



VOLUME 17, ISSUE 4

CAMBODIA DEVELOPMENT REVIEW

A Publication of CDRI—
Cambodia's leading independent
development policy research institute

DECEMBER 2013

\$4.00

WOMEN'S ROLES AND CONSTRAINTS IN WATER GOVERNANCE IN THE FACE OF CLIMATE CHANGE¹

Introduction

Cambodian women have long been active as farmers in their own right and, alongside their male counterparts, involved in the development of land and water management systems (Kumar *et al.* 2000; Ross and Savada 1989; Khmer View 2013; Nang 2013). Largely resultant of climate change, the increased frequency of hydrological extremes in Cambodia's flood-and-drought dominated regime has had a critical impact on water security, agricultural production, and food systems stability. For example, the widespread flooding in 2009 and 2011 severely damaged agricultural crops, livestock, ecosystems, physical infrastructure, human health and human settlements, and even took many human lives. In many of these contexts, women and children (in particular female-headed households and orphans) are more vulnerable than men, primarily because they are dependent on natural resources for their livelihoods, face social and economic barriers that limit their adaptive capacity, and tend to be physically weaker and therefore more prone to infectious diseases (WEN 2010).

Cambodia has abundant water resources, yet current supplies for agriculture are still highly dependent on rainfall and surface water, either directly or via small-scale local irrigation systems and traditional reservoirs. Wet season rice, therefore, continues to be the mainstay of



Women and children are more vulnerable than men to climate change impacts, especially flood and drought, Prey Veng province, October 2011.

agricultural production and the main source of livelihood in rural areas. In recognition of the need for greater stakeholder (grassroots men and women) participation in agriculture water management, the principles of integrated water resources management (IWRM) and participatory irrigation management and development (PIMD) have long

In This Issue

Women's Roles and Constraints in Water Governance in the Face of Climate Change.....	1
The Impact of Farmer Organisations on Rice Productivity and Livestock Production, a Follow-up Study.....	8
The Links between Employment and Poverty: Cambodia.....	14
Economy Watch – External Environment.....	18
– Domestic Performance.....	20
– Indicators.....	23
CDRI Update.....	28

¹ Prepared by Nang Phirun, research associate, and Ouch Chhuong, programme assistant, of the Natural Resource and Environment Programme, CDRI.

been integrated into national plans and strategies. These aim to improve the performance of irrigation systems, and consequently enhance rice production, support livelihoods and build resilience to climate change impacts (MOWRAM 2005; MOWRAM 2007a).

Despite their constrained conditions and the fact that they are disproportionately affected by the adverse effects of climate change, women are effective agents of change in mitigation, adaptation and disaster reduction strategies. It follows then, that women are not only important stakeholders in agriculture and natural resources management, but their active participation in efforts to better manage these resources, in particular water for agriculture, is also of paramount importance (UN WomenWatch 2009).

This study analyses women’s involvement in water management, and their needs and constraints in agriculture, water governance, support services

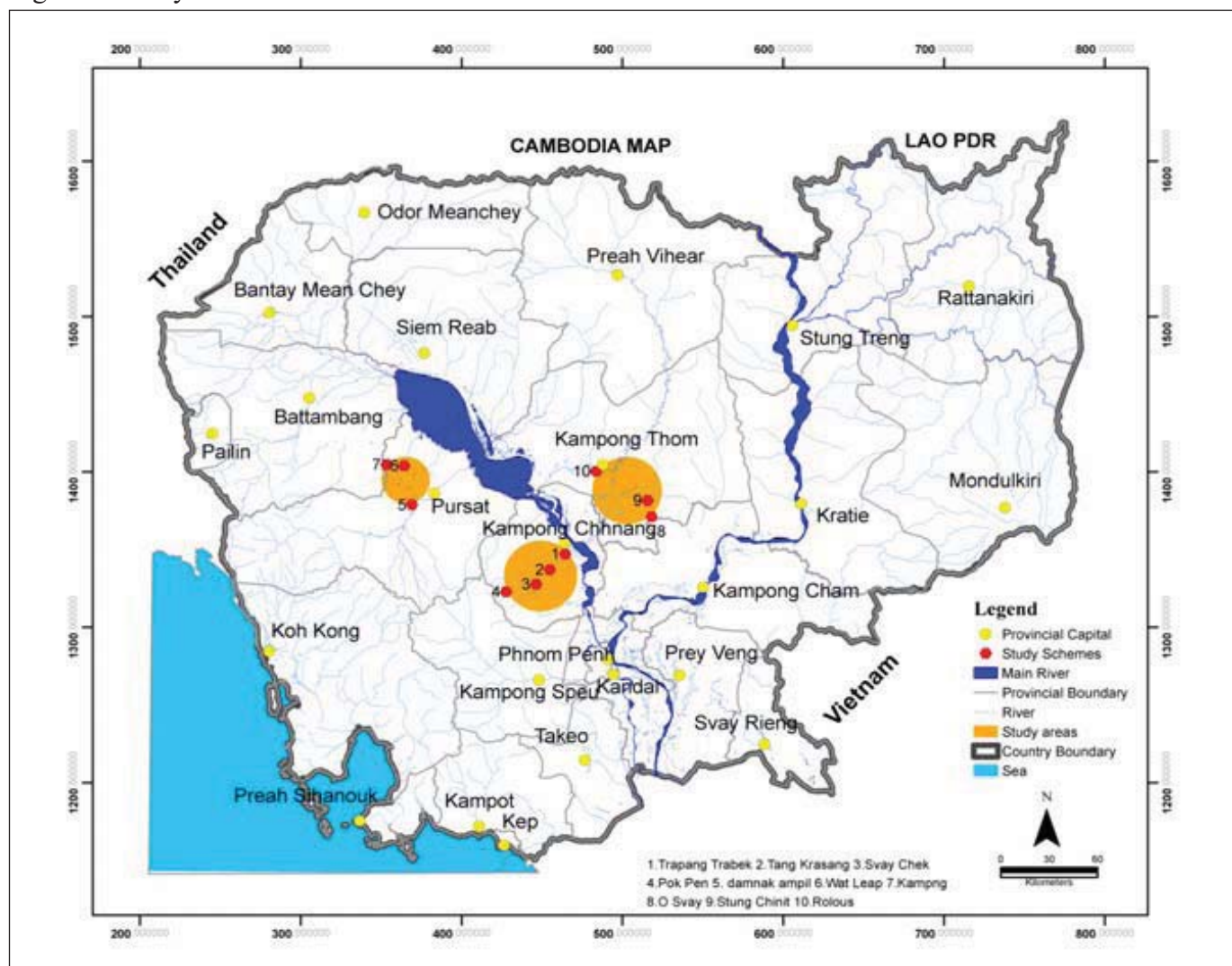
and adaptation policy in the face climate change. It also assesses what resources are needed to improve the active engagement of women in the sustainable management and development of water resources for agriculture and poverty reduction, and priorities for minimising the constraints.

Data Collection and Analysis

The study sites were restricted to ten irrigation schemes in three provinces – Kompong Chhnang (KCH), Kompong Thom (KTH) and Pursat (PST) (Figure 1). Each irrigation scheme has its own farmer water-user community (FWUC),² officially established and accredited by the Provincial Department of Water Resources and Meteorology (PDWRAM). To collect information, ten focus

² They are Trapeang Trabaek, Tang Krasang, Svay Chek and Pok Pen in Kompong Chhnang province; Wat Leap, Kambang and Damnak Ampil in Pursat province; and O Svay, Stung Chinit and Rolous in Kompong Thom province.

Figure 1: Study Sites



Source: Nang and Chhuong 2014

group discussions (FGDs) – one in each scheme – were conducted. These FGDs consisted of five to seven people: two women farmers, two or three FWUC committee members and two commune councillors. In addition, 11 key informant interviews (KIIs) were held with stakeholders such as FWUC leaders, farmers, village leaders and commune council members. KIIs were also held with staff of the provincial departments of Women’s Affairs (PDWA), Water Resources and Meteorology (PDWRAM), Environment (PDE), and Agriculture, Forestry and Fisheries (PDAFF).

Data was summarised in a matrix format to identify gender differences and inequalities. This included information on access to and control over resources, social or community roles and responsibilities, practical and strategic gender needs, and constraints and benefits.

Women’s Roles and Constraints

Access to Public/Community Work

Women understand the current issues surrounding water governance – such as the determination of irrigation service fees and collection, the utility of collective savings, and the need to maintain canals and dams – and know how to deal with them better than men do. A provincial department representative in Pursat noted: “Women are more aware of their roles in agriculture as well as in the management of water. They have changed their attitude from asking the men to be responsible for water allocation, to doing the work by themselves or working alongside men.”

However, the numbers of women assigned responsibility on FWUC committees, commune councils, and in provincial departments are still low. Various factors hinder women from fully

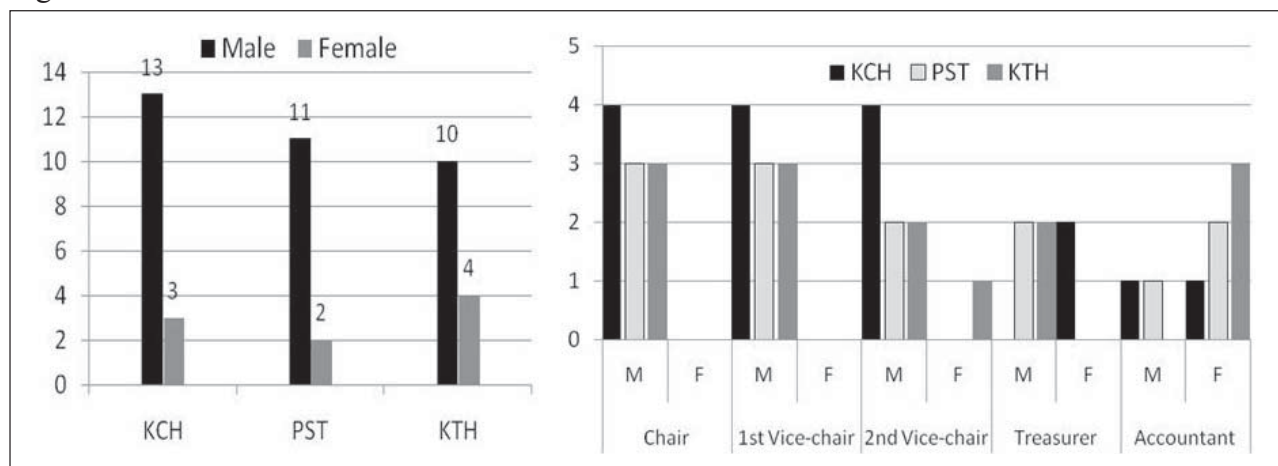
participating in public life and decision-making. For example, women have many household jobs in addition to running home businesses and farming. Lack of public confidence in FWUCs because they are slow to respond when they have to address certain issues – such as closing or opening water gates without permission and refusing to pay irrigation service fees – is among the key factors that make women unwilling to take on public roles. Another prohibiting factor is that managing water resources and irrigation is physically demanding work requiring physical strength.

In addition, women’s limited capacity (some FWUC members referred to this as inexperience or lack of skills) in the water sector is a potential obstacle. Full involvement needs commitment and experience in related issues such as water and irrigation management, agriculture, infrastructure development, gender issues, disaster risk management and mitigation, and climate change adaptation. Local elections provide opportunities for helping women to move into leadership roles. However, because women candidates are generally placed at the bottom of the nomination list, they rarely get the chance to stand for election let alone get elected, although their participation is reported to be generally welcomed.

Water Governance

The tasks involved – for both men and women – in securing water for farming include operating and maintaining irrigation systems, sharing and disseminating information relating to water and farming, and collecting and managing irrigation service fees. Other tasks include consulting community members and villagers on water

Figure 2: Gender Roles in Farmer Water User Communities



Source: Authors’ calculation

allocation quotas, and participating in agricultural development projects, water management plans, and the management and maintenance of irrigation structures. The demand for water has risen because more farmers now have the opportunity to increase their productivity by double-cropping rice. Consequently, there is increased competition for water between agriculture and other users, and between upstream and downstream farming communities. In times of water shortage, this has led to frequent conflicts over the use of water and water allocation during the cropping season. Women have increasingly assisted men in mediating these conflicts because they can find viable and peaceful solutions. This indicates a social and environmental role for women that is as essential as that of men. The empirical data also indicates gender differences in that men tend to focus more on productive work such as growing crops, managing and allocating water, or selling their labour. In contrast, in addition to earning cash from small businesses and various productive roles working alongside men, women tend to be more involved in reproductive (unpaid domestic) work like childcare, collecting food and fuel wood, and fetching water.

