

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

By

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Executive Summary

The study of impact of hiked prices of food and basic commodities on poverty is designed as a follow up CBMS survey in 2006 in five villages of Battambang or a Northwest province of Cambodia. The survey used the original CBMS questionnaires and added a number of questions concerning the impacts of hiked prices and coping strategies that people used to be able to cope and retain status quo of their livelihoods and food security. This follow up survey creates a panel data of 1,132 households surveyed in 2006 and again in 2008. The CBMS panel data prove to be a powerful and cost effective tool for not only monitoring poverty but also assessing the impact of hiked prices on poverty, food security and coping strategies that rural people used in response to hiked prices. In the long run, it also a useful tool to be able to keep track of community development, growth and the challenges that each community faces during periods of experiencing hiked prices. It is useful as well for effective local planning and implementation of national policy for a stronger community to be able to cope with any unexpected shock and crisis.

The hiked prices in Cambodia and in CBMS sites occurred when there were changes in demand and prices of patrol, food and other consumer goods at the international market. All consumer goods in rural area increased at a more alarming rate, by 86 % higher than national rate (34 %) of inflation the last three year periods. Food and non-food items, on average, were 94 % or 71 % in September 2008 were more expensive than September in 2005. High price for agricultural produce, however, is often short lived compared to low prices as being indicated by this micro-study. Despite the price of food consumer items start to decline after reaching it highest record of annual inflation rate at 37 % in August 2008, it still remains 32 % in November 2008 higher than a year ago.

During the hiked prices, only about 23 % of CBMS households were able to seize opportunities to increase their income. These people were large landholding farmers, petty trade and/or money lenders. About 77 % of households including the landless and land poor who hold one hectare or less were and become net buyers of food were struggling to earn enough food for household consumption. Some of the affected households had to take their children out of school to help family cope with food short-shortage or to sustain a business. Every family member has to work harder to earn enough income to offset increased rate of food prices. About half of CBMS households reported to take and used loan for food consumption rather than for productive purpose in the last eight months prior to the survey period in September 2008. Some have to sell out their productive assets or small plots of land in order to repay a loan, sustain food needs and relieved on income from selling labour when they become landless. The rising price has immediately resulted in food insecurity for many people and push small landholders into indebtedness and deteriorated the capacity of the poor to cope with any future shocks or crises.

This requires a stronger social safety net programme to support the smaller farmers to remain in the producer group, poor children to stay in school, and better targeting policy intervention to support the poor and vulnerable. The social safety net programme can be implemented more effectively if the capacity of commune council can be further enhanced and strengthened and empowered to implement national policy.

The higher prices is often viewed as constraints and opportunities to farmers to increase agricultural intensification and diversification. Lack of saving, ineffective extension services and imperfect markets are still obstacles to agricultural development. Therefore, small landholding farmers have been eventually pushed out of producer group since they have not

received adequate support. The findings from the CBMS survey support stronger commitment and timely intervention to support small farmers and the poor. The policy action should accelerate efforts of rural infrastructure development: road and irrigation facilities, outreaching effective extension service to support both crops and livestock production. For landless poor, however, special social safety programme and vocational training should be reflected in the community development planning and funding.

Acknowledgement

The authors are grateful to all the people in three communes under study (Prek Norint, Samrong Khnong, and Prek Luong communes from Ek Phnom district of Battambang province) most especially to the heads of villages, commune council members, and government officials from the provincial Department of Planning. Without their contribution, this study would not have been possible. We are grateful to IDRC and CBMS International Network for providing funding support for the project. Many thanks to H.E. Mr. San Sy Than, The Director General of the National Institute of Statistics for the unending support and proper motivation given to the team. Finally, many thanks to Dr. Celia Reyes PEP-Co Director and CBMS Network Leader, for her valuable comments and support.

Acronyms

CBMS	Community-Based Monitoring System
NIS	National Institute of Statistics
PL	Poverty Line
CDRI	Cambodia Development Resource Institute
CPI	Consumer Price Index
ADB	Asian Development Bank
MFI	Micro-Finance Institution
CSES	Cambodia Socio-Economic Survey

I. Introduction

Cambodia has strengthened its capacity in order to respond to abnormal inflation of food and non food prices for the purpose of sustainable growth, securing food security and poverty reduction. Prices of food and non food items rose gradually since the mid 2000 along with the rising price of energy, and suddenly increased more rapidly after January 2008 and reached double digits between May and October 2008. Although the prices of consumer goods show reversed trends after October 2008, many consumer and productive goods in December 2008 remained higher than one year earlier. This abnormal phenomenon has provoked enormous policy debates and responses to retain food security and speed of poverty reduction in Cambodia.

Cambodia is one of the net importing countries in terms of oil and many recorded consumer goods except rice¹. The integration of its economy to international market has enhanced economic performance and poverty reduction of the country in the last decade or so. Any change in demands of its produce and prices of important products will unduly affect the productivity and society as a whole. While the economic and administrative reforms and infrastructure development are on progress, Cambodia is still behind its neighbouring countries to curb with any shocks or seize economic opportunities generated by rising prices. The recent fluctuation in prices has somehow undermined the government efforts of poverty reduction is obvious through many dimensions. Like other countries the poor landless are hardly affected. For subsistence site of the effect of hiked prices, about 20 % of rural population who are landless are characterised as net food buyers. They have to take a variety of measures such as reducing food consumption and therefore result in poor nutritional intake, or taking children out of schools or even working harder to earn enough income to buy food commodities. In addition, 45 % of the Cambodians in the rural areas are land poor, they own one hectare or less to grow rice for own household consumption (Chan 2008). Rice growers accounted for dominant agricultural producers in the country. Most of large farm rice producers did not make any profits from selling their rice since the rising price began after the harvests and they had already sold out their produces before the time of rising prices between July 2007 and July 2008. About 30 % of its population or 4 million people who are poor are struggling to earn meagre income to survive although the wage labour has been doubled or tripled in many cases and irregular jobs has limited their earning ability. As a result, poor children are taken off from the school to help earn income for buying food items or since their parents cannot continue to support their schooling fees².

