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MATERNAL HEALTHCARE SEEKING BEHAVIOUR: A LIFE HISTORY APPROACH

Introduction

Cambodia in the early 1990s faced a healthcare system left in ruins after almost three decades of conflict, starting in the late 1960s with the Vietnam War extending into the country, succeeded by civil war and genocide under Khmer Rouge rule from 1970 to 1979. Much of the healthcare infrastructure—facilities, equipment and personnel—was destroyed: there were only an estimated 40 physicians left to meet the needs of the people by 1979 (Payne 2000). The health system's rebuilding began with health sector reform implemented in three phases from 1991-94, 1995-97 to 1998-2000, followed by the Health Sector Strategic Plan in two phases in 2003-07 and 2008-15.

Most maternity care is free for women who meet the eligibility criteria, Battambang province, October 2014

Maternal healthcare was one of the key priorities stated in Phase I and II of the Health Sector Strategic Plan, which set out the government's vision to develop the health sector for the better health and well-being of all Cambodians, especially the poor, women and children, thereby contributing to poverty alleviation and socio-economic development. This action plan was to respond to the high maternal mortality rates across the country, the main causes of which were haemorrhage, infection and hypertensive disorders (Yanakisawa 2004). The key underlying factors contributing to maternal deaths were (1) delay in seeking medical assistance, (2) delay in referring complicated cases, and (3) delay in receiving services (UNFP 2013).

An ethnographic study (Ovesen and Trankell 2010) tells of how prior to French colonisation, Cambodians relied heavily on traditional birth attendants (TBAs) or *chmob* for help during delivery, and this practice still continues today (Yanakisawa, Oum and Wakai 2006; Wang and Hong 2013). Compared with skilled birth attendants such as midwives, doctors and nurses, TBAs generally have no formal training, particularly in averting

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and managing complications during pregnancy and childbirth.

Cambodia has made positive progress in reducing maternal deaths in the last fifteen years. The Cambodia Demographic and Health Survey records a steady decline in maternal mortality ratios per 100,000 live births from 437 in 2000 to 206 in 2010 (NIS 2011). This was determined by several factors, one of which was a change in healthcare seeking behaviour due to improved availability of, and access to, a continuum of essential maternal healthcare services: antenatal care, skilled birth attendance and postnatal care (Wang and Hong 2013).

The shift in healthcare seeking behaviour from reliance on TBAs and home delivery to the use of skilled birth attendants with health facility admission is well documented (see, for example, Yanakisawa, Oum and Wakai 2006; Ir et al. 2008; Wang and Hong 2013). Yet few studies have focused on exploring behavioural pathways and the influence of political ideologies. This article argues that the country's recent history of military conflict and civil war contributed to behavioural change and a shift in choice of childbirth care.

The study explores healthcare seeking behaviour during childbirth in Cambodia from the 1960s to the present, and analyses the factors that influenced decision-making on the use of childbirth services. The findings will inform policymakers about what causes behavioural change and how country factors influence both choices about childbirth services and the development of obstetric care in the country.

Research methods

A life history approach was used to interview 24 participants from Phnom Penh and Takeo province on the delivery services sought for childbirth. Women and men aged 40 or older were selected to take part in the study based on their poverty status as identified by local authorities. Lifelines were drawn to chart birth episodes over participants' lifetimes. Life history with the use of lifelines helps to explain why individuals progress along different life trajectories and to identify pathways of influence on those life trajectories. This method is particularly suitable for health policy research, especially that exploring past learning for informing future practices (Gramling and Carr 2004). For the purpose of this study, these techniques helped to provide a deeper understanding of shifts in choice of childbirth care and what triggered those shifts.

The study used a coding framework to analyse the data collected. During this process, data was coded and grouped into clusters around commonly recurring themes that emerged through the analysis. Then, using colour grids, we constructed path matrices to explore patterns in maternal health seeking behaviour across Cambodia's political regimes from 1960 through to today.

