</td>
<td>11</td>
</tr>
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<td>3</td>
<td>0</td>
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<td>1</td>
</tr>
<tr>
<td>Resolving conflicts</td>
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<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
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<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
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<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Figure 4. Source of Loans (% of 565 Households With Standing Loans)
Table 8 further shows who between the male and female heads of the poor and the nonpoor households actually used the loans and for which purpose. During the period of higher prices of food and other consumer items, both the poor and nonpoor used their loans to sustain their businesses, especially when the demand for their services declined. Among the nonpoor households, the proportion of male household heads that used the loan to buy food and access health care was relative higher than the proportion of female household heads that did the same. This may be because there are fewer female earners, and females have lower incomes. However, in the poor groups, there was only minimal difference between households headed by males and females.

The survey also suggests that a lower proportion of female-headed households borrowed money to sustain business than male-headed households during the period of hiked prices. In rural areas, women play critical roles in running small businesses and are held in high regard as far as financial management for the family is concerned. This may be the reason why females can somehow manage to use their savings to sustain their businesses before taking out loans. A critical point to note here is the recent growth of MFIs in the last two or three years. MFIs have been more active in providing loans to the poor at an affordable monthly interest rate of 3 percent and have been cited as a great help during the time of rising food prices. About 67 percent of the poor have access to MFI loans for both productive and consumption purposes at much lower interest rates than what is typically charged by private moneylenders, which is 10 percent to 15 percent (or even higher) per month if they borrow cash or in kind.

Selling Lands
About 4 percent of CBMS households decided to sell their land or other assets within the eight-month period prior to the survey in order to repay loans or set up or sustain businesses. In addition, about 10 percent of households had to seek additional jobs or work harder in order to earn enough income to buy food. Nonetheless, 24 percent of the poor and 21 percent of the nonpoor became reported becoming worse off, while around 71 percent of the poor and nonpoor were able to sustain their livelihoods. Only 5 percent of the nonpoor and 2
percent of the poor households were able to improve their lives during the period of hiked prices; about 4% were uncertain if they were able to maintain the status quo or not.

CONCLUSION AND POLICY IMPLICATIONS

The findings from CBMS survey confirmed a number of key lessons about people’s experiences in responding to the recent phenomena of hiked prices of food and other basic commodities. First, the prices of food and other basic commodities still remained relatively high after they peaked at double digits—the highest in the history of inflation—since the mid-2000s. Although the CBMS villages are located in the surplus-rice-producing area of Battambang province, only about 23 percent of the CBMS households characterized as large rice farmers, petty traders, or moneylenders were able to seize the opportunity generated by rising prices to produce surplus for sale or to increase income. In contrast, about 77 percent of the landless and land-poor (with one hectare of land or less) households were or became net food buyers during the period of hiked food prices. Many of these households did not earn enough income to offset the price increases and to meet basic household expenditures. Household members had to work harder to earn money to buy food. Food insecurity became rampant.

Second, in response to rising prices, many children were pulled from schools to help augment family income. Aside from children, the elderly were also put to work in order to contribute to household income for food and other basic household expenditures. Many people migrated out of their villages in search of work to cope with the high cost of living. Many households also took out loans to support businesses, purchase food items, and access health care. In many cases, rising prices contributed to the increase of landless households in the CBMS villages.

The most striking impact of rising prices on poverty was to worsen food insecurity, make the poor poorer, and push many rural people into debts they would find difficult to pay off. Rising prices also negatively affected Cambodia’s human capital in the following aspects: education, health, loss of productive assets, and reduced capability of small landholders and the poor to cope with future shocks or crises. This situation requires a stronger social safety net program to help
small farmers remain in the producer group, poor children to stay in school, and better (and more targeted) policy intervention to support the poor and the vulnerable. The social safety net program can be implemented effectively with the involvement of local authorities or if the capacity of the commune council can be further enhanced and strengthened in favor of the poor, good governance, and the implementation of national policy.

Third, like other rural villages, CBMS farmers and villagers are connected to, or at least are no longer isolated from, changes in the global market. This is because the CBMS villages are located in the fast-growing Battambang province. Located in northwest Cambodia, Battambang province boasts remarkable infrastructure development and cross-border formal and informal trade with Thailand. Agricultural producers should seize this lucrative opportunity to increase production and diversification. The critical constraints to agricultural growth, however, persist in CBMS villages in the form of lack of agricultural know-how, irrigation, and effective extension services. The growth of MFIs so far has been highly appreciated by CBMS villagers for both productive and consumption purposes. The amount of loans provided and the availability of services have been effective enough to respond to the needs of small farmers and business entrepreneurs in rural areas. A long-term strategy should be put in place to build the capacity of small farmers in overcoming barriers to production, such as the high cost of fertilizers, labor shortage, poor irrigation, and inadequate road access.
References


Fitzgerald, Ingrid & So Sovannarith (September 2007). “Moving Out of Poverty?: Trends in Community Well-Being and Household Mobility in Nine Cambodia Villages” (Phnom Penh: CDRI)


Annex 1. Change in the Returns from Rice Crops

<table>
<thead>
<tr>
<th>Village</th>
<th>Landholding</th>
<th>Increased</th>
<th>Decreased</th>
<th>Same</th>
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<td>26</td>
<td>47</td>
<td>26</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>0.5-0.99 ha</td>
<td>24</td>
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<td>65</td>
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</tr>
<tr>
<td></td>
<td>1.99 ha</td>
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<td>27</td>
<td>33</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>2-2.99 ha</td>
<td>71</td>
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<td>0</td>
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</tr>
<tr>
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</tr>
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<td>Total</td>
<td>26</td>
<td>47</td>
<td>26</td>
<td>100</td>
</tr>
<tr>
<td>Reach Dounkeo</td>
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<td>15</td>
<td>23</td>
<td>62</td>
<td>100</td>
</tr>
<tr>
<td></td>
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<td>44</td>
<td>6</td>
<td>50</td>
<td>100</td>
</tr>
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<td>33</td>
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</tr>
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<td>&gt;3 ha</td>
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<td>68</td>
<td>22</td>
<td>100</td>
</tr>
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<td>46</td>
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<td>100</td>
</tr>
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<td>59</td>
<td>18</td>
<td>100</td>
</tr>
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<td>21</td>
<td>14</td>
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<td>35</td>
<td>18</td>
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<td></td>
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<td>28</td>
<td>43</td>
<td>30</td>
<td>100</td>
</tr>
<tr>
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<td>33</td>
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</tr>
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<th>Petty Trade</th>
<th>CPR</th>
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<td>5</td>
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</tr>
<tr>
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<td>45</td>
<td>6</td>
<td>1</td>
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<td>2</td>
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</tr>
<tr>
<td>Samraong Outrea</td>
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<td>49</td>
<td>15</td>
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<td>8</td>
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<td>23</td>
<td>7</td>
<td>5</td>
<td>5</td>
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Annex 3. Reasons for Borrowing Money

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### Annex 4: Changes in Status of Living of Poor and Nonpoor Households at the Time of Survey vis-à-vis 8 Months Prior

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<th>Normal</th>
<th>Worse</th>
<th>No</th>
<th>Total</th>
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<table>
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