This article draws the evidences of rural people's experiences in response to abnormal inflation and change in prices of agricultural produce in the five CBMS sites. It is divided into 7 sections. Section II lays out the research methodology and discussion of why five CBMS sites were selected for the purpose of the study. Section III discusses trends in prices of food and non-food items that are commonly consumed by rural dwellers and reflects government policy responses when the prices rose. Section IV show the impact of rising prices on poverty reduction at the village level while section V documents coping strategies in response to the hiked food prices. Section VI is the conclusion and policy implication from the micro perspectives for more effective and appropriate interventions to curb with the hiked prices or any upcoming abnormal economic phenomena.

¹ http://www.un.org.kh/attachments/060_RisingFoodPrices-UN_DiscussionPaper_June%202008.pdf

² <http://www.caritascambodia.org/document/csostatement.pdf>

II. Research Methodology

This study was designed to use a survey method in order to generate evidences of both positive and negative effects of surging prices on rural livelihoods and poverty in five CBMS sites. In addition, it was also designed to build up on CBMS method and create a panel household dataset or households that were interviewed in 2006 and again in 2008 for poverty monitoring and improving local planning in CBMS sites. The evidences from this micro survey were expected to provide policy recommendations to mitigate the negative effects and promote the positive ones. The focus was particularly given to household experiences and poverty in the five CBMS sites. In addition, this is designed to understand coping strategies that the poor households used in response to hiked prices. Assessment was made to focus on any possible food shortages in the lean period (May-October 2008) and on existing interventions to prevent people from falling and deepening into poverty. As for the positive effects, local farmers and producers were assessed whether they were able to gain any benefits from the hiked food prices to produce surplus for sale to increase income and improve food security. Some questions were added to the CBMS questionnaire in 2006 to capture the changes in the livelihood conditions and constraints for longer term expansion of agricultural production for both curbing with any unexpected shocks and boosting agricultural and rural development.

2.1. Site Selection

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

1. Village selection characteristics

Village	NHHs	Commune	Village characteristics
Svay Chrum	216	Prek Norin	Close to the market centre, rice farming and petty trade are main source of income
Reach Dounkeo	150	Prek Norin	Remote village, wet and dry season rice and fishing
Samraong Outrea	343	Samrong Khnong	Good road access and connection to market, rice farming, fruit trees and petty trade
Sdei Leu	234	Prek Luong	Cash crop and wet rice farming
Bak Amraek	189	Prek Luong	Wet and dry season rice farming and fishing
Total	1132		

For this survey, the households interviewed in 2006 were also selected to be interviewed in September 2008 to create the 1132 panel household data and shaped the main findings that will shed lights of the discussion in this article.

2.2. Instruments Design

The questionnaire(s) were developed and revised based on the last CBMS questionnaire. As recommended during the CBMS local team meeting, individual information is adopted to be 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 labour, the question on disabilities and information related prices were added to the questionnaire. To update the instruments, consultations were made with the advisory team. Pre-testing of the questionnaires was also done to discover its weaknesses and be the basis for its revision. Finally, the instruments were adopted to use for data collection to cover the indicators collected from household. Total 156 indicators focusing on impact of rising prices were included in the questionnaire.

105 indicators: Quantitative CBMS panel, 2006 and 2008	51 indicators (people's perception): Changes in 8 month period
Demography, housing and amenities, education, health, employment and occupation, income and expenditure, assets, land ownership and productivity, shocks/crises, domestic violent and security.	Food, transportation, credit access, employment, recreation and present status of well-being

There are two forms use in this study:

Form A: Household Listing Form is used to record preliminary information of each household and at the same time, for the purpose of mapping of each household in the village. This tool is used in conducting household interview(s) (see Annex 1).

Form B: Household Questionnaire is the tool used to collect data from household. Basic information on the characteristics of each person includes sex, age, relationship to the head of the household, education and disabilities, etc. The topics of the household questionnaire are covered Demography, Education, Occupation, Disabilities, Health information, Housing condition, Energy (source of light, fuel, etc), Source of drinking water and sanitation, Household expenditures, Household Income, About crises or household disadvantages, Household property, Feeding animal, Agricultural land, Violence, and Security and Order, Mortality, Food, transportation, credit access, employment, recreation and present status of well-being (see Annex 2).

Other Forms:

- House Sticker (see Annex 5)
- Control form for supervisor (see Annex 6)
- Summation Sheet of Daily Supervision for commune councillor (see Annex 7)
- Daily report form for enumerator (see Annex 8), and
- Age conversion (see Annex 9, Khmer Version)

2.3. Enumerators recruitment

Schoolteachers were employed as enumerators in the project. Usually, schoolteachers were employed to conduct the population census and to administer the general election in Cambodia as well. The schoolteachers would

be hired for this purpose for one month. The timing to hire schoolteachers is good for this CBPMS survey since it coincides with the school year break.

Partially, members of the Village Development Committee, which have become part of the voluntary Commune Planning and Budgeting Committee, have been recruited jointly by the commune councils and the Supervisory Team. They were later trained to become enumerators. Those with a good command of quantitative skills will also be trained to be data processor(s).

The village chief was not considered for any substantial role in the survey. Village chief has a lot to offer and could play a helpful role without acting as interviewer. As in phase II, the village chiefs assisted the enumerators with regards geographical locations, mapping and arrangement of appointments with the households. Commune councillors act as supervisors, field editors and did manual data processing and analysis as well.