Table 1: Behaviour pathways in childbirth

Location	REGIME	King Sihanouk (1950-1970)										Khmer Republic (1970-1975)					Democratic Kampuchea (1975-1979)				People's Republic of Kampuchea (1979-1990)											State of Cambodia (1990-1993)				Royal Government of Cambodia (1993-1998)					Royal Government of Cambodia (1998-2003)					Royal Government of Cambodia (2003-2008)					Royal Government of Cambodia (2008-2013)				
		60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	10	11	12	13
Urban	1																									C1			C2																				GC			GC			
	2											C1		C2								C3			C4		C5		C6		C7			C8		C9		C10				C11												GC	GC
	3																																												C1						C2				GC
	4																															C1		C2				C3		C4,5							C6							C7	
	5			C1			C2					C3		C4								C5			C6						C7						C8												GC			GC			
	6														S/B																		C1		C2		C3			C4			C5												GC
	7																											C1				C2			C3			C4					C5					GC				GC			
	8												C1									C2																																	
	9																C1		C2		C3			C4		C5		C6			C7		C8	C9	C10				C11		C12		C13,14							GC				GC	
	10										S/B						S/B						S/B		S/B																C1			C2				C3							
	11												C1				C2				C3				C4																					GC	GC								
	12																																							C1															
Rural	13																													C1			C2		C3		C4				C5		C6									C7			
	14																																	C1		C2		C23		C4													C5		
	15									C1	C2	C3	C4		C5		C6				C7		C8			C9				C10																									
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	18	S/B			S/B			S/B				C1			C2		C3		C4		C5														C6																				
	19																						C1		C2		C3		C4		C5		C6																					GC	
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	23																																																						
	24															C1		C2		C3	C4			C5				C6		C7		C8	C9		C10		C11		C12														GC	

At public facility by medical midwife	C	Child
At private clinic by medical midwife	GC	Grandchild
At home or elsewhere by traditional birth attendant with/without spiritual knowledge	S/B	Sister/Brother
At home by medical midwife	N	Niece
At health facility abroad		

Findings

This study found that the participants had sought five methods of delivery care: at home with the help of a traditional birth attendant (TBA), at home attended by a medical midwife, at a public health facility, at a private clinic and at a health facility abroad. Life history analysis, depicted in Table 1, suggests that there has been a gradual

shift from TBA-attended homebirths to facility based care. TBAs were relied on consistently before, during and after the war. In the period of post-conflict transition, when the health system was being reconstructed and public health facilities were not yet easily available, demand for medically trained midwives to assist home deliveries became more evident. As road transport became increasingly available, people who lived near the border began to seek better services, particularly for complicated pregnancies, in a neighbouring country. Delivery in public healthcare facilities started to increase as health sector reconstruction picked up pace, while the emerging private clinics offered maternity services for those who could afford the cost.

The 1960s to the mid-1970s

From the 1960s to the mid-1970s, women and families seeking help with childbirth depended on the assistance of TBAs. Few opted to use public health facilities, though those residing in urban areas were more likely to do so. The most frequently cited reason for the common practice of using TBAs was inaccessibility of public health facilities due to a combination of a lack of hospitals, the distance to them and a lack of transport. Some recalled uncertainty about where hospitals were or whether they provided delivery services. Interestingly, even people who lived close to a hospital relied on TBAs; they felt it was safe to use their services if the delivery did not seem complicated, for example, no abnormal bleeding or prolonged labour.

Difficulty accessing public healthcare meant that people had to rely on services available in the community, that is, on TBAs. Traditional practice and the belief in the ability of TBAs to deliver safe childbirth services have been passed from one generation to the next. Participants said the practice of their parents and other villagers set an example for them to follow, thereby affecting their own childbirth choices. The Vietnam War and military tension also explains why people chose home deliveries with TBAs. After the coup d'état by General Lon Nol in 1970, the destabilisation and devastation wrought by American aerial bombing and the civil war with the communist Khmer Rouge forced massive population displacements in some parts of Cambodia. Accessing public healthcare at that time would have been virtually impossible.

Some participants spoke of similarities between maternal care in the 1960s and 1970s and that of today, claiming that a lack of information sharing about where to go for childbirth services is one of the reasons why some people still choose home deliveries with the help of a TBA. Unaware of the risks of homebirth and the importance of hospital birth, people still follow traditional practices.

From 1975 to 1979

TBAs were the only source of delivery assistance during Khmer Rouge rule. No hospital births were reported. The absence of healthcare facilities or childbirth services meant that women and their families had to rely on TBAs. Some participants explained that even access to TBAs became difficult because TBAs were often assigned to work in distant places. Others disclosed that, because they were often moved to work in new places or were worked right up until delivery, they could not find a TBA on time and gave birth unaided.

The 1980s and 1990s

Participants' life histories revealed four patterns of delivery care: at home with TBAs, at home with medical midwives, at a health facility abroad and at a local public health facility. Even so, it seems that people remained highly dependent on TBAs after the fall of Pol Pot to the late 1990s.