IWRM and PIMD have been integrated into national policy and accepted as core strategies to promote local participation in agriculture water management. In response, the FWUC, a community-based organisation managed by locally elected committee, was established. However, the number of women in decision-making positions on the FWUC committees generally remains low. As Figure 2 shows, among the 43 committee members of the FWUCs in the study, only nine were female. Most of the leadership positions in FWUCs are held by men: women mostly hold positions as treasurers and accountants, while men tend to take overall management roles.

Men also provide technical input and make the final decisions. These unequal numbers and uneven power relationships have relegated women to passive and subordinate roles in which they are not directly involved in irrigation water management.

Climate Change Impacts and Adaptive Capacity

Climate Change Impacts

Farmers in all three provinces noted that they are facing more natural disasters and climate-related

impacts, particularly floods, windstorms, high temperatures, vector-borne diseases and droughts (see Table 1). High temperatures bring increasing numbers of pests such as worms, grasshoppers, small caterpillars and brown leafhoppers: pest infestations can destroy many hectares of rice in just one night. As well as reducing crop growth and yield, high temperatures are also linked with increased prevalence and incidence of illness in children. Women in one of the schemes studied said that, in 2012, some young children contracted dengue fever, two of whom died. One farmer reported another tragedy that also occurred in 2012: “A strong windstorm hit the commune. Three children of one family died during the flood. Two drowned in the river. The other one, who had travelled by boat across the village, also drowned after high winds capsized his boat.” Floods (followed by windstorms and prolonged drought) are seen as serious climate issues by rural people. Farmers in another scheme reflected on past disasters: “Our area faced big floods in 2000 and 2001, but they were smaller than the ones that took place in 2009 and 2011.” Other farmers mentioned that the amount, frequency and duration of rainfall had changed, i.e. rainfall duration was sometimes shorter, longer or delayed. In other areas, the prolonged drought of one to three months in 2012 meant there was no rain from mid-May to mid-August. Rice crops were damaged or failed, rivers and streams began drying up, and grass (for feeding animals) withered. Farmers in Pursat commented: “In the past five to 10 years, at this time [August] the stream used to be full of water, but this year [2012] there is hardly any water in the main stream and no fish because the water is so low.”

Other farmers reported that sometimes rain seemed imminent (dark clouds and strong wind), but lately rain had not materialised at all. Drought caused extreme problems for people living far from irrigation schemes because the water in canals or drainage systems was insufficient. Farmers needed to spend a lot on pumping water (pump hire and diesel fuel) for their fields, but some did not have the right equipment, and their paddy crops were damaged. The most vulnerable were the poor, children, and women-headed families/widows.

Field observations show that natural disasters affect men and women almost equally (see Table 1). However, women seem to have less adaptive

capacity than men, in particular in adapting to higher temperatures.

Table 1: Climate Extremes and Impacts on Men and Women

Climate extremes	Level of impact	
	Females	Males
Flood	S	S
Drought	S	S
High temperature	S	M
Vector-borne disease (people)	S	S
Vector-borne disease (livestock)	S	S
Pests	S	S

M=medium, S=severe; Source: Nang and Chhuong 2014

Climate Change Adaptation

The Provincial Department of Women's Affairs (PDWA) plays an important role in gender

mainstreaming and women's empowerment, and women's participation in public life and community groups has been increasing. Village volunteer groups (consisting of men and women) and women's help groups have been created to assist vulnerable and marginalised groups, including women, and to ensure that women's rights and difficulties are addressed. In communes/sangkats and villages, Women and Children's Committees (WCC) have been formed, as have district and province-level Women and Children's Consultative Committees (WCCC). Both work to empower women and have been performing well. Awareness-building activities, focusing on such things as water management, village and commune investment plans, agricultural development and climate issues, are implemented through these. Women in these committees support each other and encourage other women to work equally with men. For example, in

Table 2: Resources Needed, Priorities and Constraints

Type	Resources needed	Priorities	Constraints
Natural resources	Water, land, lakes, rivers, forests, fish and rainwater	Agriculture development and daily consumption Improving natural resource management and governance	Changing climate Geography Irrigation systems Governance of natural resources
Physical resources	Spillways, dams, canals and drainage systems Pumping stations, pumps Roads, water gates and bridges	Expanding irrigation systems Transportation Strengthening land and water management	Limited funds (construction, operation and maintenance) Governance of common pool resources
Financial resources	Household funds Banks Irrigation service fees Rice banks Savings groups Markets	Daily food and nutrition Health and physical energy Improving irrigation, infrastructure and agricultural development	Repaying loans Collecting and managing irrigation service fees Uncontrollable and unstable market prices for agriculture products
Human resources	PDWRAM, PDAFF, PDE, PDWA and other provincial line departments Local authorities and village groups	Agricultural technology, water governance and climate change adaptation Seedlings and farming techniques Processing and preserving of agricultural products Education and gender mainstreaming Improving women's empowerment, knowledge and capacity Increasing women's incomes and participation	Ability to deliver agricultural education, extension services, research and demonstration Farmers' attitudes and knowledge about rice seed selection and farming techniques Education, perception and actual practices used by farmers
Social resources	FWUCs Local authorities and villagers Red Cross and provincial Committee for Disaster Management WCCs, WCCCs, women's help groups, volunteers Savings groups NGOs	Providing support and trust in women's participation Enhancing women's empowerment, awareness and capacity Improving women's rights and access to and control over resources and decision-making	Lack of practical mechanisms for gender mainstreaming and empowerment Knowledge and skills of local stakeholders Education and cultural barriers Participation, opportunity and women's commitment

Source: Nang and Chhuong 2014

two communes in Kompong Thom, women from every village had participated in the volunteer groups³ or village support groups⁴ to help people in the commune during natural disasters, particularly floods and droughts. This reflects local women's vital contribution in improving livelihoods and food security and in adapting to climate change.

However, the time available to women, their capacity and experience, and the encouragement and support they receive from men, are still limited. PDWA and PDWRAM officials in Kompong Thom commented: "Women want to participate in all public work. However, due to their capacity, experience and household duties, only a few can actively take part. Some women are still afraid of the responsibilities that come with being elected as committee leader." Thus, although weakening, cultural barriers and perceptions mean that men are still regarded as the ones who should play the important roles in public and household activities. The effect of this perception varies, but it does inhibit women from participating in public work.

Resources Needed for Minimising Constraints

The empirical data indicates that access to and control over livelihood resources (human, natural, physical, financial and social) are key (Table 2) for integrating climate change adaptation fully into agriculture, fisheries, forestry, and food and water security, for secure local livelihoods.

Men and women have equal rights and access to resources, but natural and physical resources (land, water and irrigation systems) need to be better used and managed, taking into account women, children and other vulnerable groups. Financial resources are needed for the development, management and maintenance of irrigation systems, reservoirs, flood protection dams and rural infrastructure. Human resources are required to provide targeted and timely technical advice and support, and to monitor and enhance women's awareness, capacity, participation and representation, and to build their resilience. Provincial departments and authorities play important roles in supporting women to realise their rights and expand their roles.

³ These are supported by the provincial Red Cross and work closely with provincial and district Disaster Management Committees to help people during natural disasters.

⁴ These are created in each village and consist of two men and one woman, although in some villages all the members are men, and are chaired by the village leader.

At subnational level, women's networks are reactive mechanisms that can support local women in a timely and effective manner. For example, the PDWA rely on their own village-level networks (women's help groups) to support women in villages or communes affected by climate-related disasters because the response from district networks is sometimes slow or remote. Commune or village women's help groups can support local women at any time; they are quick to respond and capable of encouraging local women to take up learning and training.

During natural disasters, local, district and provincial authorities, through the Committee for Disaster Management, coordinate emergency response and assistance to inform and help people at their respective levels. The Cambodian Red Cross and a range of NGOs are also involved. Help can include the identification of safe locations for evacuation, and the provision of seeds, fertiliser, training and field demonstrations to help farmers to recover. Men, women and marginalised groups have equal rights to these services.

However, the fact remains that geographical location and the lack of irrigation systems mean that some farmers lack sufficient access to a reliable water supply to grow their crops, and this results in water shortage, leading to water use conflict and crop loss. Furthermore, in some of the schemes studied, poor rural women and female-headed farm households whose rice fields were far from main canals were unable to cope during natural disasters, despite the existence of help mechanisms (see Table 2). Generally, they own very small plots and lack both human and financial resources. Even access to credit from private companies and banks or microfinance institutions, although much better than in the past, does not solve the problems they face: farmers are reluctant to take out loans because they worry about their ability to repay. Further, although there are mechanisms for gender mainstreaming and women's empowerment (some undertaken by government institutions, local social groups and NGOs), knowledge (especially that of women) and socio-cultural norms in rural areas still hinder farmers from fully accepting and applying gender mainstreaming and women's empowerment.⁵

⁵ During the interviews in some areas, the views expressed by some farmers show that such social and cultural norms are still embedded: women should listen to, or obey, their husbands or leaders and should not talk much in public meetings; women should take care of work at home.

Conclusion

The government has progressively mainstreamed gender policy in water governance, agricultural development, and climate change adaptation to ensure better water allocation, crop production, drought and flood protection, and farmer livelihood resilience (MAFF 2006; MOWRAM 2007b; MOWA 2013). However, women generally still have less experience and expertise than men in water and irrigation management. Their participation in commune affairs is also hampered by the double-workload of both reproductive and productive roles. Men still dominate most of the important positions in the FWUC committees while women rarely hold decision-making authority. In turn, unequal numbers and uneven power relations undermine women's determination to participate. Women have less access to and control over resources to adapt to climate change than men. Because of this, women's voices in decision-making on irrigation system development, dam construction for drought and flood protection, and commune development

projects can be overlooked and the constraints remain.

Farmers are facing more and more climate-related impacts: better water governance, irrigation expansion and local support are crucial to help them to cope and to build livelihood resilience. Since gender equality, women's empowerment and climate change adaptation are closely related, there is a need to integrate gender perspectives into the planning and implementation of climate responses at all levels and across sectors. Overall, this will ensure better climate change adaptation, along with water supply and flood protection, agricultural development and inclusive economic growth. It will also ensure that the rights, responsibilities, opportunities and benefits of men and women are equitable and well protected. Also, the collaboration among provincial departments, local authorities, communities and civil society organisations plays an important role in improving women's right, access to and control over resources needed to mitigate climate disasters.

References

- KhmerView (2013), "History of Cambodia", <http://www.khmerview.com/History-of-Cambodia.html> (accessed 20 February 2013)
- Kumar, Krishna, Hannah Baldwin and Judy Benjamin (2000), *Aftermath: Women And Women's Organizations In Postconflict Cambodia*, Working Paper No. 307, http://pdf.usaid.gov/pdf_docs/pnacj327.pdf (accessed 5 February 2013)
- MAFF, Ministry of Agriculture, Forestry and Fisheries (2006), *Gender Mainstreaming Policy and Strategy* (Phnom Penh: MAFF)
- MOWA, Ministry of Women's Affairs (2013), *Neary Rattanak IV – Five Year Strategic Plan 2014-2018 (first outline)* (Phnom Penh: MOWA)
- MOWRAM, Ministry of Water Resources and Meteorology (2005), *Cambodia IWRM strategy and Road Map*, http://www.gwpsea.org/index.php?option=com_docman&task=doc_download&gid=5&Itemid=135 (accessed 2 January 2013)
- MOWRAM (2007a), *Law on Water Resources Management of the Kingdom of Cambodia*. (Phnom Penh: MOWRAM)
- MOWRAM (2007b), *Gender Mainstreaming Strategy 2007-2010* (Phnom Penh: MOWRAM)
- Nang Phirun (2013), *Climate Change Adaptation and Livelihoods in Inclusive Growth: A Review of Climate Change Impacts and Adaptive Capacity in Cambodia*, CDRI Working Paper Series No. 82 (Phnom Penh: CDRI)
- Nang Phirun and Ouch Chhuong (2014), *Gender and Water Governance: Women's Role in Irrigation Management and Development in the Context of Climate Change*, CDRI Working Paper Series No. 89 (Phnom Penh: CDRI)
- Ross, Russell R. and Andrea Matles Savada (1989), "History of Cambodia", <http://motherearthtravel.com/cambodia/history.htm> (accessed 20 February 2013)
- WEN, Women's Environmental Network (2010), *Gender and The Climate Change Agenda: The Impacts of Climate Change on Women and Public Policy*, <http://www.wen.org.uk/wp-content/uploads/Gender-and-the-climate-change-agenda-21.pdf> (accessed 6 May 2012)
- UN WomenWatch (2009), *Women, Gender Equality and Climate Change*, http://www.un.org/womenwatch/feature/climate_change/downloads/Women_and_Climate_Change_Factsheet.pdf (accessed 28 January 2014)

The Impact of Farmer Organisations on Rice Productivity and Livestock Production, a Follow-up Study¹

Introduction

The main rationale behind the establishment of farmer organisations (FOs) is to provide effective and collective support services to smallholders, thus reducing the major obstacles that make productivity improvement efforts ineffective and enhancing the collective power of small-scale producers within input and output markets. This implies that, in theory, FOs should be able to strengthen farmers' bargaining power and reduce transaction costs. This can potentially lead to increased food security and poverty alleviation through increasing income and driving sustainable agricultural and rural development (Barham and Chitemi 2007; Bachke 2010).