2.4. Training Activities

Field Operation Training (supervisors and Enumerators)

Training on data collection was conducted for a total of 30 trainees including village chiefs and commune councillor(s). The training took three (3) days including one extra day for pre-testing of the questionnaire. It was found that the school teachers absorbed instructions more quickly than the non-teachers. Former enumerators in CBMS phase II were found to understand quickly.

At the third day of the training, the participants were requested to interview each other using the household questionnaire. The respondent acted as a 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 lecturers (supervisory members). Feedbacks were received after each exercise and were discussed during the lecture time. The exercises were done in all of the training sessions of data collection.

Pre-tests

Pre-testing of the system instruments was adopted. The trainees spent one day for pre-testing. Each enumerator was requested to interview at least two households, one small and one large, to experience different sizes of households. The pre-testing was aimed to get feedback from the enumerators and possibly rectify any unclear questions or omit questions that are not applicable. During the pre-testing, supervisors and supervisory members visited and observed every enumerator while interviewing the household.

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

The pre-testing of the questionnaire was to the advantage of the actual census. The questionnaire became error-free and more accurate. The enumerators and supervisors became

well versed in interviewing, encoding and checking for errors. Problems and constraints encountered during the pre-testing were easily solved since it was discussed in the presence of advisory team.

2.5. Manual Editing Training

Manual coding training was conducted for commune councillors who were involved in the project. Interviewed questionnaires were checked, verified and the answers were coded by the trained commune council members. These commune council members are supervised by the district and provincial CBMS team members and after manual coding is accomplished, the questionnaires are then submitted to the provincial leader for computer machine processing.

Manual editing tools have been developed. Manual editing is divided into three parts: (i) the enumerators check all questions and answers for every interview questionnaire in their village, (ii) data was checked by the commune councillors (supervisor during data collection) in their commune by using the instruction manual for editing data, and (iii) although the field supervisors had checked the questionnaires, preliminary checking were carried out at the districts by the district and the provincial CBMS team member before the questionnaires were accepted. All completed and checked questionnaires are sent to the NIS for machine processing (data entry, analysis and results). The instruction manual for manual editing and coding is in Khmer language. All the data and results will be sent to the CBMS network after it is translated into English.

2.6. Training of data processors

At the NIS, the team selected and trained 10 statistics officials to perform computerised data entry. An application frame in SPSS was developed and installed for them. It was useful to have involved the statistics officials in this job. Some of them already had experience in data entry. However, there were not enough computers with the capacity to install the SPSS program and thus we had to use Excel instead.

2.7. Computer processing

After manual data cleaning, data entry is done at NIS. Before entering data, the CBMS team members at the NIS have to undergo training of SPSS software program which includes data entry, data cleaning and analysis. The CBMS supervisory team members from the central office supervised the data entry and data cleaning. In cases where there are errors the concerned enumerator were requested to re-interview the said household. Errors were mostly related to household income, expenditure and assets.

The input documents were derived from the CBMS questionnaires and the data entry system was designed to input data of each type of questionnaire separately. The household questionnaire (Form B) were created separately in two parts (i) individual data file called individual file (File A), and (ii) 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.

2.8. Analysis and validation of the survey results

The most challenging effort 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) defines as follow:

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

III. Trends in Prices of Food and Non-Food Items

3.1. National Trends in Prices of Food and Non-Food Items

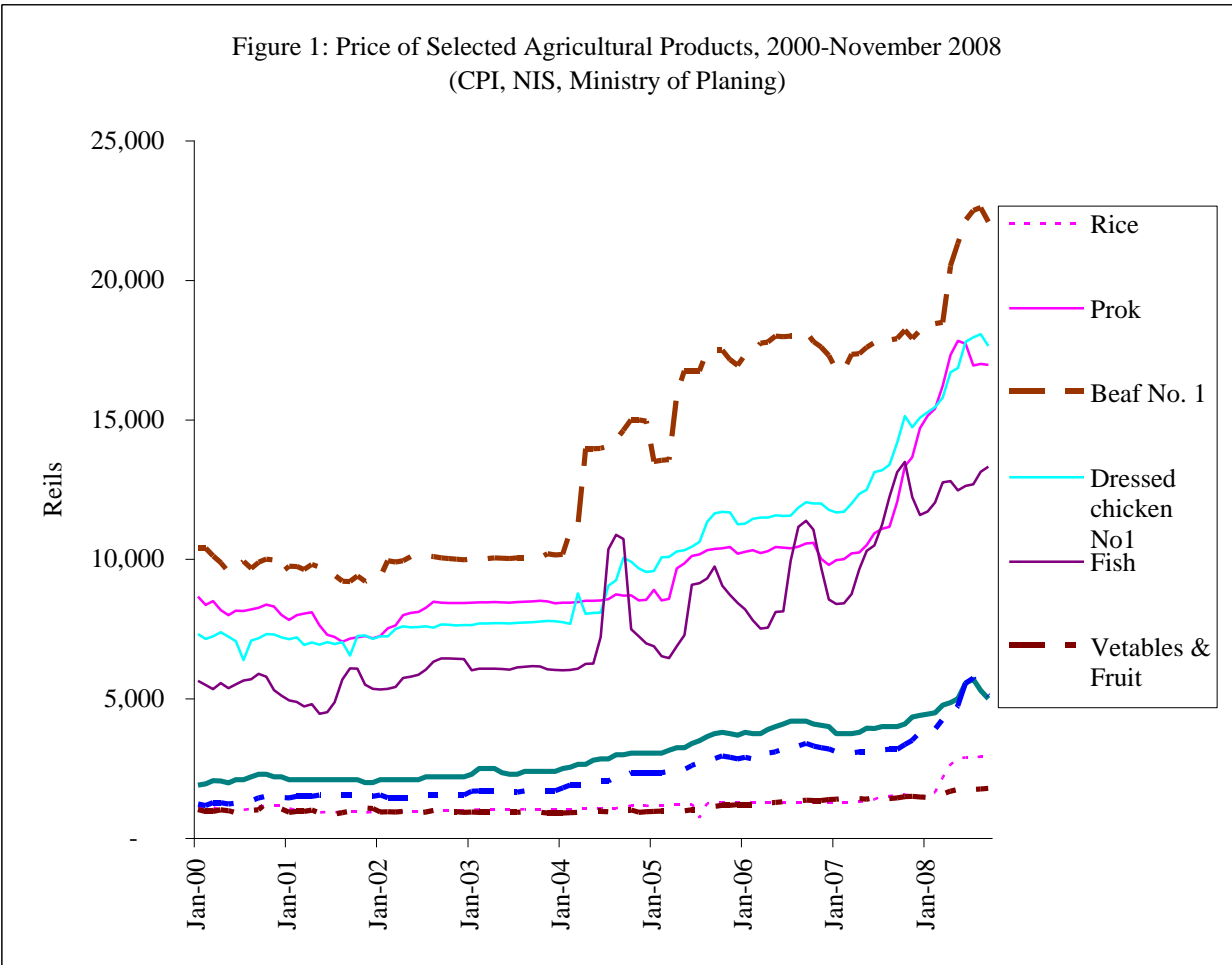
The consumer prices in Cambodia somewhat remained stable between 2000 and 2003; however, prices increased since mid-2004 and reached the highest record in the period of May and October 2008. Although the price of food consumer items start to decline after reaching its highest record of annual inflation rate at 37 % in August 2008, it still remains 32 % in November 2008 higher than one year ago. The key concerns about food security and poverty reduction in Cambodia is about the hiked prices of staple food, especially rice. The official statistics show price of rice become more stable or showing a decline trends. However, average price of rice in November 2008 is 2,780 Riels per kilogram or still 77 % higher than one year ago while price of meats such as pork, beef and chicken remain 17 % more expensive.