The use of TBAs at the time was related to several factors. Participants described the lack or destruction of local health infrastructure. Some mentioned the reopening of public medical centres or hospitals in some districts or provinces in the 1980s, but recounted either the absence of delivery services or the unresponsiveness of the health system due to poor facilities, their inadequate management, insufficient medical supplies and shortage of midwives. In some areas, the absence of delivery services in hospitals continued until the mid-1990s, which was why many of the participants did not consider a hospital birth. Another factor that might explain low healthcare utilisation was a lack of information sharing by local authorities and other stakeholders to improve understanding and raise awareness about the importance of hospital delivery.

Poor security and an inaccessible environment were also cited as affecting people's ability to reach services. Government troops continued to battle the Khmer Rouge until 1998 in some parts of the country. Participants talked about the deployment of Vietnamese forces at the border where the Khmer Rouge fighters stayed, explaining that people dared not travel outside their home villages to access public healthcare services. Landmines were deployed widely and indiscriminately during the war and remained a risk for decades afterwards. Besides causing death, injury and disability, they had many indirect public health consequences, hindering infrastructure improvement and severely limiting access to public hospitals.

Although the services of TBAs continued to be popular, the hiring of independent medical midwives to attend home deliveries began to emerge. Some participants mentioned calling on former midwives who had survived the Pol Pot era to assist them at home while others recalled hiring newly trained midwives in the late 1990s. The use of independent midwives started after people became more aware of delivery risks and wanted reliable services, as access to public healthcare facilities was not always assured.

From the mid-1990s onwards, as economic conditions improved and road transport became more widely available, people living near the border began to seek services in neighbouring countries. This was mainly because they could not rely on local health facilities that did not yet have the capabilities to deal with birth complications.

Increasing utilisation of public healthcare facilities for delivery services was also evident in this period, especially among urban dwellers. This reflected the restructuring of the healthcare system and healthcare delivery that led to the establishment of hospitals, mainly in urban areas. Urban participants reported knowing of more than one hospital in an urban area and the transport available to get to hospital. In addition, military families could have free access to childbirth services at a military hospital.

Individuals appeared more aware of health information in urban areas. Everyday interactions enabled people to share information with their neighbours and friends about delivery care, helping people to understand their needs and consider the options open to them.

Economic factors and household poverty also affected decision-making about childbirth care. While in some areas official user fees in public health facilities were waived for those identified as poor, this was not the case everywhere: some participants reported no hospital charges but others had to pay for treatment. Those who could afford it decided to use a public health facility and those who could not turned to the far cheaper option of a TBA. Participants often reported that TBAs did not request money or that they attended births to help people who lived in the same village or nearby: they were often paid in gifts or in kind based on what people had.

From 2000 to the present

While the behaviour pathway still showed continued use of three types of delivery care (at home with a TBA, at home with a medical midwife and at a public health facility), interviews indicated the emergence of private maternity clinics. Their use was mainly determined by socio-economic status and the demand for higher quality maternity services.

Reliance on TBAs began to decline gradually in this period. From the interviews, it appeared that participants, as well as their relatives and grown up children (see Table 1), who could afford the cost, had switched to using public health facilities while those who could not still called on TBAs. A key factor underlying the increased use of public health services was the quality of maternal health services combined with the availability of adequate equipment, drugs and supplies. Respondents mentioned they switched from TBAs to public hospital for critical conditions or complicated deliveries.

In some areas, the new pro-poor health policy encouraging people to access free healthcare services influenced the decision to use a public health facility. People talked about exemptions and waivers under the health equity fund and community-based health insurance scheme for fees usually charged for delivery services. In other areas, however, despite the ID Poor scheme and subsidised public healthcare for the poor, people were effectively denied access to public health facilities because they could not afford the indirect costs including unofficial fees charged by midwives. Another factor that discouraged people from using public health services was the poor attitude of some healthcare workers towards clients' low socio-economic status.

Heightened awareness about the importance of pregnancy care and concomitant perceptual change, particularly among the younger generation, contributed to the greater use of public health facilities. This perception shift was achieved through information sharing and outreach programmes initiated by the government, NGOs, mass media, community groups and local authorities.

Conclusion

Findings from this study suggest that Cambodians' health behaviours, especially since the late 1990s and early 2000s, have increasingly shifted from relying on traditional birth attendants to seeking modern healthcare services and facilities in both the public and private sector. Three sets of factors that influenced this change in healthcare seeking behaviour stand out: i) development of obstetric care services in both public and private facilities, ii) socio-political aspects such as improved security and accessibility of modern healthcare, and iii) individual attributes such as awareness and household economic conditions.