In Cambodia, over 90 percent of the poor live in rural areas and rely on agriculture for their primary sources of livelihood. The country's agricultural sector is characterised by small-scale farming: about 84 percent of rural farmers own less than one hectare of agricultural land (World Bank 2005, 2009). Some studies suggest that smallholder farmers will not be able to leverage their productivity or bargaining power vis-à-vis larger commercial farms and buyers unless institutional arrangements for smallholders to form rural producer organisations are put in place. This has been the case in other developing countries (Couturier *et al.* 2006; Nou 2006; Bingen *et al.* 2003; Chirwa *et al.* 2005; Peacock *et al.* 2004; Abaru *et al.* 2006; Barham and Chitemi 2007).

The literature shows that since the Cambodian government cited FOs and the strategic role of the private sector as key to agricultural and rural development, there have been few studies on the effect these organisations have on rural livelihoods. The existing studies have tried to determine the status of FOs by assessing the numbers and types of organisations, FO registration processes, emerging and major issues FOs face, internal and external factors affecting the success of FOs, and the policies and legal frameworks required to promote the development of FOs in Cambodia (Couturier *et al.* 2006; Nou 2006; Ngin 2010; Chea 2010). All of these studies used qualitative approaches and produced some descriptive statistics.

A baseline survey for an impact assessment of FOs on the food security of rural people in Cambodia, conducted by CDRI in 2011, concluded that participation in an FO impacts positively on rural household food security through improved rice and livestock productivity (CDRI 2012).² However, that study was based on a cross-sectional survey; it mainly aimed at quantifying certain variables in the sample population using propensity score matching (PSM). In 2013, a follow-up survey was carried out to complement the impact assessment study.³ The objectives of that follow-up were to assess the impact of FOs on smallholder productivity in terms of rice yield, measured as kilogrammes per hectare of harvested land, and livestock (pigs and chickens) revenue.

The panel data from that follow-up survey was used in this study and enabled us to estimate the impact of FOs using difference-in-differences (DiD) estimation. Using this technique, we can determine whether FOs have a significant effect on improving the rice and livestock productivity of Cambodian farmers, especially of smallholders.

This study makes two contributions to knowledge in this area. First, using DiD estimation, we have analysed the possible relationship between FO membership and agricultural productivity. Second, using panel data, we have analysed the effect of FOs on rural livelihoods in Cambodia. The study

¹ Prepared by Chhim Chhun and Keo Socheat, research associates in the Poverty, Agricultural and Rural Development Programme, CDRI, with Rithy Longdy, monitoring and evaluation officer, Department of Planning and Public Relations, Ministry of Rural Development.

² Some of the results have been published in Theng *et al.* (2011) and Keo (2013), which can be accessed at www.cdri.org.kh.

³ The authors are grateful to USAID for its generous financial support of the Follow-up Study conducted in 2013. Thanks are also due to the trainers who delivered the "Program Evaluation Short Course for Mid-Career Agriculture, Food Security and Nutrition Professionals", especially Professor Suedi Murari from Michigan State University, USA.

Table 1: Number of Selected FOs and HHs by Province

Province	Number of FOs		Selected households		
	Total	Selected	FO member	Non-FO member	Total
Kampong Thom	328	15	94	104	198
Battambang	411	19	119	132	251
Svay Rieng	573	13	72	83	155
Kampot	143	7	45	50	95
Total	1455	54	330	369	699

Source: CDRI 2012

builds on previous research undertaken by CDRI in 2011 (CDRI 2012). The use of panel data, unlike the cross-sectional data used in the baseline study, provides a good estimation of the impact FOs are having (Khandker *et al.* 2010).

Estimation Methodology

The goal of our research was to analyse the impact participating in an FO has on farmers' agricultural productivity, specifically rice and livestock, using the two-period panel data from the baseline survey in 2011 and the follow-up in 2013. We identified two groups: the treated group, which comprised FO members, i.e. farmers who participated in an FO; and the control group, which comprised farmers who did not participate in an FO. In order to evaluate the effect of FO membership, we used DiD estimation.

DiD estimation calculates the average differences in observed outcomes over time separately for the treated and control groups. Then, after taking into account additional differences between the average changes in outcomes for these two groups, it is possible to identify the treatment effect, i.e. the estimated impact of the issue being assessed – in this case, the effect of participation in FOs.

Data

The study used household data collected for the 2011 baseline impact assessment and another set of data collected from the same households in the 2013 follow-up. Both surveys gathered information about FO members and non-FO members' households such as housing conditions, durable assets, land ownership, harvested area, rice yield, livestock, non-farm activities, credit and loans. Household heads, the spouses of household heads or other adult family members were interviewed face-to-face.

The baseline survey⁴ was carried out in four provinces: Kampong Thom, Battambang, Svay Rieng and Kampot. Three steps were taken to obtain that sample. The first involved the selection of FOs; the second step was to identify the target districts in each province (three districts in Battambang, and two in each of the other three); and the third step was the selection of households (see Table 1).

For our follow-up study, due to resource constraints, we selected only Kampot province. The 2011 baseline survey used propensity score matching (PSM) to compare the variables of interest between the treated and the control groups. This approach selects the control (comparison) group by matching participants and non-participants on the basis of similarities in observed characteristics, discarding unmatched units. The aim of using PSM is to minimise bias and other possible distortions. The variables used were based on the determinants of participation in FOs. These included household head characteristics, household resource endowments, and household location characteristics. The use of PSM at the baseline ensured that households in both groups had comparable characteristics. As Table 2 shows, data from 92 Kampot households was used in the baseline analysis, but the representatives of six households were absent during the follow-up survey, giving us panel data for 86 households (43 households per group).

Table 2: Number of HHs Interviewed in Kampot Province

HH status	Baseline (2011)	Follow up (2013)
Member	45	43
Non-member	47	43
Total	92	86

Source: Authors' calculation

Results

Table 3 shows the results of the descriptive statistics, i.e. the basic features of the baseline and follow-up

⁴ Because an updated list of FOs in the selected study locations was not available, existing lists of FOs in the four provinces were used as the sampling frame for the baseline survey.

datasets. Among the surveyed households, male-headed households were dominant in both groups, throughout. In the baseline and follow-up, the percentages of female-headed households in the treatment group (i.e. FO-members) were higher than in the control group.

There was no difference in years of schooling of the household head between the treatment and the control group, i.e. five years, which implies only a primary level education in both cases. There was a small difference in the household sizes of the treatment and control group – four and five people, respectively. However, the difference in household size between the two groups was the same during the baseline study and the follow-up study. The Khmer literacy levels (the ability to read Khmer) differed slightly between 2011 and 2013: in 2011, it was 77.8 percent for the treatment group and 66 percent for the control group; in 2013, it was 74.4

percent for the treatment and 67.4 percent for the control group. Above 76.7 percent of the household heads in both 2011 and 2013 indicated that they were married. The results also showed a high rate of widows/widowers among the respondents – 20 percent of the household heads in the treatment and 14 percent in the control group.

The role of farming as a source of household income was moderately changed for the treatment group, from 77.8 percent in 2011 to 65.1 percent in 2013, whereas for the control group it reduced by about one-third, from 91.5 percent in 2011 to 60.5 percent in 2013. This suggests that farmers have been considering business activities other than farming. Results for housing conditions show that the percentages of treatment households living in wooden houses with a tiled or tin/fibrous sheet roof slightly increased between baseline and the follow-up. In contrast, the figures for the control group

Table 3: Household Characteristics

Description	Baseline (2011)		Follow-up (2013)		
	Treatment	Control	Treatment	Control	
Sex of HH head (%):	male	75.6	78.7	70.0	84.0
	female	24.4	21.3	30.0	16.0
Age of HH head (years)		47.0	46.0	50.0	49.0
Years of schooling of HH head (years)		5.0	5.0	5.0	5.0
HH size (persons)		4.0	5.0	4.0	5.0
Khmer literacy rate (%)		77.8	66.0	74.4	67.4
Marital status (%):	married	77.8	83.0	76.7	83.7
	divorced	2.2	2.1	2.3	2.3
	widow/widower	20.0	14.9	20.9	14.0
HH source of income (%):	farming activities	77.8	91.5	65.1	60.5
	business activities	8.9	0.0	9.3	7.0
	other	13.3	8.5	25.6	32.6
Housing condition (%):	thatched house	4.4	8.5	0.0	4.7
	wooden house roofed with tiles	40.0	38.3	44.2	23.3
	wooden house roofed with tin/fibrous sheet	51.1	53.2	53.5	72.1
	concrete/brick house	4.4	0.0	2.3	0.0
Drinking water (%):	pump/bore hole	8.9	10.6	23.3	30.2
	dug well	20.0	34.0	20.9	32.6
	pond/stream	64.4	53.2	41.9	30.2
	rainwater	6.7	2.1	14.0	7.0
Cooking fuel (%):	firewood collected	91.1	93.62	83.7	95.4
	firewood bought	2.2	4.26	4.7	2.3
	gas	6.7	2.13	9.3	2.3
	other	0.0	0.0	2.3	0.0
Distance from HH to main market (km)		1.3	1.0	1.3	1.0
HH assets ('0000 riel nominal)		842.6	645.9	978.9	757.9

Source: Authors' calculation

Table 4: Difference-in-Differences Results (kernel-based propensity score applied)

Outcome Variables	Baseline (2011)			Follow-up (2013)			DiD	p-value
	Control	Treated	Diff	Control	Treated	Diff		
Rice								
Yield (kg per ha)	1978.4	2401.6	423.2	1891.3	1996.8	105.4	-317.8	(0.46)
Consumption per capita (kg)	1090.5	1401.2	310.7	757.5	1016.3	258.8	-51.9	(0.82)
Sales per ha (kg)	311.1	499.4	188.3	387.1	546.3	159.1	-29.1	(0.94)
Gross income ('0000 riels)	31.0	50.6	19.6	31.1	35.6	4.5	-15.1	(0.59)
Net profit per ha ('0000 riels)	117.2	200.3	83.1	119.4	129.0	9.6	-73.5	(0.13)
Chickens								
Output per capita (kg)	4.7	11.5	6.8	3.0	12.4	9.3	2.6	(0.55)
Consumption per capita (kg)	1.6	3.6	2.0	0.8	2.0	1.2	-0.8	(0.50)
Sales (kg)	1.4	4.2	2.8	0.6	2.4	1.9	-0.9	(0.56)
Sales per capita ('0000 riels)	1.7	5.5	3.8	0.9	3.6	2.7	-1.1	(0.62)
Pigs								
Output per capita (kg)	22.7	31.8	9.2	9.0	27.6	18.7	9.5	(0.58)
Consumption per capita (kg)	0.0	1.1	1.1	0.0	0.4	0.4	-0.7	(0.64)
Sales (kg)	14.4	18.4	4.0	5.8	22.7	16.9	12.9	(0.36)
Sales per capita ('0000 riels)	13.9	16.9	3.0	5.1	23.9	18.8	15.8	(0.40)

Source: Authors' calculation

indicate a shift towards lower quality housing, with a 15 percentage point decline in tile-roofed wooden houses and a 19 percentage point rise in tin-roofed wooden houses between baseline and follow-up. For drinking water, at baseline, the percentages of households using ponds/streams were high at 64.4 percent for the treatment and 53.2 percent for the control group; at the follow-up in 2013, these percentages, had markedly decreased to 41.9 percent and 30.2 percent, respectively. Meanwhile, the use of rainwater in the treatment group almost doubled to 14.0 percent while that for control group more than tripled to 7.0 percent. Further, the use of pump/bore holes considerably increased, by about two and half times (to 23.3 percent) for the treatment and almost three times (to 30.2 percent) for the control group. Firewood collected was the major source of cooking fuel throughout (in the range of 83 to 95 percent), though it was reduced by 7 percentage points for the control group at follow-up.

The distance from home to the main market varied a little between the treatment and control groups, and there was no change between the baseline and follow-up year, i.e. 1.3 km for the treatment group and 1 km for the control group. Household assets increased, from 8.426.000 riels to 9.789.000 riels for the treatment group and from 645.9 thousand riel to 7.579.000 riels for the control group. However, this

increase had no significant impact on household livelihoods since the t-test (statistical examination) results showed no significance.

The results of the difference-in-differences (DiD) estimation are presented in Table 4. This result has been guided by control variables as shown in Table 5 in the Appendix. The DiD calculations are all minus sums for all outcome variables of rice – yield, consumption, sales, gross income and net profit. However, as the t-statistics show, none of the outcome variables are statistically significant. This implies that FOs have no observed positive impact on FO members' rice productivity.