The official rural CPI is still not available from the Ministry of Planning. Therefore, for the purpose of this study, the author have to use the changes in prices from CDRI price surveys of 106 food and non food items conducted in a number of village and district/provincial markets in October 2005 and again in March and September 2008. The survey suggests price of all food and non food consumer items in rural were much higher than the national rate of price increase that released by the government. All consumer goods in rural area increased by 86 % that indicates even more at alarming rate than only 34 % reported by the official CPI in Phnom Penh in the last three year periods. The price gaps between urban and rural area may be due to high transaction and transportation cost of goods and services since the infrastructure development is on progress. Food and non-food items, on average, were 94 % or 71 % in September 2008 higher than that in same referent month in 2005; or further increased by 13 % for food and 30 % for non food consumer items in rural area.

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

Causes of recent rising prices is mostly driven by changes in demand and prices of food and oil at international markets where the concerns about food security and poverty reduction

should be focused on short, medium and long term impacts. The prices of food and other necessary commodities historically highly volatised and started to rise along with rising oil price since 2003³. The upward trend continued and reached double digits between 2007 and 2008 in most development 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 costs of fertilizers, food transport, and industrial agriculture. Other causes were due to the increasing use of bio-fuels in developed countries to substitute the need for fossil oil and an increasing demand for a more varied diet (especially meat) across the expanding middle-class populations of Asia. These factors coupled with falling world food stockpiles all contributed to the dramatic worldwide rise in food prices. Short and medium causes and impacts on poverty reduction in developing countries remain a topic of debate of poverty reduction, inequality and growth in developing countries. These may include structural changes in trade and agricultural production, agricultural price supports and subsidies in developed nations, diversions of food commodities to high input foods and fuel, commodity market speculation, and climate change.



3.2. Government and Donor Responses to the Rising Prices to Ensure Food Security and Sustain Growth for Poverty Reduction

The Government and donors in Cambodia have been working together to set up the immediate policy in response to food crises and sustainable growth for poverty reduction. The

³ Andrew Bounds (2007-09-10). "[OECD Warns Against Biofuels Subsidies](#)". Financial Times”

policy measures include (1) Government and ADB fund of 3.5 million USD for food security and (2) government temporary action to prohibit the export of paddy rice in order to increase internal stocks and sell paddy rice for cheap price to the poor before the national election in 2008. In order to secure employment and labour migration support, the government decided to issue passport to Cambodian cross-border migrants free of charge; and to encourage the Recruitment Company to pay the visa fee for the migrants in credit in the late 2008. In addition, the poor can also benefit from health equity fund to improve health access for the poor that came into effect in 2007. The agricultural producers can also take advantage of the government's subsidy on advanced farming practice and productivity. The government has also come up with its import policy of agricultural machinery and commitment to further boost agricultural growth through infrastructure development and development strategies.

3.3. Rising Price of Farm Inputs and Farm Productivity

The price of farm inputs including fuels/transport, fertilisers and wage labour also increased at an alarming rate. For example in May 2008, the gasoline and diesel prices increased by 50 % and 80 %, respectively one year ago. At the same time, the prices of fertilisers and wage labour also increased by 80-200 % and 50 % respectively. This increased prices of farm inputs pushed up the production cost by 30 % for dry season rice, by 70 % for wet season rice and by 45 % for maize, cassava and soybean production between May 2007 and May 2008⁴. The increased 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 yield of rice harvested by landholding groups in each study villages in the crop calendar of 2007-2008. On average, farmers in the CBMS villages produced around 2,380 kilograms of paddy rice per hectare. This yield was higher than national average of rice (1,889 kilograms per hectare) for wet season rice. In contrast for the dry season rice, the yield obtained by CBMS farmers was lower than that of the national average yield of 3,684 kilograms per hectare in the same harvest season of 2008. While most of CBMS villages obtained good harvest due to good weather condition, Samraong Outrea experienced the lowest yield of paddy rice. About 68 % and 22 % of farming households in Samraong Outrea respectively reported lower and same returns from their farming although there was good rain (Annex 1) while remarkably smaller proportion of farming households in the other village experienced decline or no change in the yield of paddy rice that they obtained in the same harvesting periods.