The life history accounts reveal a pattern of obstetric care development in the country that emerged and disappeared and then re-emerged, shaped by a succession of political regimes and conflict situations, thereby influencing the choice of childbirth services. Before, during and after the war, people appreciated the services of TBAs because they were inexpensive and convenient when modern obstetric care either was not yet available or absent. Traditional health practices and beliefs passed down through the generations started to fade once people learned—through intra- and inter-household health information transfers—about the importance of childbirth at public health facilities. At the same time, obstetric care provision at private and public health facilities or even across the border was developed and expanded geographically, roads were built and transport was increasingly available.

The findings also highlight the emergence of pro-poor health financing schemes to remove financial barriers to poor families in response to health financing reform in the early 2000s. These initiatives had an effect on promoting access to obstetric care at public health facilities, but the performance of those schemes needed to be monitored.

In sum, a detailed history of the adaptation of healthcare seeking behaviour based on actual experiences can be a useful tool to deliver effective interventions across a continuum of healthcare services. Such evidence-based information on childbirth choices can support policymakers in their efforts to deliver life-saving interventions, address the leading and underlying causes—the "three delays"—of maternal mortality, and improve the use and provision of obstetric care in Cambodia.

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IMPROVED WATER SECURITY INCREASES ADAPTIVE CAPACITY TO CLIMATE CHANGE

Introduction and background

Climate change policy has been developed and the agenda has focussed mainly on adaptation and mitigation. A central thrust is to find ways that can lessen the impacts of climate change on national growth and people's well-being and to tackle the main cause of climate change through reducing greenhouse gas emissions (e.g., carbon dioxide) from different economic sectors. Cambodia does not contribute significantly to the causes of climate change but it is highly vulnerable to the most direct effects such as irregular rainfall, drought and flooding, which are already having far-reaching consequences for the livelihoods of local people. The most negative impacts are increased flood risk and severe drought, leading to extremes of either too much or too little water for rice cultivation.

This paper examines how climate and human system change has affected the livelihoods of local communities in the Stung Chrey Bak catchment through alteration of water security. It draws on a series of CDRI studies carried out in the area since 2007. These studies used a community participatory research approach through extensive consultation and engagement across different stakeholders involved in catchment water management, including provincial government technical departments, district agencies and local communities.

Stung Chrey Bak catchment

The catchment is located in Kompong Chhnang province. Rice farming practices are changing rapidly from a single rain-fed crop to irrigated double or triple cropping. Seven irrigation schemes—three in the upper, one in the mid- and three in the lower reaches—extract water from the Chrey Bak stream, mainly for dry season cropping (see Figure 1). In the downstream area, where cultivation depends entirely on irrigated dry season farming because of flooding during the wet season, farmers are entirely dependent on dry season stream flow. The rapidly growing demand for irrigation has put intense pressure on local water supplies, raising concern about the equity of water allocation, sustainability of water usage, social friction among water-user communities and long-term sustainability of water resources. Traditional supply-based water planning is clearly no longer appropriate. Instead, irrigation and crop planning needs to focus more on demand-side water management (Chem, Hirsch and Paradis 2011).

Research framework: The effects of climate and human system change on water security

The study framework, depicted in Figure 2, builds on an understanding of the complexity of the links between climate change and water security: the processes that control the interactions between natural systems and human systems at catchment scale shape vulnerability and adaptation capacity and the need for better access to water. This framework's hypothesis is that good water governance plays important roles in increasing the adaptive capacity of the population and institutions through which the impacts of climate and human system change on water security and their implications for local livelihoods and adaptation strategies are identified.

Natural and human system change

Temperature and rainfall will increase. That the risk of flooding and drought adversely affect lives and livelihoods is evident. And localised flash floods are likely to be more severe (Eastham et al. 2008). Flooding is not just caused by rainfall variability, but also by land use change and hydraulic structures such as weirs and spillways that regulate natural water flows. Forest cover loss has increased the rate of soil erosion, and regulated flow regimes have affected downstream water availability. Due to water shortages downstream, competition over water allocation for dry season rice cropping between upstream and downstream irrigation communities