The results for households that raise chickens, 92 households at the baseline and 78 households at the follow-up survey, show negative differences for the variables of consumption per capita, sales, and sales per capita, as shown in the DiD column. This implies that the outcome at follow-up was lower than that at baseline. The results of the t-test (p-value – that is, the probability that the results of the study are caused purely by chance) indicate that the difference is not statistically significant. From the t-statistics result, we can infer that FO participation had no impact on the productivity of chicken farmers.

In respect of pig raising, there were 77 households in the baseline year and 55 households in the follow-up year. The results in the DiD column give negative

figures for consumption per capita but are positive for sales, output per capita, and sales per capita. However, there is no statistical significance for all variables. We can therefore conclude that FOs had no impact on the productivity of pig farmers in the survey groups.

Conclusion

The results of the CDRI baseline study in 2011 showed that participation in an FO had a positive impact on rural household food security through

improved rice and livestock productivity. That study was based on a cross-sectional survey. However, using panel data in this follow-up study and focussing solely on Kampot, we found that participation in FOs had no impact on productivity in terms of rice and livestock. Our conclusion is that the FOs in our study areas had no significant impact on households' agricultural productivity, i.e. rice and livestock, in the rural province of Kampot. That said, since our sample was small, these results have to be considered for further investigation.

References

- Abaru, M.B., A. Nyakuni and G. Shone (2006), *Strengthening Farmers Organisations: RELMA's Experience in Eastern and Southern Africa*, ICRAF Working Paper No. 23 (Nairobi: World Agroforestry Centre)
- Bachke, M.E. (2010), *Do Farmers' Organizations Enhance the Welfare of Small-Scale Farmers?* Working Paper (As, Norway: Norwegian University of Life Sciences)
- Barham, J. and C. Chitemi (2007), *Collective Action Initiatives to Improve Marketing Performance: Lessons from Farmer Groups in Tanzania*, CAPRI Working Paper No. 74 (Washington, DC: IFPRI)
- Bingen, J., A. Serrano and J. Howard (2003), "Linking Farmer to Market: Different Approaches to Human Capital Development", *Food Policy*, 28, pp. 405-419
- CDRI, Cambodia Development Resource Institute (2012), "Impact Assessment of Farmer Organisations on Food Security for the Rural Poor", unpublished report (Phnom Penh: CDRI)
- Couturier, J., S.O. Savun and P. Ham (2006), "Inventory of Farmer Organisations in Cambodia", draft prepared for Office of Farmer Organisation, Department of Agricultural Extension, Ministry of Agriculture, Forestry and Fisheries, Phnom Penh
- Chea S. (2010), "Final Report on Policy Analysis for Farmer Organisation Development, Department of Agricultural Extension" (Phnom Penh: MAFF, sponsored by IFAD and FAO)
- Chirwa, E., A. Dorward, R. Kachule, I. Kumwenda, J. Kydd, N. Poole, C. Poulton and M. Stockbridge (2005), "Walking Tightropes: Supporting Farmer Organisations for Market Access", *Natural Resource Perspective* (London: Overseas Development Institute)
- Keo S. (2013), "Gender Inequality in Agriculture: A Household Survey of Farmer Organisations in Four Provinces", *Cambodia Development Review*, Vol. 17 (Phnom Penh: CDRI) pp. 13-18
- Khandker, Shahidure R., Gayatri B. Koolwal and Hussain A. Samad (2010), *Handbook on Impact Evaluation: Quantitative Methods and Practices* (Washington, DC: World Bank)
- Ngin C. (2010), "Farmers' Associations in Cambodia: Internal Functions and External Relations", RCSD Research Report (Chiang Mai: Regional Center for Social Science and Sustainable Development)
- Nou Keosothea (2006), "Emerging Structures of Agricultural Cooperatives in Cambodia", *Cambodia Development Review* (Phnom Penh: CDRI) Vol. 10, Issue 1, pp. 9-12
- Peacock, C., A. Jowett, A. Dorward, C. Poulton and I. Urey (2004), "Reaching the Poor: A Call to Action – Investment in Small Agriculture in Sub-Saharan Africa", unpublished report for FARMAfrica (London: Imperial College)
- Schlotter, M., G. Schwerdt and L. Woessmann (2011), "Econometric Methods for Causal Evaluation of Education Policies and Practices: A Non-technical Guide" *Education Economics*, 19(2), pp. 109-137
- Theng V., Nou K., Keo S., Sum S. and Khiev P. (2011), "Farmer Organisations in Cambodia: Do they Improve Food Security of the Rural Poor?" *Cambodia Development Review*, Vol. 15 (Phnom Penh: CDRI) pp. 13-17
- World Bank (2005), *Cambodia Rural Sector Strategy Note: Towards a Strategy for Rural Growth and Poverty Reduction* (Washington, DC: World Bank)
- World Bank (2009a), *Poverty Profile and Trend in Cambodia: Findings from the 2007 CSES* (Phnom Penh: World Bank)

Appendix

Table 5: List of Control Variables (covariates) in the Difference-in-Differences Estimation

Variables	Description	2011			2013		
		Obs	Mean	SD	Obs	Mean	SD
q1_31	Farming activities (dummy)	92	0.85	0.36	86	0.63	0.49
q1_32	Business activities (dummy)	92	0.04	0.21	86	0.08	0.28
q2_1_22	Wooden house roofed with tiles (dummy)	92	0.39	0.49	86	0.34	0.48
q2_1_23	Wooden house roofed with tin/fibrous sheet (dummy)	92	0.52	0.50	86	0.63	0.49
q2_1_24	Concrete/brick house (dummy)	92	0.02	0.15	86	0.01	0.11
q2_1_42	Dug well (dummy)	92	0.27	0.45	86	0.27	0.45
q2_1_43	Pond/stream (dummy)	92	0.59	0.50	86	0.36	0.48
q2_1_44	Rainwater (dummy)	92	0.04	0.21	86	0.10	0.31
q2_1_51	Firewood collected (dummy)	92	0.92	0.27	86	0.90	0.31
q2_1_53	Gas (dummy)	92	0.04	0.21	86	0.06	0.24
q2_1_61	City power (dummy)	92	0.00	0.00	86	0.07	0.26
q2_1_62	Generator (dummy)	92	0.02	0.15	86	0.00	0.00
q2_1_63	Kerosene/gasoline (dummy)	92	0.33	0.47	86	0.10	0.31
q2_1_64	Candle (dummy)	92	0.01	0.10	86	0.01	0.11
q2_1_65	Battery/flash light (dummy)	92	0.62	0.49	86	0.74	0.44
q2_1_67	(Specify) (dummy)	92	0.02	0.15	86	0.01	0.11
q2_1_71	Owned toilet (dummy)	92	0.18	0.39	86	0.22	0.42
q1_2_31	Gender (male=1)	92	0.77	0.42	86	0.77	0.42
q1_2_61	Literacy (yes=1)	92	0.72	0.45	86	0.71	0.46
q1_2_71	Married (dummy)	92	0.80	0.40	86	0.80	0.40
q1_2_73	Widow/widower (dummy)	92	0.17	0.38	86	0.17	0.38
q1_2_92	Farm work (selling labour within the village) (dummy)	92	0.01	0.10	86	0.01	0.11
q1_2_93	Working outside village in Cambodia (dummy)	92	0.04	0.21	86	0.05	0.21
q1_2_94	Migration to work at border (dummy)	92	0.01	0.10	86	0.01	0.11
q1_2_95	Work in other country (dummy)	92	0.02	0.15	86	0.02	0.15
q1_2_96	Civil Servant/NGO staff/company staff (dummy)	92	0.07	0.25	86	0.07	0.26
q1_2_97	Small business/collective small business (dummy)	92	0.26	0.44	86	0.28	0.45
q1_2_98	Collecting resources from water or field (dummy)	92	0.05	0.23	86	0.05	0.21
q1_2_99	Working in construction (dummy)	92	0.16	0.37	86	0.14	0.35
q1_2_910	Money lending (dummy)	92	0.02	0.15	86	0.02	0.15
q1_2_911	Handicraft (dummy)	92	0.02	0.15	86	0.02	0.15
q1_2_912	Selling labour within village (non-farm activities) (dummy)	92	0.01	0.10	86	0.01	0.11
q1_2_4	Age of household head	92	46.64	13.13	86	47.29	13.19
q1_2_8	Education level (years of schooling) of household head	92	5.23	3.72	86	5.26	3.80

Source: Authors' calculation

The Links between Employment and Poverty: Cambodia¹

Introduction

A wide disparity can be observed between poverty and GDP growth in Cambodia. The poor mostly depend on labour for their earnings. And also, given the sectoral structure of the labour market, the working poor are at a disadvantage. So far, they have gained only a small fraction of the total benefits as result of the trickle-down phenomenon of growth. Although a large number of poor people have jobs, to an extent these are in the informal economy where they have neither adequate income nor employment security (Bell and Newitt 2010). Agriculture remains dominant in its capacity of labour absorption (69 percent of the total labour force), while, at 4.8 percent during 2000–11, its growth rate has been slower than other sectors'. Industry has grown quickly but absorbed only 9.1 percent of the workforce. Hence, the employment structure of the country has not changed significantly. Most of the labour force is employed in low-productivity rural activities, while many are unemployed or underemployed. Those in low-wage jobs have had little chance to move out of poverty, to invest in expanding their employment opportunities or to run their own businesses. As a result, in 2011, the incidence of poverty remained significantly high at 19.8 percent (MOP 2012).

The objective of this article² is to explore the links between labour market structure and employment, and the poverty situation in Cambodia. Descriptive analysis of the employment elasticity of growth, labour productivity and real wage growth is used to reveal the labour market structure and trends,

while probit estimation shows the link between employment in agriculture and industry, and the likelihood of poverty.

Methodology

The probit model³ is adopted from studies by Jemio and Choque (2003), Huong *et al.* (2003) and Krongkaew *et al.* (2006) to examine the magnitude of the probable effect employment has on household poverty. The equation model can be expressed as:

$$Y = \alpha + \beta E + \sum \pi X + \varepsilon$$

where, Y is the probability of being poor, E represents household employment (which equals 1 if the household head is employed in agriculture, and 0 if he/she is employed in industry), and X includes household head characteristics (age, education, gender and paid employment), region, household size, household members of different age groups, average working hours/days, on-farm and off-farm income, and land size.

This paper employs mixed macro and micro data for the descriptive analysis, while household data from the Cambodia Socio-Economic Survey (CSES) is used for the probit modelling.

Employment Situation

For this research, employment is defined as work of at least one hour per week (NIS 2011), regardless of occupation. On average, over the 10 years to 2011, 83 percent of the total labour force in Cambodia was participating in employment, accounting for 54 percent of the total population. Sixty percent of those employed were engaged in the agriculture sector, 26 percent in services and 14 percent in industry. Of the total employment in industry, manufacturing alone accounted for 62 percent. The labour force increased by 3.3 percent each year. New formal employment opportunities

¹ Prepared by Phann Dalis, research associate in the Economy, Trade and Regional Cooperation Programme, CDRI.

² This article draws on the findings of a larger study (Phann forthcoming) – part of an inclusive growth project – financially supported by Sida.

³ The probit model is the probability of the outcome variable (taking only two values – in this case whether the household is poor or not) changing when there is a change in the value of a regressor.

increased at the same rate as the labour force from 2009, although they increased at a higher rate of 3.6 percent if the years before 2009 are included. This job creation rate was not enough to employ the entire workforce. However, the unemployment rate was low at an average 1.1 percent, mainly as a result of the loose definition of employment, which takes all employment into account, even work that is considered “vulnerable”, i.e. not stable or regulated. The number of females engaged in economic activities remained low at 78 percent of the total female workforce, while the corresponding figure for males was 86 percent. One of the explanations for this is that females still spend a lot of time on domestic chores, which are considered predominantly female tasks.

Opportunities for employment were greater in rural than in urban areas. According to the CSES, the working population in rural areas constituted an average of 68 percent of the total rural workforce during 2004-11, while in urban areas it was 57 percent. Of the total workers in rural areas, 59 percent were engaged in agriculture, 9.8 percent in manufacturing, 9.5 percent in trade, and around 21 percent in other sectors. Urban employment was mostly in trade (28 percent), agriculture (16 percent), manufacturing (11 percent), public administration and defence (8.0 percent), and other sectors (37 percent).