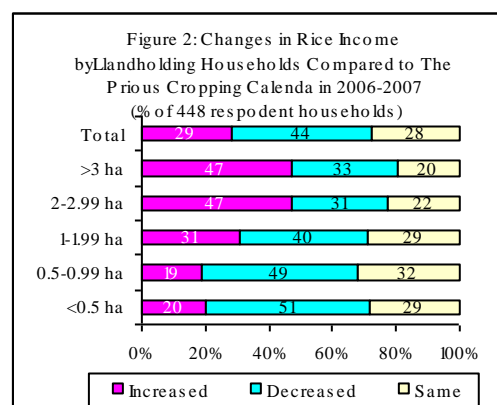
Only large landholding farmers, traders and dry-season rice growers are able to grasp benefits from the opportunities generated by rising food prices (CDRI 2008, and Fitzgerald and SO., 2007). In CBMS sites, only 11 % of farming households who are dry season rice growers could have gained from rising prices of paddy rice through selling some of their harvest. Therefore, large majority of farmers who were wet season rice growers did not make any gain or if any, only meagre marginal profits from their farming as an implication of high production cost. 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 % of small farmers who cultivated one hectare or less of rice land compared to 47 % of large landholding farmers reported to obtain better returns from their rice farming than one year ago due to rising price and demand for their paddy rice.

⁴ Sources: Quoted from Chan Sophal and Phim Runsinarith's Presentation at CDRI, 12 August 2008

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

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

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



The common constrains to agricultural growth and development in CBMS sites as well as Cambodian farmers in response to the global phenomena of rising prices are the unpredictable changes in prices of agricultural produces and farm inputs. High (good) prices and demands for farm produce are often short-lived while the increasing prices of farm inputs persist for a longer period. It is unsurprising since most farm inputs are imported from the neighbouring

Table 3: Percentage of households with no agricultural land

Village	2006	2008	% change
Svay Chrum	45	47	2
Reach Dounkeo	33	39	6
Samraong Outrea	45	50	5
Sdei Leu	35	38	3
Bak Amreak	44	40	-4
Total	41	44	3

countries that need to be adjusted due to the rising prices of fuels and transportation. In addition, farmers often lack savings and, therefore, have to take loan either from the micro credit institution (MFI) or from the private moneylenders or traders to invest in their farming. The service of MFI, with affordable interest rate (3 % per month), is still on progress and providing limited amount of loan to farmers. Therefore, many farmers in CBMS sites buy farm inputs on credit or take

loan with 10-15 % interest rate per month and promise to sell the paddy rice after 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 expenditure or just make very marginal gains from their production find it not worthy and those who have decided to sell out the small plots of their lands are evicted from the producer groups (Table 3).

3.4. Impacts of Hiked Prices of Food Security

In CBMS sites, about 56 % of the total 1,132 panel households were farmers. The rest of households (44 %) who are landless get their livelihood from off-farm income activities. Almost half (60 %) of rice producing households, who are cultivated one hectare or less of land, produced rice only enough for maximum of 4-6 months a year. Therefore, they also become the net buyers of rice especially between May and October 2008. Only about 21 % of

rice farmers produced enough rice for their household consumption; and another 19 % of rice farmers produced surplus rice for sale with high prices (Table 4).

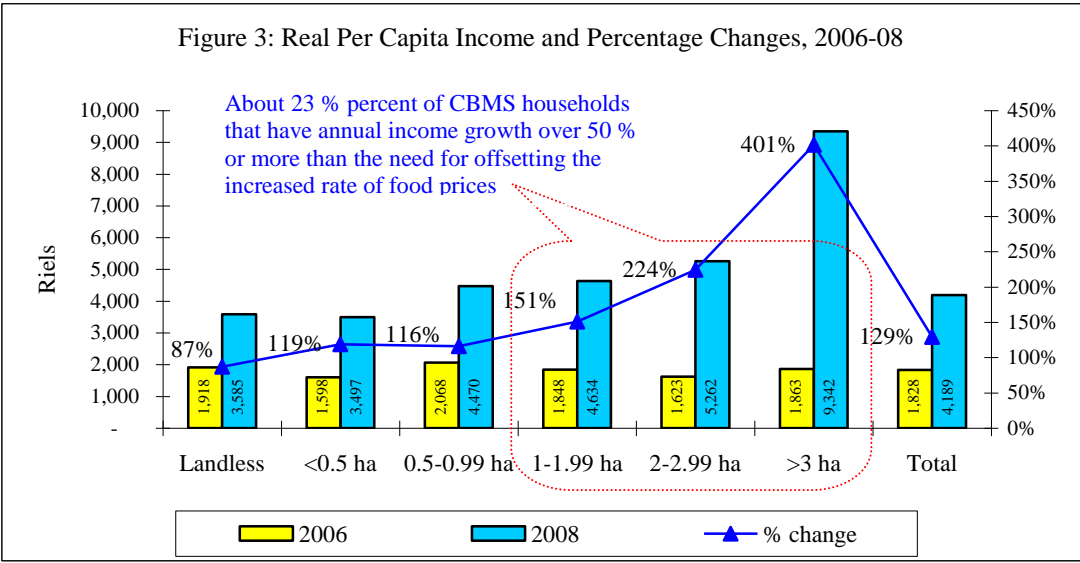
Nonetheless, about 77 % of the households in CBMS villages including landless households (44 %) and small farmers (33%) who are cultivating less than one hectare and could not produce enough rice for consumption were the net buyers of rice between May and October 2008. This net buyer group were the ones who were more likely affected by rising prices of food and other necessary consumer items.