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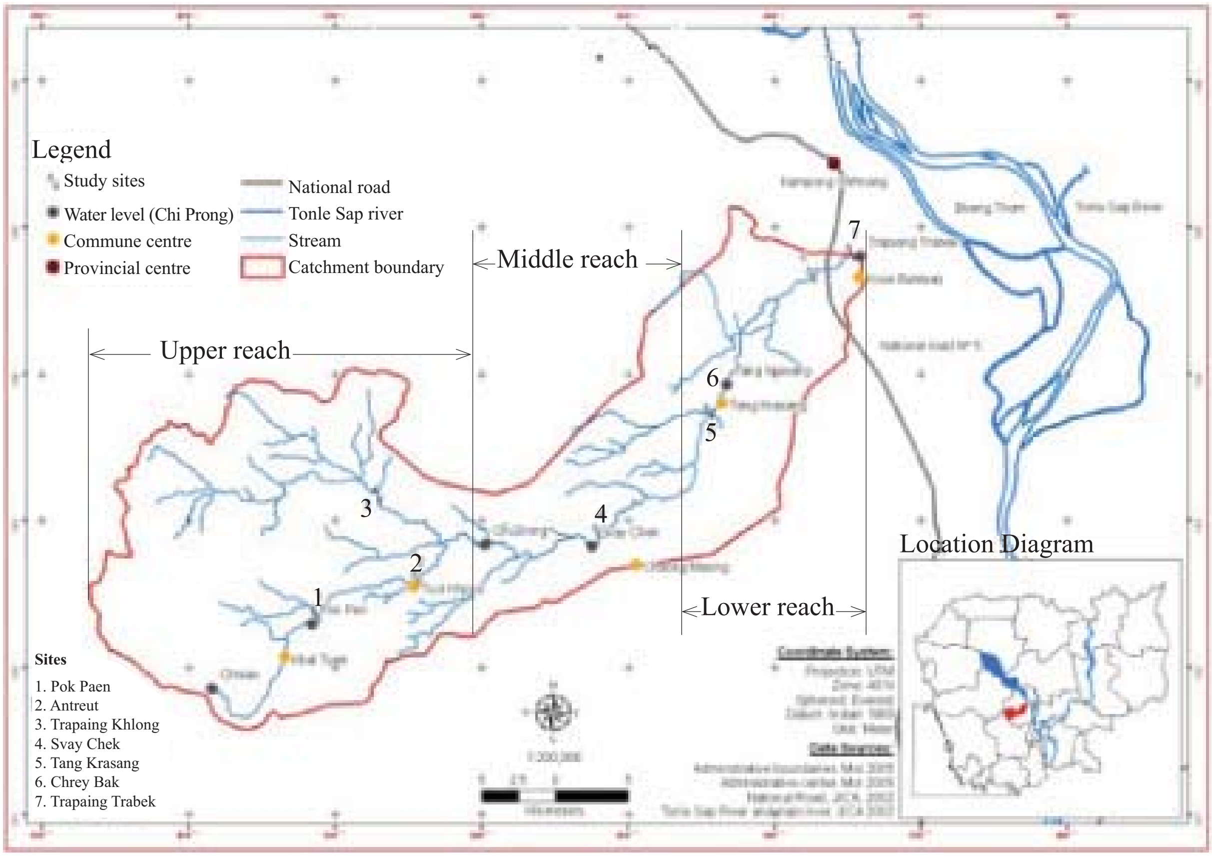
Figure 1: Stung Chrey Bak catchment, Kompong Chhnang province



Source: Chem 2013

has been intense. One of the biggest challenges arising from natural and human system change is a lack of water in the dry season (Chem 2013). The most pressing issue confronting the catchment today is water security.

Water security

Sustainable access to an adequate amount of safe water at an affordable price are key factors in the concept of water security. This study assesses the availability of water in Stung Chrey Bak catchment using modelling tools to measure water "shortage" in relation to water "scarcity". Water shortage is population-driven and is linked to how many people have to share the water. Water scarcity is demand-driven and the focus falls on how much water is withdrawn.

By definition, water security takes into account access and affordability of water as well as human needs and ecological health (Cook and Bakker 2012). It covers the broad range of accessibility, food security and human development. Achieving water security therefore needs (1) modelling tools to measure water availability and quality, and (2) sound water governance that ensures accessibility, equity of access and sustainable water use.

Water security also focuses on water-related hazards such as contamination, flood, drought and infrastructure development. Concerned with protecting water systems against water-related hazards and safeguarding access to water functions and services, water security involves the prevention and assessment of water contamination and the protection of vulnerable water systems.