Employment Elasticity of Growth

The employment elasticity, or employment intensity, of growth shows how the change of sectoral outputs varies the employment opportunity – the extent to which employment is affected by changes in sectoral GDP, and vice versa. Between 1995 and 1998, the overall elasticity was higher than unity – employment increased at a greater rate than output, indicating that employment opportunities would increase by more than 10 percent if GDP grew by that percentage. This period showed, for industry, sound employment growth, but a much lower rate of productivity growth. Agriculture and services absorbed many workers, with high labour productivity to match (Table 1). The following equation expresses the relation between the elasticity of growth and change in employment productivity:

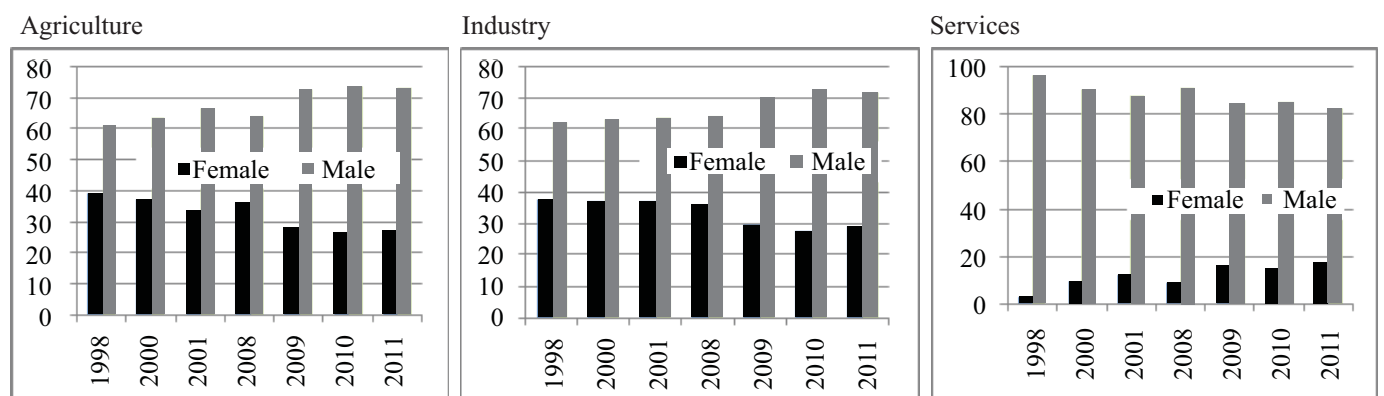
$$\epsilon_i = \frac{\Delta E}{\Delta Y} = \frac{(E_{it} - E_{i(t-1)})/E_{i(t-1)}}{(Y_{it} - Y_{i(t-1)})/Y_{i(t-1)}}$$

$$\epsilon_i = 1 - \frac{\Delta P}{\Delta Y}$$

$$\Delta P = (1 - \epsilon)\Delta Y$$

where, ϵ is employment elasticity of output, E stands for employment and Y for output, i is sector, t is time, and P is productivity.

Figure 1: Male and Female Paid Employment, by Sector (%)



Source: World Development Indicators, 1998–2011

Table 1: Sectoral Employment Elasticity of Output Growth (selected periods)

	1995-98	1999-2003	2004-07	2008-11	2008-11 (without 2009)
Agriculture	0.78	0.44	0.09	-55.76	0.34
Industry	4.33	6.91	-2.71	2.39	-2.15
Services	0.99	1.03	0.71	-3.65	-3.48
Total	1.01	0.74	0.39	-0.16	-0.36

Source: Author's calculations based on NIS 2011; IMF 2009; World Bank-WDI, 1995-2011

Table 2: Sectoral Labour Productivity (USD/hour/worker, selected years)

	1997	1998	2000	2001	2004	2007	2008	2009	2010	2011
Agriculture	0.22	0.17	0.14	0.15	0.18	0.25	0.24	0.30	0.32	0.33
Industry	1.19	0.94	0.75	0.53	0.61	0.62	1.36	0.68	0.70	0.75
Services	0.82	0.40	0.64	0.49	0.43	0.46	0.94	0.64	0.57	0.65
Average	0.37	0.26	0.28	0.27	0.32	0.39	0.50	0.48	0.48	0.51

Source: Author's calculations based on NIS 2011; IMF 2009; CSES, 2004-2011; World Bank-WDI, 1998-2011

From 2008 to 2011, the employment elasticity of output growth in agriculture was hugely negative at 55.8, and in services a negative 3.6. This was the result of the global financial crisis and its aftermath. Table 1 shows that only industry was relatively unaffected by the crisis, with positive elasticity of 2.4. This sector was considered more labour-than productivity-driven, which is confirmed by the elasticity figure. In contrast, agriculture and services were driven more by productivity than by the numbers of people they employed. The likelihood of employment was greater for males than for females. Going on the observed trend between 2008 and 2011, had GDP grown by 10 percent, the likelihood of increased employment for male workers would have been 7.2 percent of the total male labour force, while for females it would have been 6.5 percent of the total female labour force.

Labour Productivity and Real Wage Growth

During 2007-11, labour accounted for an average of 66 percent of inputs to services and 54 percent of inputs to agriculture. The corresponding figure for industry was 43 percent. This emphasises the importance of increased labour productivity as an economic

resource for output growth that can enhance a firm's competitiveness (Krugman 1994).

In 2011, agricultural work produced USD0.33 per hour, an increase of more than two times from 2000 (Table 2). This was due mainly to changes in inputs such as improved seeds and the use of fertilisers, pesticides and machinery. Labour productivity in services was USD0.65 per hour, a slight increase from USD0.64 in 2000. Labour productivity in industry was the highest (USD0.75 per hour) yet it was not a driver of industrial growth, indicating that it represented an ineffective use of labour, which itself had limited capability.

In order to improve the quality of life for its people, Cambodia needs not only employment opportunities but also proper waged employment. The CSES found that the real monthly wage of agrarian workers was an average of KHR228,036 (USD56) in 2011, while those in industry earned an average KHR375,362 (USD93) and in services KHR534,464 (USD132). Wages grew at average rates of 41 percent in agriculture, 15 percent in industry and 11 percent in services during 2007-11. People living in Phnom Penh depended heavily on waged employment, which accounted for 57 percent of the total income sources available to households in that area; in contrast, it was only 25 percent for coastal residents.

Empirical Results

In 2007, households involved in agriculture had an 11 percent higher chance of being poor than those engaged in industry. The likelihood of poverty decreased in 2009, falling to 2.4 percent. Poverty rates could not be ascertained from the data for 2010 and 2011. In every round of the CSES, it was also apparent that an additional year of education for the household head reduced household poverty by 1.8 percent. Furthermore, households with landholdings of at least 1.2 hectares were less likely to be poor, as was also the case for households with a greater number of members aged between 18 and 64. On other hand, a large household size – 4.7 members and above – and a large number of members aged below 18 were factors that could propel households into poverty.

Conclusion

Cambodia's labour market is still narrowly based and dominated by opportunities for male employment. However, female participation in economic activities is increasing in all sectors. Industrial growth was found to be labour-driven,

while its labour productivity was higher than that of agriculture and services, whose growth was productivity-driven. Labour in agriculture and services was easily affected by shocks, as was observed during the financial crisis and its aftermath in 2009. Moreover, those employed in agriculture had a higher probability of being poor than those engaged in other sectors. The factors that help households to escape from poverty are chiefly land ownership and education.

Therefore, suggestions for macro policies include expanding access to agricultural land by fair and accurate documenting, mapping and land titling. This would encourage crop production and enlarge downstream economic activities in processing or retailing. These would, in turn, help the creation of both farm and off-farm employment. Enabling people to have more education is very important, and additional public investment should be allocated especially to lower secondary and secondary education. An enlarged budget should also be made available to primary and lower secondary education as suggested in Tong and Phay (forthcoming).

References

- Bell, S. and K. Newitt (2010), *Decent Work and Poverty Eradication: Literature Review and Two Country Study* (London: Ergon Associates)
- CSES (2004–2011), *Cambodia Socio-Economic Survey* (Phnom Penh: Cambodia National Institute of Statistics)
- Huong L.P., Tuan Q.B. and Minh H.D. (2003), *Employment Poverty Linkages and Policies for Pro-poor Growth in Vietnam* (Hanoi: Institute of World Economy)
- IMF, International Monetary Fund (2009), *Cambodia: Statistical Appendix*, IMF Country Report 09/48 (Washington, DC: IMF)
- Jemio, C.L and C.M. Choque (2003), *Employment-poverty Linkages and Policies: The Case of Bolivia* (Geneva: International Labour Office)
- Krongkaew, M., S. Chamnivickorn and I. Nitithanprapas (2006), “Economic Growth, Employment and Poverty Reduction Linkages: The Case of Thailand”, Issues in Employment and Poverty Discussion Paper 20 (Geneva: ILO)
- Krugman, P. (1994), *The Age of Diminished Expectations* (New York: Norton & Company)
- MOP, Ministry of Planning (2012), *Annual Progress Report* (Phnom Penh: MOP)
- NIS, National Institute of Statistics (2011), *Statistical Yearbook of Cambodia 2011* (Phnom Penh: NIS)
- Phann, D. (forthcoming), *The Links between Employment and Poverty: Cambodia*, Working Paper Series (Phnom Penh: CDRI)
- Tong K. and Phay S. (forthcoming), “Inclusiveness and Spending on Public Education in Cambodia”, *Annual Development Review 2013-14* (Phnom Penh: Cambodia Development Resource Institute)
- World Bank (2014), “World Development Indicators”, <http://data.worldbank.org/data-catalog/-world-development-indicators>

Economy Watch—External Environment¹

This section describes economic indicators of major world economies and economies in south and east Asia.

Despite gradual recovery, the global economy continued to fluctuate as growth in some developed countries remained weak in the third quarter of 2013. East Asian and other emerging economies are still the major contributors to world growth.

Real GDP growth in Indonesia dropped slightly in the third quarter, to 5.6 percent from 5.8 percent a quarter earlier and 6.2 percent a year earlier. Malaysia's GDP growth rose to 5.0 percent from 4.3 percent in the preceding quarter, but declined from 5.2 percent a year earlier. Singapore's economy continued to perform relatively well, growing at 5.8 percent from a mere 0.3 percent a year earlier. Year-on-year growth in Thailand decreased to 2.6 percent in the third quarter from 3.3 percent a year earlier. The current political turmoil could further affect GDP growth this year.

Growth in China and other Asian tigers – Hong Kong, South Korea and Taiwan – remained strong and resilient. Although there had been speculation that China's economy would continue to slow, GDP growth increased to 7.8 percent in the third quarter from 7.5 percent in the previous quarter and 7.4 percent a year earlier. More reform intentions have been unveiled by the Chinese leaders to increase growth further. One of the reforms is to allow more market allocation of resources. This indicates that structural reforms are necessary for long-term sustained growth. Although the issue of islands in the South China Sea probably will not become a full-blown confrontation, diplomatically and to a lesser extent militarily, the conflict has not been off the table. A peaceful resolution between all involved parties is still the best option.

Real GDP growth in Hong Kong increased to 2.9 percent from 1.3 percent a year earlier, and in South Korea increased to 3.3 percent from 1.5 percent.

Uncertainty and vulnerability continued to hamper recovery in the eurozone as growth contracted in the third quarter by 0.4 percent. The US performed well even though the economy is still fragile. The market has been paying close attention to the Fed's quantitative easing policy. A target

has been set of a 6.5 percent unemployment rate and inflation of 2-2.5 percent before the Fed starts tapering off this policy. Japan's economy was strong in the third quarter, growing by 2.7 percent, up from 0.9 percent a quarter earlier and 0.7 percent a year earlier. The increase can be partly attributed to the "Abenomics" three-pronged approach and other structural reforms that Abe's government wants to achieve. One of the current debates is whether to lift restrictions on the imports of agricultural products (e.g. rice). Agriculture is a heavily subsidised sector in Japan.

World Inflation and Exchange Rates

Although monetary policy has been used in some countries to counter the crisis, there have not been alarming signs on inflation. Overall price increases in nearly all economies in the third quarter were at a manageable level. Inflation in Cambodia increased to 3.8 percent from 1.6 percent a year earlier and in Indonesia to 8.6 percent from 4.5 percent. Japan escaped deflation in the third quarter although this is not guaranteed to continue. Inflation in the US remained low despite quantitative easing II, which involves printing money to buy Treasury securities. Some critics speculate that the current low inflation might push the US into deflation.

In the third quarter, the riel depreciated 0.7 percent from a quarter earlier against the dollar, but remained unchanged from the preceding year. The Chinese yuan appreciated 1.6 percent from a quarter earlier (4.7 percent year on year) against the dollar. The Japanese yen depreciated 25.8 percent from a year earlier. This has given Japanese investors further competitive advantage in exports.

Commodity Prices in World Markets

The price of maize decreased 15.5 percent (24.7 percent year on year) to USD246.2/tonne, of palm oil by 2.7 percent (16.7 percent year on year) to USD827.3/tonne, of rubber by 4.1 percent (14.5 percent year on year) to USD2394.6/tonne, of rice by 11.9 percent (15.7 percent year on year) to USD502.3/tonne and of soybeans by 4.3 percent (16.1 percent year on year) to USD545.1/tonne. The price of crude oil (OPEC spot) rose by 5.9 percent from a quarter earlier (0.3 percent year on

¹ Prepared by Roth Vathana, research associate at CDRI.

year) to USD106.9/barrel and of gasoline (US Gulf Coast) by 2.9 percent (2.4 percent year on year) to USD0.73/litre. The price of diesel (low sulphur No. 2) increased by 5.3 percent from the preceding

quarter to USD0.80/litre, but dropped by 1.8 percent year on year. Overall, prices of major agricultural commodities were trending downward, despite slight increases in oil prices.