Table 4: Average yield and total production by size of landholding households

landholding size	NHH	% HH	Yield (Kg/ha)	Total Production (Kgs/hh)
<0.5 ha	272	43	3,181	820
0.5-0.99 ha	104	16	1,914	1,408
1-1.99 ha	136	21	1,828	2,195
2-2.99 ha	59	9	1,730	3,733
>3 ha	65	10	1,515	7,199
Total	636	100	2,380	2,132

3.5. Increased Incomes and Household Food Security

According to CBMS panel data, food expenditure or consumption accounts for about 63 % of total household expenditure in 2008 which declined from the 73 % of total household expenditure in 2006. This figure tends to suggest general well-being improvement of people in CBMS villages. The proportion of food and non food expenditure changes when households have better income. According to national survey of the impact of rising prices on food security conducted by CDRI in the mid 2008, an increase of about 47 % of income is enough to offset the rising rates of food prices between 2007 and 2008. Figure 3 shows the real per capita income (CPI) of CBMS panel households by landholding groups and the CPI changes between 2006 and 2008.



All landholding groups have had dramatically increase in their CPI over 2006 and 2008. Nonetheless, only about 23 percent of CBMS households with more than one hectare of land have enjoyed an average annual growth of CPI over than 50 % a year. The landless and land poor, owning one hectare or less have experienced lower annual growth rate of CPI in a range of 29 % to 40 % or lower than the level that is enough to offset the rate of increase food prices (Figure 3).

The respondents were also asked whether they have earned enough to meet the need of household expenditure; and whether they have ever faced any food shortage in the last 8 month prior to the survey period in September 2008. The answers are summarised by landholding group in Table 5. The responses are again confirmed that

Table 5: Enough Income to Secure Household Expenditure and Food Security by Landholding Groups with the Last 8 Months Prior to the Survey Period in September 2008 (% of 1,132 panel households)

	Income for Household Expenditure				Food Shortage		
	Enough	Not enough	Some saving	Total	Yes	No	Total
Landless	13.5	86.3	0.2	100	41	59	100
<0.5 ha	15.4	84.2	0.4	100	33	67	100
0.5-0.99 ha	24.0	75.0	1.0	100	30	70	100
1-1.99 ha	39.7	60.3	0.0	100	21	79	100
2-2.99 ha	39.0	61.0	0.0	100	15	85	100
>3 ha	53.8	44.6	1.5	100	14	86	100
Total	21.7	77.9	0.4	100	33	67	100

the increased income of landless and small landholder is not sufficient to offset the rising rate of food prices over the last 8 months prior to the time of the survey. The rising food prices pushed 33 % of CBMS households into food insecurity. The larger proportions of landless and small landholding accounted for about 41 % and approximately 30 % respectively, have faced the food shortage since most of them rely heavily on unreliable income from selling labour (Annex 2).

IV. Impact on Poverty Reduction at the Village Level

While hiked prices between late 2007 and October 2008 have affected every angle of life, the poor are the hardest hit group since majority of them are either classified as landless or land poor group who owned one hectare of land or less with limited ability to earn income enough to offset the increased rates of food prices. There is no official poverty data available in 2008. The CSES 2004, however, shows that 27 % of households in Battambang were considered poor in 2004. With one percent rate of poverty reduction (World Bank 2006), the poor households should reduce from 27 % in 2004 to somewhat around 23 % in 2008. About 42,775 poor households or a total of about 269,217 populations in this province are poor. They are more likely to get negative effects by rising prices between January and October 2008.

Table 6 shows the proportion and changes in poor households of the five CBMS villages between 2006 and 2008. CBMS villages have experienced 15 %, on the average, of poverty reduction over this three year period. With regard to poverty reduction, CBMS villages have different experiences. Four out of five study villages, nonetheless, have experienced poverty reduction, by 4 % in Reach Dounkeo, 27 % in Samraong Outrea while Svay Chrum has experienced poverty increase by 16 % (Table 6). In 2008, about 43 % of the total households in CBMS villages, or higher than the provincial average statistics, are poor and more likely to be hard hit by rising prices.

Table 6 also suggests that the degree of impacts varies according to the location of CBMS villages. People living in the village closer to the market center tend to suffer the most from the rising prices due to increase in number of poor households in Savy Chrum village. While agricultural dependent villages such as Sdei Leu and Bak Amraek tends to gain well-being improvement from rising food prices through the sale of their farm produce and in turn are able to improve household consumption; and therefore, have experienced higher rates of poverty reduction. In contrast, rising prices tend to slow down poverty reduction in the remote village of Reach Doumkeo.

Table 6: Poverty headcount and village characteristics, 2006 – 2008

Village	NHH	Poverty Headcount		Change 2006:2008	Village characteristics
		2006	2008		
Svay Chrum	216	28	44	16	Close to the market centre, rice farming and petty trade are main source of income
Reach Dounkeo	150	72	68	-4	Remote village, wet and dry season rice and fishing
Samraong Outrea	343	63	36	-27	Good road access and connection to market, rice farming, fruit trees and petty trade
Sdei Leu	234	61	38	-23	Cash crop and wet rice farming
Bak Amraek	189	66	40	-25	Wet and dry season rice farming and fishing
Total	1132	58	43	-15	

Sources: 1,132 CBMS panel households surveyed in 2006 and gain in 2008

Good road access and connection to market for selling farm produces and petty trading help reduce poverty reduction faster in Samroang Outrea. This study also marks the important role of infrastructure development such as recent construction of road and irrigation in establishing rural livelihoods against the negative impacts of rising prices of consumer goods through agricultural intensification and diversification, trading and labour migration. This argument is supported by the movement in and out of poverty as summarised in Table 7.