Vulnerability to coupled natural-human system change

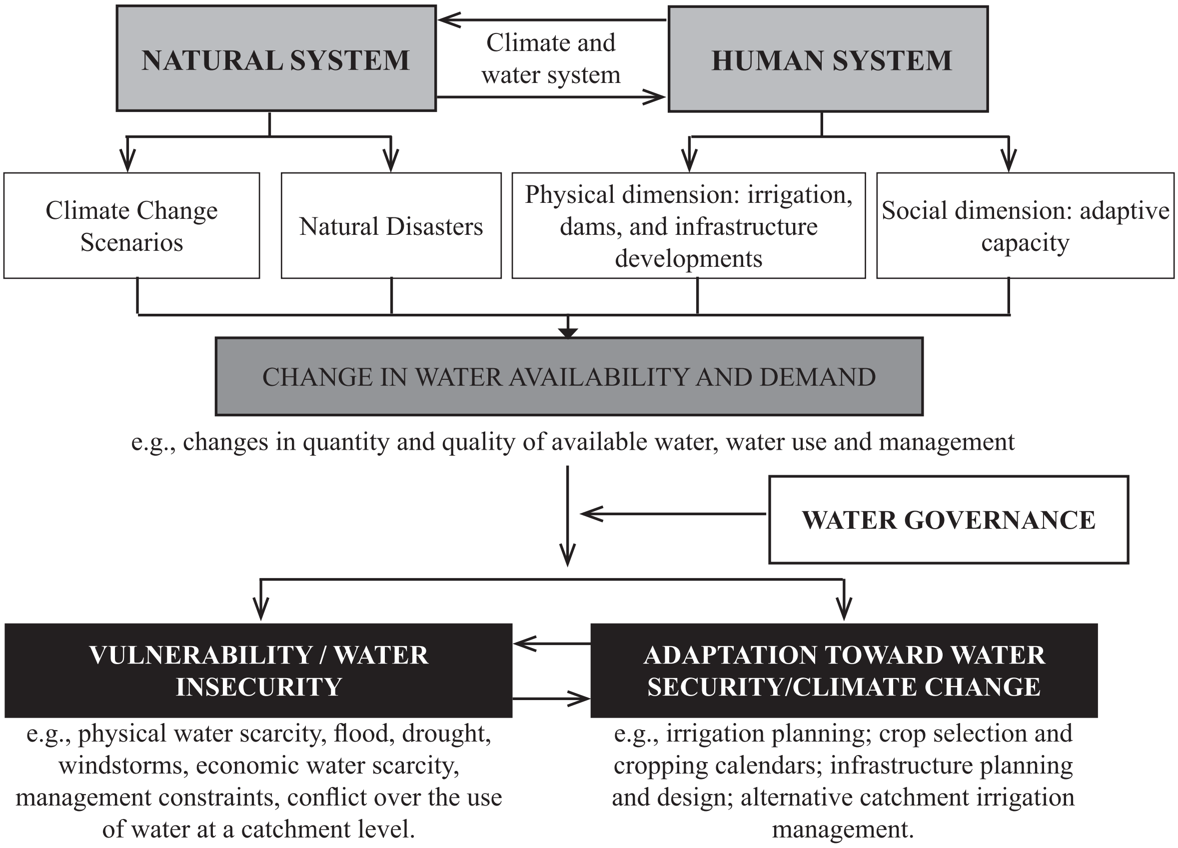
The concept of climate change considers that vulnerability to climate change is a function of three components: exposure, sensitivity and adaptive capacity. The study applies these terms as defined by the Intergovernmental Panel on Climate Change (IPCC 2001).[1]

Exposure: "The nature and degree to which a system is exposed to significant climatic variations" (p. 987).

Sensitivity: "The degree to which a system is affected, either adversely or beneficially, by climate-related stimuli. The effect may be direct

1 In the following definitions, "system" refers to both human and natural systems.

Figure 2: Conceptual framework for the impacts of natural and human system change on water security



Source: CDRI 2012

(e.g., a change in crop yield in response to a change in the mean, range, or variability of temperature) or indirect (e.g., damages caused by an increase in the frequency of coastal flooding due to sea level rise)" (p. 993).

Adaptive capacity: "The ability of a system to adjust to climate change (including climate variability and extremes), to moderate potential damages, to take advantage of opportunities, or to cope with the consequences" (p. 982).

Results and discussion

Exposure

Stung Chrey Bak catchment is divided into three distinct geographic areas: upstream, middle-reach and downstream. Exposure to the effects of climate change varies accordingly. Communities in upper and middle-reaches are exposed to the risk of flash floods whereas those in downstream areas are exposed to seasonal flooding from the Tonle Sap River. All three areas are affected by drought.

A study of rainfall change in Kompong Chhnang province by the Learning Institute found that rainfall patterns in the early 20th century were characterised by peaks in September. By the late 20th century the peaks had shifted to October. Since then, monthly rainfall during the dry season has been declining, especially in the months of January, February, November and December (Ham and Someth forthcoming).