Economy Watch—External Environment

Table 1: Real GDP Growth of Selected Trading Partners, 2007–13 (percentage increase over previous year)

	2007	2008	2009	2010	2011	2012				2013		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
Selected ASEAN countries												
Cambodia	10.2	6.8	0.1	6.0	6.1	-	-	-	-	-	-	-
Indonesia	6.3	6.1	4.2	6.2	6.5	6.3	6.4	6.2	6.1	6.0	5.8	5.6
Malaysia	6.3	4.6	-2.4	9.0	4.9	4.7	5.4	5.2	6.4	4.1	4.3	5.0
Singapore	7.7	1.1	-4.5	14.7	4.7	1.6	1.9	0.3	1.5	0.2	3.7	5.8
Thailand	4.9	2.6	3.3	7.9	0.0	0	4.2	3.3	19.5	5.4	2.6	2.6
Vietnam	8.5	6.2	4.7	6.7	6.1	-	-	-	-	-	-	-
Selected other Asian countries												
China	11.9	9.0	8.2	10.4	9.3	8.1	7.6	7.4	7.9	7.7	7.5	7.8
Hong Kong	6.4	2.4	-3.2	6.9	4.9	4.2	3.6	1.3	2.5	2.8	3.3	2.9
South Korea	4.9	2.2	-1.0	6.1	3.6	3	2.4	1.5	1.6	1.5	2.3	3.3
Taiwan	5.2	0.1	-3.6	11.1	4.2	0.4	-0.2	1.0	3.7	1.7	2.3	1.7
Selected industrial countries												
Euro-12	2.9	0.9	-3.8	1.6	1.6	0	-0.4	-0.6	-0.9	1.1	-0.7	-0.4
Japan	2	-0.7	-5.4	4.1	-0.8	2.8	3.5	0.1	0.5	0.4	0.9	2.7
United States	2.2	1.1	-2.5	2.7	1.8	2.1	2.2	2.5	1.6	1.8	1.4	1.6

Sources: International Monetary Fund, Economist and countries' statistic offices

Table 2: Inflation Rate of Selected Trading Partners, 2007–13 (percentage price increase over previous year—period averages)

	2007	2008	2009	2010	2011	2012				2013		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
Selected ASEAN countries												
Cambodia	19.7	19.7	-0.5	4.1	5.5	5.5	2.9	1.6	1.8	1.5	2.2	3.8
Indonesia	10.1	10.1	4.7	5.1	5.4	3.8	4.5	4.5	4.4	5.3	5.7	8.6
Malaysia	5.3	5.3	0.4	1.7	3.2	2.3	1.7	1.4	1.3	1.4	1.8	2.2
Singapore	6.5	6.5	0.5	2.9	5.2	4.9	5.2	4.2	4.0	3.6	1.6	1.8
Thailand	5.5	5.5	-0.9	3.1	3.8	3.4	2.6	2.9	3.2	3.1	2.3	1.7
Vietnam	23.3	23.3	7.3	9.0	18.6	16.0	8.6	5.6	7.0	6.9	6.6	7.0
Selected other Asian countries												
China	5.9	5.9	-0.8	3.2	5.4	3.8	2.9	1.9	2.1	2.4	2.4	2.8
Hong Kong	4.3	4.3	-0.3	2.4	5.3	5.2	4.2	3.1	3.8	2.2	4.0	5.3
South Korea	4.6	4.6	2.8	3.0	4.4	2.9	2.4	1.6	1.7	1.4	1.1	1.2
Taiwan	3.2	3.2	-1.1	1.0	1.4	1.3	1.6	3.0	1.9	1.8	0.8	0.0
Selected industrial countries												
Euro-12	3.3	3.3	0.4	1.6	2.7	2.7	2.5	2.5	2.3	1.8	1.5	1.3
Japan	1.4	1.4	-1.3	-0.7	0.1	0.3	0.2	-0.4	-0.2	-0.3	-0.3	0.9
United States	3.8	3.8	-0.4	1.7	3.2	2.8	1.9	1.7	1.9	1.7	1.4	1.6

Sources: International Monetary Fund, Economist and National Institute of Statistics

Table 3: Exchange Rates against US Dollar of Selected Trading Partners, 2007–13 (period averages)

	2007	2008	2009	2010	2011	2012	2013				2013		
							Q1	Q2	Q3	Q4	Q1	Q2	Q3
Selected ASEAN countries													
Cambodia (riel)	4062.7	4054.2	4140.5	4187.1	4063.6	4046.0	4054.3	4060.2	3995.9	3995	4032.9	4062.0	
Indonesia (rupiah)	9419.0	9699.0	10413.8	9089.9	4374.0	9066.0	9281.3	9490.3	9614.6	9681.9	9783.6	10666.0	
Malaysia (ringgit)	3.3	3.3	3.5	3.2	1.5	3.1	3.1	3.1	3.1	3.1	3.0	3.2	
Singapore (S\$)	1.5	1.4	1.5	1.4	1.3	1.3	1.3	1.6	1.2	1.2	1.2	1.3	
Thailand (baht)	32.2	33.4	34.3	31.7	30.5	31.0	31.3	31.3	30.7	29.8	29.9	31.4	
Vietnam (dong)	16,030.0	16,382.0	17,725.2	19,200.8	20,241.9	20891.3	20,849.7	20,847.5	20,839.3	20,829.6	20,828.0	20,908.7	
Selected other Asian countries													
China (yuan)	8.0	6.9	6.8	6.76	6.3	6.3	6.3	6.4	6.2	6.2	6.2	6.1	
Hong Kong (HK\$)	7.8	7.8	7.8	7.77	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	
South Korea (won)	929.0	1137.2	1277.8	1156.3	1108.6	1131.2	1152.6	1132.9	1089.9	1085.9	1123.4	1108.8	
Taiwan (NT\$)	32.9	31.5	33.0	31.3	29.4	29.7	29.6	29.8	29.2	29.5	29.9	29.9	
Selected industrial countries													
Euro-12 (euro)	0.7	0.8	0.7	0.8	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	
Japan (yen)	117.8	102.5	93.6	87.8	79.9	79.3	80.1	78.6	81.3	92.3	98.8	98.9	

Sources: International Monetary Fund, Economist and National Bank of Cambodia

Table 4: Selected Commodity Prices on World Market, 2007–13 (period averages)

	2007	2008	2009	2010	2011	2012	2013				2013		
							Q1	Q2	Q3	Q4	Q1	Q2	Q3
Maize (USNo.2)—USA (USD/tonne)	149.1	218.2	167.3	167.3	291.4	277.5	270.5	327.1	310.9	305.2	291.4	246.2	
Palm oil—north-west Europe (USD/tonne)	707.7	912.2	686.8	834.7	1125.4	1106.7	1083.3	993.0	809.3	852.7	850.3	827.3	
Rubber SMR 5 (USD/tonne)	2202.3	2586.3	1884.8	3152.2	4630.6	3701.2	3361.0	2799.2	2941.5	3029.5	2497.2	2394.6	
Rice (Thai 100% B)—Bangkok (USD/tonne)	305.4	615.3	524.5	456.2	558.5	571.7	600.3	595.7	597.0	607.0	570.0	502.3	
Soybeans (US No.1)—USA (USD/tonne)	294.6	460.4	414.0	375.4	507.9	490.8	546.5	649.4	577.8	558.4	569.8	545.1	
Crude oil—OPEC spot (USD/barrel)	69.3	95.4	60.5	71.6	106.2	117.4	106.7	106.6	107.3	109.5	100.9	106.9	
Gasoline—US Gulf Coast (cents/litre)	53.6	62.2	42.9	49.8	71.9	73.4	74.0	71.6	73.4	74.8	71.2	73.3	
Diesel(low sulphur No.2)—US Gulf Coast (cents/litre)	55.5	76.20	43.05	51.6	75.7	83.8	77.8	81.1	80.3	81.5	75.6	79.6	

Sources: Food and Agriculture Organisation and US Energy Information Administration

Economy Watch—Domestic Performance¹

Main Economic Activities

As most sectors performed relatively well in the third quarter, annualised growth in Cambodia is projected to be around 7 percent this year. Political confrontation between the opposition and the ruling parties has been heated since the July national election.

In the third quarter, fixed asset investments approved by the Council for the Development of Cambodia declined by 87.7 percent from the preceding quarter (39.9 percent year on year), to USD257.9 m. The drop was mainly attributable to decreased investments in industry. Investments in garments went down 14.7 percent from a quarter earlier (39.2 percent year on year) to USD65.2 m. Business uncertainty resulting from demonstrations

by the opposition party and workers to demand higher wages could partly explain the drop. There has also been speculation that investments in garments could be shifted to other countries if the minimum wage in Cambodia keeps increasing; one of the potential contenders is Myanmar. The demand for USD160/month minimum wage is too sudden for factory owners to meet. The increase needs to be incremental. In addition, informal fees have to be eliminated. Investment in agriculture rose to USD133.1 m from the preceding quarter, but dropped by 26.5 percent year on year. Although the government has shifted attention to improving the competitiveness and productivity of agriculture, the sector has not gained full confidence from investors. Fluctuation in investment remains one of the

¹ Prepared by Roth Vathana, research associate and Pon Dorina, research assistant, at CDRI.

challenges to achieving 1 million tonnes of milled rice exports. Despite a quarterly drop, investment in services increased to USD5.3 m from the preceding year. However, there were no investments in hotels and tourism-related activities. Tourist arrivals in the third quarter increased by 4.8 percent from a quarter earlier (17.5 percent year on year), of which those by air rose 7.5 percent (15.5 percent year on year) and by land and water 2.7 percent (19.2 percent year on year). The political stalemate has not negatively affected arrivals.

Construction has gradually recovered. The total value of construction in the third quarter increased by 60.0 percent from the previous quarter, to USD450.3 m; villas and houses jumped to USD51.6 m from USD10.3 m a quarter earlier and USD18.3 m the preceding year; and flats increased to USD62.7 percent from USD61.6 m year on year.

Despite confrontation and disagreement between employers and owners, particularly on the minimum wage, and speculation that investors could shift to Myanmar, exports of garments and textile products, accounting for almost 80 percent of the total export value, in the third quarter increased. Total exports increased by 22 percent from a quarter earlier (23.4 percent year on year) to USD2.0 bn, of which exports of garments increased by 24.6 percent (18.0 percent year on year) to USD1.6 bn. The US and the EU remain the two major markets, accounting for 38.1 percent and 36.5 percent of total garment exports, respectively. Gradual recovery in the US and EU is an important external factor for Cambodia's economy. Initiatives to diversify markets are also crucial. Exports of agricultural commodities, of which two important ones are rice and rubber, skyrocketed to USD362.4 m, USD86.1 m more than a year earlier.

In the third quarter, total imports dropped by 6.9 percent from a quarter earlier to USD2.1 bn, but increased by 2.2 percent year on year. Imports of gasoline declined by 7.6 percent from the preceding quarter (8.6 percent year on year), while those of diesel rose by 9.8 percent (9.1 percent year on year) and of construction materials by 1.4 percent (9.1 percent year on year). The trade deficit in the third quarter decreased by 85 percent from the previous quarter (78.5 percent year on year) to USD89.8 m.

Public Finance

In the third quarter, total revenue declined by 73.1 percent from the preceding quarter (68.8 percent year on year) to KHR592.8 bn. Current revenue dropped by 73.3 percent (67.4 percent year on year). Tax revenue, which accounted for 87.3 percent of the total, decreased 74.7 percent from a quarter earlier (67.2 percent year on year) to KHR512.2 bn. Revenue from domestic taxes went down 75.2 percent (66.7 percent year on year) to KHR409.2 bn, and from international trade by 72 percent (68.6 percent year on year) to KHR104 bn. The decrease might partly be attributable to the political stalemate since the July national election. Frequent strikes and demonstrations by garment factory workers, some of which were suppressed, also affect production, further decreasing taxable income of factories. In the same quarter, total government expenditure dropped by 67.2 percent from a quarter earlier (78.6 percent year on year) to KHR631.7 bn, of which current expenditure decreased 74.8 percent (75.8 percent year on year) to KHR424.7 bn. Although the decline might reflect government's continued commitment to curbing unnecessary spending, the decreased funds to important categories such as civil servant wages and subsidies and other social assistance could jeopardise long-term growth and affect the efforts to narrow social and economic inequality. Expenditure on wages went down 70.9 percent from the preceding quarter (73.9 percent year on year) to KHR171.8 bn, and on subsidies and social assistance by 84.9 percent (79.1 percent year on year) to KHR96.7 bn.