Table 7: Movement In and Out of Poverty of Penal Households, 2006 and 2008 (% of 1132 households)					
Village	Stayed non poor	Moved out of poverty	Falling into poverty	Stayed poor	Total
Svay Chrum	47	10	25	18	100
Reach Dounkeo	9	23	19	49	100
Samraong Outrea	27	36	9	27	100
Sdei Leu	35	27	4	34	100
Bak Amraek	25	34	9	31	100
Total	30	27	13	30	100

Percentage of households who have moved out of poverty between 2006 and 2008 is found to be higher in the villages with good road access and market connection such as Samraong Outrea and villages with irrigation for dry season rice growing and cash crop production such as Bak Amraek. In contrast, in the villages that large proportion of household income from off-farm activities and buying foods from market such as Svay Chrum and remote village of Reach Dounkeo, proportion of people falling into and remain stuck in poverty and is relative higher.

V. Household Coping Strategies

Increasing Child Labour as One of the Household Coping Strategy

In the CBMS sites, 128 households (or 11 % of the panel households) withdrew their children from schools to help earn income to cope with rising cost of living. It is surprising that among the villages under study, increased incident of child labour is high in areas where there is fast growth and development. The number of migrants either to search employment in other urban area or to sell labour along the Cambodia-Thai boarder or inside Thailand is on an increasing trend since the late 1990s. It is gradually become more important and dominant source of household income for the CBMS villages in 2008 (Annex 2).

According to village leaders consulted during the survey, the number of households who often encouraged their children to take time off from school to help family in running business or collecting edible items from the common fields could be higher than 11 %. Since more and more people are trying to go in search of work elsewhere outside the villages, the labour shortage for farming also has occurred and often replaced by either elderly and/or child labour. The wage labour for translation and ploughing are two or three time more expensive than two or three year ago while at the same time farm inputs such as fertilisers or chemical pesticide also high. In order to saving some money, children and elderly now become more valuable assets; or meaning that every household member have to work hard to cope with rising food prices. The situation is even worse for the poor children whose parents are mobile labourers. The rising food prices has further limited the ability of poor children to benefit from the government's free universal education for all and food for poor children at school since they are also brought along with their parents to the working destinations. All respondents and village leaders interviewed wishes for down-price of food stuffs.

Credit Access and Use

Rising prices of food and producer goods have pushed may CBMS households into indebtedness. About half CBMS penal households has taken loan from either MFI and/or relatives in the last 8 month prior to the survey period in September 2008. About 53 % of the poor households and 48 % of non poor households reported outstanding loans. Among the reasons given by 565 households who took loan within the 8 months prior to the time of the survey, 51% used the loan to support business accounts, 29% used for buying food and 17% used for health care purposes (Annex 3).

Table 8: Uses of Loans by Poor and Non Poor Households in the Last 8 Months (% of 565 households with outstanding loans)

	Non poor			Poor		
	MHH	FHH	Total	MHH	FHH	Total
Farming	4	2	3	4	7	5
Support business	52	47	51	52	48	51
Food	18	23	19	30	29	30
Health care	21	24	22	11	12	11
Study	3	3	3	0	2	1
Resolving conflicts	1	0	1	0	0	0
Other	1	2	1	1	2	2
Total	100	100	100	100	100	100

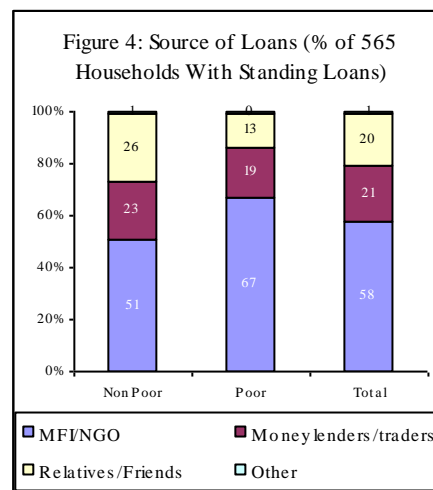


Table 8 further shows a breakdown of who uses the loan in the poor and non poor households: either the male and female heads of the household. During hiked prices of food and other necessary consumer items, both poor and non poor has spend most of their loan to sustain their business to retain their consumer satisfaction, especially when the demands for their services go down. Among the non poor households, the proportion of male head households who uses the loan for buying food and health care is relative higher than their female neighbours. This may be since there are fewer female earners and female has lower incomes.. However, in the poor groups, only a little difference have been observed between the male and female headed household.

The survey also suggests lower proportion of female headed households borrow money for sustaining business than their male labour during the hiked prices. In rural area, women play critical roles in running small businesses and are better with regards financial management for the family. This may be the reason why the female can somehow manage to use their savings to sustain business before taking loan. A critical point to note here is the recent growth of micro credit institutions (MFIs) in the last two or three years. Those MFIs are more active in providing loan with affordable 3 % of interest rates per month to the poor and been cited as of great help in at least the time of rising food prices. About 67 % of the poor have access to MFI loans for both productive and consumption purposes with much lower interest rates than what is charged by the private money lenders of about 10-15 % or even higher per month if they borrow cash or in kind from them.

Selling Lands

About 4 % of CBMS households decided to sell out their land or their other assets within 8 month prior to the survey as the result of rising prices to repay loan or set up or sustain business. In addition, about 10 % of households have to seek for additional jobs or work hard in order to earn enough income to buy food. Nonetheless, 24 % of poor and 21 % of the non poor became worse off while around 71 percent of the poor and non poor were able to sustain their livelihoods. Only 5 % of the non poor and 2 % of the poor households were able to improve living during the hiked prices while about 4 % were uncertain whether they remained in status quo or not.