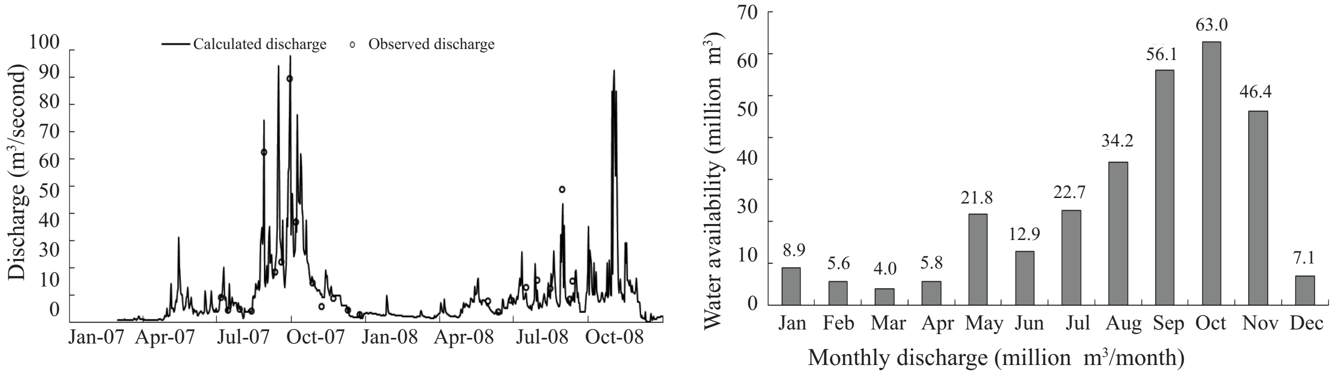
Chem (2013) used observed stream level data to calculate stream flow using a rating curve. Stream discharge was calculated and compared with observed data. It was found that the peak discharges of the Stung Chrey Bak stream occur in October, similar to the findings of the Learning Institute's study.

In addition to climate variability, human activities have also caused changes in catchment land cover. Agricultural intensification, irrigation development and urbanisation have increased water demand. Forest loss has increased soil erosion, reservoir sedimentation and travel time of flood, making the area more prone to flash floods. The population in Stung Chrey Bak catchment faces both water shortages and water scarcity problems.

Sensitivity

Upstream communities cultivate only wet season rice. Middle-reach communities grow mostly wet and some dry season rice crops (Tang Krasang irrigation

Figure 3: Stung Chrey Bak stream discharges, 2007-08



Source: Chem 2013

scheme). Downstream communities cultivate mostly dry season rice. Agricultural intensification driven by population growth and concomitant increase in demand for food has encouraged farmers to expand the command areas for dry season cultivation. Before 1990 there was no dry season rice cultivation in this catchment at all but dry season cropping has since increased significantly. The total rice planted area covers more than ten thousand hectares (10,370 ha), and 740 hectares is used for dry season cropping. We estimated that the cropping area has been expanding at a yearly rate of around 5 percent since 1992, especially in the downstream floodplains where richly fertile soils support high yields. This trend has increased the demand for irrigation water in the catchment yet institutional arrangements for demand management have not kept pace. Consequently, water allocation has not yet been properly planned and all available water is commonly used to support irrigated cultivation in the dry season without considering environmental flow requirements.

Ecosystem services especially capture fisheries are being degraded or used unsustainably. High erosion and therefore increased sediment yield has been filling up the reservoir, resulting in an annual loss of water storage capacity. The lowest flow of 4 million cubic metres is in March. Water scarcity is most acute in this period and coincides with peak irrigation demand. The resultant pressures lead to severe crop damage and intense conflict over water use.

Water shortage in the forms of economic[2] and physical[3] water scarcities is the major constraint in the dry season (Figure 3). Monsoon rains provide abundant water in September and October but farmers face meteorological drought (low rainfall) in June or July. Farmers in the upper and middle reaches need supplementary water from the irrigation scheme during this period.

Hydrological and meteorological droughts have severely affected dry season rice production in this catchment. In a hydrological drought year farmers in Trapeang Trabek (scheme 7 on Figure 1) can start cultivation earlier in early November, though this irrigation scheme has faced severe water shortage in February and March. In contrast, during a wet year, because peak discharge occurs in October, farmers in this scheme have to plant their crops later (in late November) and have few water shortage problems in February and March. This emphasises the importance of hydrological and weather forecasting for crop planning in this catchment.

Adaptive capacity

Water is the key input for subsistence farmers. Those living in the lowlands know how to manage their irrigation water use; they can access irrigation services and have gained experience in coping with drought. However, water management coordination between upstream and downstream irrigation schemes in the catchment remains a great challenge for irrigation managers and farmer water user communities (FWUCs). To help cope with flooding, the Committee for Disaster Management (CDM) is in place at all four administrative levels—national, province, district, commune and village.

