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## THE ROLE OF INCOME DIVERSIFICATION DURING THE GLOBAL FINANCIAL AND ECONOMIC CRISIS

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### INTRODUCTION

In the late 2000s Cambodia suffered two major economic shocks: oil and food price increases and the global financial and economic crisis. The food and oil price rises to record highs in 2008 were one of the most severe external shocks to the country. Closely in their wake, the global financial crisis hit in 2009, making an already difficult situation even worse, particularly for the poor and vulnerable groups. A number of studies confirmed that the crisis hit the poor and vulnerable the hardest, largely due to weak formal ex-ante and ex-post coping strategies, informal social insurance and the lack of public response (e.g. Tong *et al.* 2009; Tong 2010; Chan & Ngo 2010). To the best of our knowledge, no study has investigated the role of income diversification during the crisis, although it has been shown in other countries to be positively associated with wealth accumulation and reduced vulnerability—at least in terms of partial consumption smoothing (Barrett *et al.* 2001; Kinsey *et al.* 1998).

### METHODOLOGY

The study is informed by four-period panel data of 793 households collected by CDRI in 2001, 2004-05, 2008 and 2011. Household income from various sources such as agricultural produce, livestock, common property resources and off-farm activities was used to construct an income diversification index i.e. a Herfindahl index. The Herfindahl index is defined as the sum of the

squares of the shares of different income portfolios in the household: the smaller the index value, the higher the degree of income diversification (Dimova and Sen 2010). Both descriptive and econometric methods were employed to examine the role of income diversification during the crisis.

### FINDINGS

It is widely noted that rural household income is derived from many different sources. In our study, we categorise household income into three main groups: crop income, livestock income and off-farm income. We found that income per capita rose remarkably by 75 percent from 2001 to 2004 and another 52 percent by 2008 before dropping by 20 percentage points in 2011 (Table 1). This suggests that the effect of the global economic and financial crisis may have persisted for longer than one year. Crop income per capita grew by 97 percent in 2004 and 79 percent in 2008 but declined by 10 percent in 2011, while livestock income per capita and off-farm income per capita decreased by 31 percent and 27 percent during the same period. We note that the richer households were more likely to have benefitted the most from economic growth during 2001–2004 and to have been the least affected by the crisis. The poorest group seems to have been hit hardest by the crisis as its per capita income declined by 27.6 percent between 2008 and 2011.

On average, the Herfindahl index tends to increase over time, indicating that households in the selected study villages are less diversified than they were 10 years earlier. Having plotted the Herfindahl index for each year against income in 2001, households in the second and third quintiles were more likely to diversify their income sources

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Table 1: Income per Capita per Year from Different Sources

	Per Capita Income at 2001 prices (‘0000 riels)				Growth rate (%)		
	2001	2004	2008	2011	2004	2008	2011
Crop	15.59	30.67	55.01	49.66	96.73	79.36	-9.73
Livestock	11.04	14.38	22.22	15.32	30.25	54.52	-31.05
Off-farm	20.45	37.38	48.40	35.18	82.79	29.48	-27.31
Total income	47.08	82.43	125.64	100.16	75.08	52.42	-20.28

Source: CDRI Household Survey Data (2001-11)

than those in the first, fourth and fifth quintiles. Our econometric model showed that more adult males increased the likelihood of household income diversification. Agricultural households were more likely to participate in diversification activities. Wealth status, proxied by the ownership of durable goods and agricultural land endowment, was positively associated with higher participation in diversification. Households experiencing health problems or crop failure were positively linked to diversification strategies. Income diversification activities have a poverty reduction effect, but are unlikely to play a role as an effective ex-ante coping strategy during an external shock such as the global economic and financial crisis.

## CONCLUSION

Our study finds that households in the selected study villages were less diversified than they were 10 years ago. Crop income was the least affected by the economic and global financial crisis and has become the main income source for rural households. The number of male household members aged 15-64, a household head primarily engaged in agriculture, durable assets, agricultural land endowment and health shock and crop failure are the key determinants of income diversification in rural Cambodia. Income diversification is strongly and positively associated with per capita consumption but is unlikely to help smooth consumption during a crisis. These findings strengthen the need for public provision of well-designed safety nets as a risk-reducing and coping strategy. In addition, non-farm activities should be encouraged since they

have played a critical role in improving per capita consumption and the poverty headcount ratio over the years.

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