VI. Conclusion and Policy Implications

Actually, a number of findings from CBMS have confirmed a number of key lessons learned about people's experiences in responding to the recent phenomena of rising prices of food and other basic commodities. *First*, the prices of food and other basic commodity still remained relative high after they peaked at double digits in the history of inflation since the mid 2000. Although CBMS villages located the rice producing surplus area of the Battambang Province, only about 23 % of the CBMS households characterised as large rice farmers, petty traders and/or money-lenders can seize opportunity generated by rising prices to produce surplus for sale or increase income. In contrast, about 77 % of the households including the landless and land poor with one hectare of land or less are and/or become net food buyers during the hiked food prices. Many of them did not earn enough income to offset the rates of price increase and to meet basic household expenditure, and had to work harder to earn money to buy foods. Therefore, food security for many became worse.

Second, in response to rising prices, many children has been taken from school to help family cope with this abnormal phenomena of hiked cost of living. Village-out migration is also adopted as a coping strategy for many. Children and elderly have to work harder to sustain

household income for food and other basic household expenditure. Another coping strategy in response to rising prices is access to loan for supporting business, purchase of food items and health care purposes. Rising prices in many cases has contributed to the acceleration of landless households in the CBMS villages.

The more striking impact of rising prices on poverty are not just increasing food insecurity of many people but also make the poor become poorer; push many rural people into debts that is difficult to recover. Rising prices has further change human capital with regard to education and poor health and loss of productive assets as well as deteriorated capability of the small landholders and the poor to cope with any future shocks or crises. This requires a stronger social safety net programme to support the smaller farmers to remain in producer group, poor children to stay in school, and better targeting policy intervention to support the poor and vulnerable. The social safety net programme, however, would be implemented effectively through involvement of local authorities or if the capacity of commune council can be further enhanced and strengthened for pro-poor and good governance and implementation of national policy.

Third, like other rural villages, the CBMS farmers and villagers are gradually connected, or are no longer isolated, to any change in global and international market. That is because the CBMS villages are located in one of the fast growing and developing Battambang province. Located at the North-West of Cambodia, aside from having remarkable infrastructure development there is also cross-boarder integration of trading activities, especially through formal and informal trades with Thailand. Inter-country connection has been remarkably taking place. The agricultural producers should seize this lucrative opportunity to increase production, intensification and diversification from hiked prices and demand. The critical constraints to agricultural growth, however, persisted in CBMS villages with lack of agricultural know-how, irrigation and effective extension services. The growth of MFI so far has been highly appreciated by CBMS villagers for both productive and consumption purposes. The amount of loan and availability of services have been effective enough to respond to the needs of small farmers and business entrepreneurs in rural area. Long term strategy and intervention should be in place to build the capacity of small farmers to overcome the barriers to production such as high cost of fertilizer, labor shortage, poor irrigation and road access.

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Annex 1: Change in the returns from rice crops

	Landholding size	Increased	Decreased	Same	Total
Svay Chrum	<0.5 ha	26	47	26	100
	0.5-0.99 ha	24	12	65	100
	1-1.99 ha	40	27	33	100
	2-2.99 ha	71	29	0	100
	>3 ha	75	25	0	100
	Total	39	29	32	100
Reach Dounkeo	<0.5 ha	15	23	62	100
	0.5-0.99 ha		67	33	100
	1-1.99 ha	44	6	50	100
	2-2.99 ha	43	29	29	100
	>3 ha	67	17	17	100
	Total	32	25	43	100
Samraong Outrea	<0.5 ha	4	72	23	100
	0.5-0.99 ha	8	71	21	100
	1-1.99 ha	15	68	18	100
	2-2.99 ha	17	50	33	100
	>3 ha	8	67	25	100
	Total	10	68	22	100
Sdei Leu	<0.5 ha	32	46	21	100
	0.5-0.99 ha	24	59	18	100
	1-1.99 ha	53	24	24	100
	2-2.99 ha	64	21	14	100
	>3 ha	71	18	12	100
	Total	46	35	18	100
Bak Amreak	<0.5 ha	28	43	30	100
	0.5-0.99 ha	35	35	29	100
	1-1.99 ha	25	40	35	100
	2-2.99 ha	44	22	33	100
	>3 ha	13	38	50	100
	Total	29	39	33	100

Table Annex 2: Percentage of source of income by villages, 2008

	Crops	Livestock	Selling labour	Petty Trade	CPR	Rental	Other	Total average
Svay Chrum	24	10	48	11	1	5	1	100
Reach Dounkeo	36	9	45	6	1	1	2	100
Samraong Outrea	19	9	49	15	0	1	8	100
Sdei Leu	35	17	23	7	5	5	9	100
Bak Amreak	25	20	30	5	1	15	3	100
Total	26	13	39	10	2	5	5	100

Annex 3: Reasons for Borrowing Money

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Producing	22	1.9	3.9	3.9
	Purchasing food	135	11.9	23.9	27.8
	Treatment diseases	96	8.5	17.0	44.8
	Study	11	1.0	1.9	46.7
	Conflic settlement	3	.3	.5	47.3
	Support to business	290	25.6	51.3	98.6
	Loss job	1	.1	.2	98.8
	Other, specify	7	.6	1.2	100.0
	Total	565	49.9	100.0	
	Missing	System	567	50.1	
Total		1132	100.0		

Annex 4: Changes in household status of living of poor and non poor household by the time of the survey compared to 8 months ago

	Better off	Normal	Worse off	No idea	Total
Number of Households					
Non					
Poor	30	458	138	20	646
Poor	10	338	118	20	486
Total	40	796	256	40	1132
% with same group					
Non					
Poor	5	71	21	3	100
Poor	2	70	24	4	100
Total	4	70	23	4	100