Inflation and Foreign Exchange Rates

Although still manageable, inflation has been trending upward for the last three quarters. In the third quarter, inflation rose to 3.7 percent from 2.3 percent a quarter earlier and 1.6 percent a year earlier. The price of food and non-alcoholic beverages went up to 4.8 percent, compared to 1.3 percent a year earlier. This could have a significant impact on the living standards of poor and lower middle income families if nominal wages stagnate. The price of gold declined by 7.1 percent from the preceding quarter (18.8 percent year on year) to USD161.1/chi, and of gasoline by 0.6 percent (0.1 percent year on year) to KHR5245.2/litre. The price of diesel fuel in the third quarter went up 0.6 percent from

the previous quarter (0.8 percent year on year) to KHR5022.5/litre.

Monetary Developments

Total liquidity in the second quarter of 2013 rose by 3.9 percent from the preceding quarter (18.8 percent year on year) to KHR31,659.1 bn. Net foreign assets went up 9.0 percent from a quarter earlier (16.2 percent year on year) to KHR21,772.9 bn. In the same period, money increased by 1.9 percent from the previous quarter (18.4 percent year on year), and quasi-money by 4.2 percent (18.8 percent year on year). The increased liquidity is a good sign for the economy. Nonetheless, the government needs to make sure that the bubble does not burst. The growing money supply is another aspect for close monitoring by the National Bank of Cambodia. Although there has been no significant increase in annual inflation, an excessive money supply could result in high prices in the long run. Although most world prices of major agricultural commodities decreased in the third quarter, despite a slight increase in crude oil, an increase in overall prices could be monetarily induced.

Poverty Situation

In November, real daily income of all vulnerable groups increased compared with the same period the previous year. Compared with August, the earnings of porters, motor taxi-drivers, waiters/waitresses, and rice field workers declined, while those of other groups rose.

Daily earnings of rice field workers dropped by 18 percent from KHR 7770.9 riels in August. The number of workers in the field declined because some found jobs in other occupations, while wage rates did not rise, according to 70 percent of the interviewees. Thirty-five percent of workers worked at least 14 days/month. Their daily earnings could only partly support their families, reported 70 percent. They would mostly get loans or ask for help from relatives if their earnings could not meet their daily expenditures, which were largely on food.

Almost 98 percent of cyclo drivers randomly selected for the survey were from provinces, especially Svay Rieng (28 percent). Eighty-five percent of them came to Phnom Penh alone. They earned 1.9 percent more than in the previous survey, reaching 10,841.6 riels/day, mainly because of fewer workers. The drivers had to send money

home because they were the only family income source. Sixty-eight percent of them stayed on the road or in a pagoda.

The reason real daily earnings of porters declined 6.3 percent from the preceding survey was due mainly to an increase in the number of workers, according to 88 percent of respondents. Their earnings could not fully support their families; an average 88 percent of their income was spent on food and nearly 10 percent on house rental.

Vegetable traders earned 8.3 percent more than in August. Forty percent of them were from Kandal and commuted home every day. Of their daily expenditure, 8.7 percent was on transportation and 88 percent on food. The traders' earnings did not allow them to save to expand their trading.

Real daily earnings of unskilled construction workers rose by 3.1 percent. All the interviewees were from the provinces, 48 percent of them from Svay Rieng. Seventy percent rented housing, living with an average of nine people and sharing rents. All the respondents were heads of households but they were not able to provide their families full support.

Similarly to porters, moto-taxi drivers earned 3.4 percent less than in August, falling to 13,189.2 riels/day. Twenty-five percent of the drivers were from Prey Veng province, followed by Svay Rieng (17 percent) and Phnom Penh (12 percent). The number of drivers had increased because they could not find other occupations. More than half of the interviewees rented housing with at least four people. Food took almost 96 percent of their total expenditure.

In November, real daily earnings of waiters/waitresses fell 1.0 percent to 6722.7 riels/day. All interviewees were provided lodgings by the restaurant they worked in. Of their daily expenditures, an average of 41 percent went on food. Seventy-eight percent could remit money home. Workers rarely kept money for themselves or future occupations.

Garment workers earned 10,441.5 riels/day, an increase of 0.2 percent from the previous survey. With this amount, they could only partially support their families, and could not save. Fifty-five percent did not want to change jobs and would stay in their work as long as they could because they did not have any skills. Workers completed an average of six grades of school. Eighty-two percent were trained after being employed.

Economy Watch—Indicators

Table 1: Private Investment Projects Approved, 2007–13*

	2007	2008	2009	2010	2011	2012				2013		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
	Fixed Assets (USD m)											
Agriculture	135.6	92.0	615.0	530.68	725	154.73	81.2	181.1	114.6	2.3	56.8	133.1
Industry	709.1	724.9	818.5	403.66	2860.1	211	173.7	245.6	196.5	195.4	1928.3	119.5
<i>Garments</i>	170.7	142.8	90.1	122.81	393.9	139.4	97.5	107.2	152.9	109.5	76.4	65.15
Services	1742.5	10,003.2	4432.0	1337.34	3425.4	50.9	18.0	2.1	845.6	21.2	106.0	5.3
<i>Hotels and tourism</i>	1048.3	8758.1	3980.1	1105.14	2850.9	50.9	0.0	0.0	640.6	0.0	106.0	0.0
Total	2587.2	10,570.9	5865.5	2271.7	7010.42	416.59	273.0	428.8	1156.6	218.9	2091.1	257.9
	Percentage change from previous quarter											
Total	-	-	-	-	-	68.9	-33.9	55.6	169.8	-81.1	855.5	-87.7
	Percentage change from previous year											
Total	246.6	308.6	-44.5	-61.3	209	48.4	-89.6	-84.4	-13.6	-47.5	666.0	-39.9

* Including expansion project approvals. Source: Cambodian Investment Board

Table 2: Value of Construction Project Approvals in Phnom Penh, 2007–13

	2007	2008	2009	2010	2011	2012				2013		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
	USD m											
Villas and houses	79.1	154.7	64.3	36.2	185.5	64.8	66.6	18.3	8.5	145.2	10.3	51.6
Flats	297.2	221.6	149.6	183.8	219.6	60.8	219.3	61.6	10.2	114.1	33.0	62.7
Other	259.6	740.9	227.3	269.7	199.9	197.2	47.8	94.9	41.2	154.4	238.3	336.0
Total	635.8	1117.0	441.2	489.8	605.0	322.8	333.6	174.9	59.9	443.7	281.6	450.3
	Percentage change from previous quarter											
Total	-	-	-	-	-	117.1	3.3	-47.6	-65.8	590.9	-36.5	59.9
	Percentage change from previous year											
Total	96.7	75.7	-60.5	11	23.5	145.5	331.1	-29.3	-59.7	28.1	-15.6	157.5

Source: Department of Cadastre and Geography of Phnom Penh municipality

Table 3: Foreign Visitor Arrivals, 2007–13

	2007	2008	2009	2010	2011	2012				2013		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
	Thousands											
By air	79.1	1239.4	1111.7	1304.3	1480.4	5137.6	317.1	370.5	500.7	611.2	398.1	428.0
By land and water	297.2	881.9	999.7	1094.6	14014.6	4814.5	424.3	450.3	506.1	560.9	522.5	536.6
Total	259.6	2121.3	2111.5	2398.9	28818.6	9952.1	761.4	820.9	1006.8	1172.1	920.5	964.6
	Percentage change from previous quarter											
Total	-	-	-	-	-	24.9	-23.5	7.8	22.6	16.4	-21.5	4.8
	Percentage change from previous year											
Total	96.7	5.3	0.5	13.6	20.1	27.8	25.5	17.3	26.3	17.8	20.9	17.5

Source: Ministry of Tourism

Table 4: Exports and Imports, 2007–13*

	2007	2008	2009	2010	2011	2012				2013		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
	USD m											
Total exports	3161.6	3097.8	2901.6	3630.2	4929.5	1280.1	1775.9	1595.8	1454.7	1576.9	1620.1	1969.9
Of which: Garments	3050.2	2986.2	2565.3	3223.4	4259.6	1070.78	1474.7	1329.1	1140.83	1225.2	1258.95	1568.5
<i>To US</i>	1959.9	1908.3	1512.6	1853.9	2055.3	493.31	627.3	566.6	456.07	526.8	474.62	597.86
<i>To EU</i>	660.9	689.0	644.7	809.5	1322.2	328.4	504.1	462.7	421.82	397.5	477.47	572.76
<i>To ASEAN</i>	90.3	10.76	6.9	9.9	17.63	6.43	11.7	11.4	9.76	13.0	12.66	17.36
<i>To Japan</i>	30.1	25.2	44.5	86.5	146.97	50.11	48.9	47.1	42.47	57.6	51.39	98.13
<i>To rest of the world</i>	309.0	352.9	356.5	463.6	717.5	192.53	282.7	241.3	210.71	230.3	242.81	282.39
Agriculture	55.6	44.5	73.1	164.9	362.05	80.52	101.3	86.1	108.77	123.8	128.9	362.4
<i>Rubber</i>	41.0	35.8	51.6	89.1	197.63	40.27	46.4	46.1	43.84	36.6	38.67	282.39
<i>Wood</i>	8.7	3.4	3.5	34.1	48.79	8.9	12.4	4.1	11.6	14.5	8.88	16.86

Table 7: Monetary Survey, 2006–13 (end of period)

	2006	2007	2008	2009	2010	2011	2012			2013		
							Q1	Q2	Q3	Q4	Q1	Q2
	Billion riels											
Net foreign assets	7224.0	10,735.0	10,345.0	14,655.0	16,697.9	17,893.9	19,976.7	18,729.6	18,463.8	18,154.5	19,976.7	21,772.9
Net domestic assets	-282.0	576.0	1513.3	1573.0	2778.9	5760.8	7931.8	7922.3	8400.3	10,437.4	10,504.1	9886.1
Net claims on government	-953.0	-1816.0	-2987.0	-2252.0	-2126.6	-2123.1	-2991.6	-2399.9	-2440.6	-2486.4	-2991.6	-3012.6
Credit to private sector	3630.0	6386.0	9894.0	10,532.0	13,331.2	17,552.8	24,820.2	20,081.4	21,398.2	23,536.6	24,820.2	25,146
Total liquidity	6942.0	11,311.0	11,858.0	16,228.0	19,476.8	23,654.7	30,480.8	26,651.9	26,864.1	28,591.9	30,480.8	31,659.1
Money	1658.0	2052.0	2399.0	3120.0	3220.9	3956.2	4500.6	3871.8	3818.2	4045.7	4500.6	4585.9
Quasi-money	5285.0	9259.0	9459.0	13,108.0	16,255.9	19,698.5	25,980.2	22,780.1	23,046.0	24,546.2	25,980.2	27,073.2
	Percentage change from previous year											
Total liquidity	38.1	62.9	4.8	36.9	20.0	17.8	22.4	21.1	18.6	20.9	22.6	18.8
Money	25.3	23.8	16.9	30.1	3.2	16.9	12.9	9.4	3.7	2.3	12.9	18.4
Quasi-money	42.8	75.2	2.2	38.6	24.0	17.9	24.4	23.4	21.5	44.6	24.4	18.8

Source: National Bank of Cambodia

Table 8: Real Average Daily Earnings of Vulnerable Workers (base November 2000)

	Daily earnings (riels)									Percentage change from previous year		
	2008	2009	2010	2011	2012	2013			2013			
					Aug	Nov	May	Aug	Nov	May	Aug	Nov
Cyclo drivers	12,628	8091	9055	9532	10,690	10,454	10,681	10,636	10,842	-0.0	-0.5	3.7
Porters	9005	9549	9964	10,785	12,479	12,574	12,823	14,157	13,260	0.9	13.4	5.5
Small vegetable sellers	9926	8273	8266	8337	10,347	10,542	11,571	11,490	12,449	16.9	11.0	18.1
Scavengers	4652	5857	6698	8388	9139	9328	10,440	9620	9732	26.3	5.3	4.3
Waitresses*	4327	4646	5607	5986	5569	6436	6744	6791	6723	7.7	22.0	4.4
Rice-field workers	8697	6197	5691	5695	8483	5000	6427	7771	6388	-0.1	-8.4	27.8
Garment workers	6554	7085	7746	8409	9599	8989	9776	10,420	10,442	13.6	8.6	16.4
Motorcycle-taxi drivers	15,691	10,685	10,623	11,568	12,807	13,042	12,522	13,656	13,189	-8.0	6.6	1.1
Unskilled construction workers	8779	8343	8790	10,307	10,690	11,375	13,728	13,023	13,431	18.5	21.8	18.1
Skilled construction workers	12,710	12,487	11,952	13,159	14,029	14,270	14,136	15,822	16,647	10.0	12.8	16.7

* Waitresses' earnings do not include meals and accommodation provided by shop owners. Surveys on the incomes of waitresses, rice-field workers, garment workers, motorcycle taxi drivers and construction workers began in February 2000. Source: CDRI

Cambodia Development Review—2013 Subscription Rates

Domestic Subscription (Individual)

English edition (\$14) Khmer edition (5,000 riels) Payment by cash or local cheque (please add \$2 to cover bank charges for processing local cheques). Total payment enclosed.....

Domestic Subscription (Discount Price for Bulk Orders—Five Copies)

English edition (\$60 for five copies) Khmer edition (20,000 riels for five copies) Payment by cash or local cheque (please add \$2 to cover bank charges). Total payment enclosed.....

International Subscription (Individual)

Thailand, Laos, Vietnam English edition (\$25)* Khmer edition (\$15)*
 Asia and Europe English edition (\$30)* Khmer edition (\$20)*
 Americas and Africa English edition (\$35)* Khmer edition (\$25)*

Details for payment by telegraphic transfer

Account Name: CDRI
Account Number: 133451
Bank Name: ANZ Royal Bank (Cambodia) Ltd
Bank Address: Phnom Penh, Cambodia Head Office
Swift Code: ANZBKHPP
Receiver Correspondent Bank: JP Morgan Chase Manhattan Bank, N.A., New York, USA
Swift Code: CHASUS33

Title: Mr Ms Dr Other

First name: Last name: Position:

Organisation / Company:

Address (CCC Box if applicable):

City / Province: Country:

Telephone: Fax:

e-mail: Tick to receive regular information about CDRI publications via e-mail

To subscribe, please fill in this form and return it to CDRI with your payment. Do not send cash through the post.
You will need to inform the Publishing Department at CDRI if your contact details change.

Continued from page 28

Cambodia's south coast, to review the achievements of 2013 and lessons learned, and identify priorities for 2014 and beyond. The final two sessions, with the participation of the Chair of CDRI's Board of Directors, HE Dr Sok Siphana, considered what Cambodia's changing development environment means for CDRI's work, CDRI's leadership transition, and future institutional priorities.

RESEARCH

Democratic Governance and Public Sector Reform (DGPSR)

Nine research projects are in progress. Five research studies have been finalised and are being published as working papers and as articles for the *Annual Development Review* (ADR). The first is entitled *Sub-National Civil Society in Cambodia: A Gramscian Perspective*. A second called 'All Good Things Do Not Go Together' – *Analysing Contradictions between Peace-building and Democratisation* has been conducted with the University of Gothenburg to identify how and why conflicts emerge (in the short- and long-term). A third is *Impact of Decentralisation on Urban Governance*. The two ADR chapters are to be published under the titles *Interrelationship between District and Commune Councils: Representation and Accountability in Local Governance*, and *The Effect of D&D Reforms on Local Democracy from a Political Geographer's Perspective: A Case Study of the Tonle Sap Demarcation Project*.

Four other projects are going smoothly. First, *D&D Reform and Youth Political Participation* is at the stage of data collection and the writing-up of the first draft. Second, interviews at national level have been finished for *Linking Local Governance and SME Development*, and the team is working on the second draft. Third, fieldwork and data analysis have been carried out at local level for the study on *Cambodian State: How is it Developmental?* This uses the developmental state model to assess the impacts of governance reforms on the state's institutional ability to promote development. The project *Political Settlement and Inclusive Growth in Cambodia*, part of a multi-country study, uses political settlements analysis to understand how fast a country develops, how inclusive that development is, and whether the development is sustainable.

Economy, Trade and Regional Cooperation Programme (ETRC)

The quarterly *Vulnerable Worker Survey* and monthly *Provincial Price Survey* are progressing well.

The report on *ASEAN 2030 Phase II: Growing Together for Economic Prosperity – the Challenges: Cambodia Background Paper*, funded by ADBI, is being finalised for publishing as a CDRI Working Paper. The next volume in the Greater Mekong Subregion Development Analysis Network (GMS-DAN) series entitled "An Assessment of the State of Inclusiveness of Growth in Cambodia, Laos, Thailand, Vietnam and Yunnan Province of China" and its synthesis report are being prepared.

The remaining three studies under the Sida-supported five-year research project on *Inclusive Growth* are in different phases: the short version of *Pro-poorness of Fiscal Policy-Education Expenditure* is being finalised for publishing in the upcoming ADR and its full version is being prepared to publish as a CDRI Working Paper. The draft reports on *Economic Growth, Inequality and Poverty Reduction* and *Labour Market Policy* are expected by the first quarter of 2014.

The interim report on *Labour Migration in Cambodia: Causes and Impact on Poverty, Inequality and Productivity* has been approved by the Partnership for Economic Policy (PEP) and is being finalised after addressing comments. The preliminary report on *Interrelations between Partner Countries' Public Policy, Migration and Development: Case Studies and Policy Recommendations*, funded by the Organisation for Economic Cooperation and Development (OECD), has been completed. The workshop, which serves as a dialogue platform for all relevant stakeholders in Cambodia in relation to the migration-development nexus and associated priorities and policies, was held on 26 November 2013.

The ETRC programme was commissioned to undertake one research project – *SME Promotion Policy* – funded by the Japan International Cooperation Agency (JICA). The fieldwork for this has now started.

Natural Resources and the Environment (NRE)

The team has recently completed three projects on *Gender and Water Governance*, *Shared Water*

Partnerships, and Reducing Vulnerability to Drought and Flood and Increasing Agricultural Productivity. The working paper *Adaptive Capacity of Rural People in the Main Agro-Ecological Zones* is being finalised.

The fieldwork results of *China Goes Global*, a project funded by the Economic and Social Research Council, are now being transcribed. For the IDRC-funded project on *Climate Change and Water Governance in Cambodia*, the second interim progress report has been submitted and the first working paper is being finalised. In addition, the team organised three commune workshops, and the results of these have been prepared for publishing in the ADR 2013-14. The project has also selected candidates for five master's and 13 bachelor's degree scholarship places at the Royal University of Agriculture (RUA) and the Institute of Technology of Cambodia (ITC).

In October, the team started a project on *Mainstreaming Climate Change Resilience into Development Planning* with Hatfield Consultants. The outcome of a proposal for a project entitled *Water Sustainability and Climate Change: Hydrological Connectivity, Ecosystem Services and Socioeconomic Adaptations in the River-Flood Plain System of the Lower Mekong Basin of Cambodia* is awaited. This is a collaboration with the University of Chicago, and has been submitted to the National Science Foundation's Water Sustainability and Climate Program.

Poverty, Agriculture and Rural Development (PARD)

PARD has been working on nine projects, three of which are collaborations with SD, ETRC and the Gender Working Group (see below). Of the other six, the second phase of the ACIAR-funded project comprises two case studies – one focusing on livestock, the other on extension services. The field data collection has been completed for the livestock case study, and preliminary results were presented at a regional workshop in Phnom Penh. For the extension case study, key findings have been drawn out for a regional workshop presentation in Phnom Penh and an article has been written for the ADR 2013-14.

Fieldwork has been completed for the project on the *Impact of Contract Farming on Smallholder*

Livelihoods, funded by Sida, and the first draft report is close to completion. The project funded by IFPRI/USAID on the *Development of Fertiliser Industry in Cambodia* is nearly complete: the final report has been sent to IFPRI, part of the report has been converted into an article for the ADR 2013-14, and the full report is being edited as a CDRI Working Paper. The first draft report on the Sida-supported project that has been studying *Farm Mechanisation and Agricultural Labour Market Trends* is being written and will be completed soon.

Contracts have recently been signed for two projects that will be supported by the World Food Programme of Cambodia. One is the *Design of Evaluative Framework and Overseeing of a Baseline and Endline Survey for Productive Assets and Livelihood Support (PALS)*. The other is a *Baseline Survey for the McGovern-Dole School Feeding and Take-Home Rations Project in Cambodia*. Both are in the design phase.

Progress on the three collaborative research projects – *ReBUILD; Labour Migration in Cambodia: Causes and Impacts on Poverty, Inequality and Productivity*; and *Exploring Women's Perception and Professional Progression at CDRI* – is reported in the relevant programme updates

Social Development Programme (SD)

Two major projects are in progress. The first is the ReBUILD project funded by DfID, which consists of three sub-projects: Health Financing, Health Human Resources, and Health Contracting. The fieldwork and transcription have been completed and coding analysis has been started for these three sub-projects. The second major project is the Child Labour Study, which has four sub-projects covering two years. Two will be completed this year – one on child domestic workers, and the other on the impact of adult migration on children's wellbeing. This child labour study is part of the Cambodian-EXCEL project of World Vision Cambodia and is funded by USDOL.

The SD Programme has completed a commissioned project – a quantitative assessment of child nutrition – funded by UNICEF. The team is also at the report writing stage for the impact assessment of the ACIAR-funded Cambodian Agricultural Research Fund (CARF). A draft report has been completed.

CDRI UPDATE

Major Events

The annual Cambodia Development Research Forum (DRF) Symposium, a partnership of CDRI, the Cambodia Economic Association, The Learning Institute, the National Institute of Public Health, the Royal University of Agriculture, the Royal University of Phnom Penh, and the Supreme National Economic Council, with support from the International Development Research Centre of Canada, was held in Phnom Penh on 16-17 October on the theme *Cambodia Tomorrow: Development Research Priorities for a Middle-Income Country*. Opening keynote addresses were presented by HE Dr Ing Kantha Phavi, Minister of Women's Affairs, and Mr Enrique Aldaz-Carroll, Senior Country Economist, World Bank Cambodia, followed by presentations by emerging and younger researchers on topics reflecting the DRF's six research interest groups – Agricultural Development; Cambodia and Its Region; Governance of Natural Resources; Growth and Inclusiveness; Social Policy on Education; Social Policy on Health. See the DRF website at www.drfcambodia.net for further information.

In early October CDRI's Director of Research gave two lectures as part of a training programme organised jointly by the Asian Development Bank (ADB) and the Korea Banking Institute for mid-level government officials from Asian countries on: *Regional Production Integration and the Evolution of Factory Asia*, and *Trends and Issues*

in Asian Monetary and Financial Integration. In December, he presented a seminar at ADB headquarters in Manila on *Cambodia's Development Dynamics: Behind the Headlines*.

On the 24th of October, CDRI co-hosted a seminar on the theme *Strengthening Regional Economic Cooperation and Integration in Uncertain Times* to launch the ADB's latest *Asian Economic Integration Monitor 2013* in Cambodia. In late October, CDRI's Executive Director attended the 1st ADB Asia Think Tank Development Forum on *Innovation and Inclusion for a Prosperous Asia* in Beijing, moderating a plenary session on *Asia's Challenges and Opportunities in Scaling Up Innovation*.

In November-December CDRI hosted visits by two senior delegations from the Chinese Academy of Social Sciences (CASS). The first was led by Professor Zhang Yunling, Director of International Studies, with a programme including a roundtable discussion with senior CDRI researchers on Cambodia's development priorities and Cambodia-China relations, consultations with the Minister of Education, and senior representatives of the National Bank of Cambodia, the Council for the Development of Cambodia, and the Ministry of Foreign Affairs. The second, led by Professor Guo Jiguang, Director of CASS's National Institute of International Strategy, involved consultations on Cambodia's development and regional relations.

On 16-18 December, CDRI held its annual review and planning retreat, in Sihanoukville on

Continued on page 26



A Publication of CDRI—
Cambodia's leading independent
development policy research institute

**CAMBODIA
DEVELOPMENT REVIEW**

Volume 17, Issue 4 (DECEMBER 2013)

Cambodia Development Review is published four times a year in simultaneous English- and Khmer-language editions by the Cambodia Development Resource Institute in Phnom Penh.

Cambodia Development Review provides a forum for the discussion of development issues affecting Cambodia. Economy Watch offers an independent assessment of Cambodia's economic performance.

Cambodia Development Review welcomes correspondence and submissions. Letters must be signed and verifiable and must include a return address and telephone number. Prospective authors are advised to contact CDRI before submitting articles, though unsolicited material will be considered. All submissions are subject to editing. CDRI reserves the right to refuse publication without explanation.

Responsibility for the ideas, facts and opinions presented in the Cambodia Development Review rests solely with the authors. Their opinions and interpretations do not necessarily reflect the views of CDRI.

CDRI's Contact Details

☎ 56, Street 315, ☒ PO Box 622, Phnom Penh, Cambodia
☎ (85523) 881701/881384; ☎ (85523) 880734
e-mail: cdri@cdri.org.kh / pubs@cdri.org.kh
website: www.cdri.org.kh



Publisher: CDRI
Managing Editor: YOU Sethirith,
Production Editor: OUM Chantha
Cover Photograph: CDRI's staff courtesy

Printing: Don Bosco Technical School, Phnom Penh

© 2013 CDRI. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without written permission from CDRI.

ISSN 1560-7607 / ISBN 978-99950-52-05-8