2 Economic water scarcity refers to a lack of water caused by a lack of financial investment in water infrastructure to extract water for use.

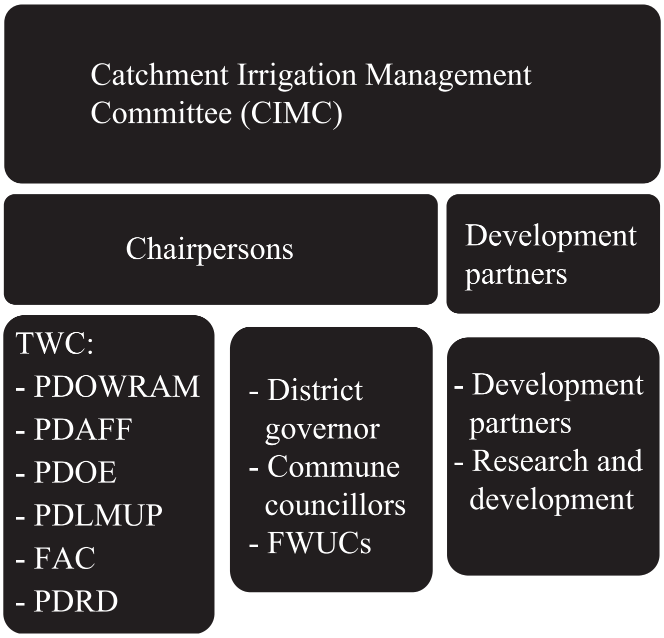
3 Physical water scarcity refers to a lack of water in the stream.

The Provincial Department of Water Resources and Meteorology also plays very important roles in managing flood and drought. These subnational entities have an emergency disaster preparedness plan, but low capacity and limited financial resources impede them from responding sufficiently or quickly enough to the growing urgency to adapt to climate change. This poor response is evident in local communities' weak adaptive capacities and their limited knowledge about climate change adaptation options.

Conclusion: Present and future challenges

Stung Chrey Bak catchment is highly *exposed* to drought, more so than to flood. Drought has become an almost yearly problem. Most rice producers have suffered crop damage and low yields. The frequency of such hazards has steadily increased. Livelihood resources such as water, land, forest and fish are highly *sensitive* to the effects of both human and natural system change, and the *adaptive capacity* of the population to climate change is low.

Figure 4: Possible catchment management agencies to be involved in a CIMC



Note: FAC=Fishery Administration; PDAFF=Provincial Department of Agriculture, Forestry and Fisheries; PDLMUP=Provincial Department of Land Management and Urban Planning; PDOE=Provincial Department of Environment; PDOWRAM=Provincial Department of Water Resources and Meteorology; PDRD=Provincial Department of Rural Development; TWC=Technical Working Committee.
Source: Chem 2013

Upstream communes have experienced flash flooding while those downstream near the Tonle Sap Lake floodplains have been affected mostly by river floods. Although many people reported exposure to drought, only a few of them understood that drought occurs partly because of climate change or that environmental degradation can lead to flooding. Local communities' knowledge about the impacts of climate change is still limited.

Water shortage and scarcity are the major causes of low paddy productivity and limited production. Ricelands established in upstream areas (especially in Tang Krasang) have moderately few water supply difficulties. But large areas downstream (Chrey Bak and Trapain Trabek irrigation schemes) face genuine water shortages.

Dams, other hydraulic structures and canals assume crucial roles in storing water, regulating flows and conveying water from the reservoir to farmland. Even so, the irrigation system in Stung Chrey Bak catchment is insubstantial. Besides infrastructure, catchment water governance plays an important role in the supply of water to the communities that need it—from storage and conveyance that makes best use of infrastructure and financial resources, to fair water allocation and sustainable water use. However, water governance in Stung Chrey Bak catchment is weak: it has so far failed to facilitate collective decision-making and it has not recognised the different consequences of human and natural system change for water resources management.

The absence of a Catchment Irrigation Management Committee (CIMC) to govern irrigation water appropriation and use creates discontinuities in irrigation water management and therefore uneven water allocation between the seven irrigation schemes. This has led to increasingly tense competition for water between middle-reach and downstream water-user groups. In this case, the primary role of a CIMC would be to establish fixed rules so that irrigation water is distributed proportionally across all seven irrigation schemes thereby optimising spatial water use between upstream and downstream communities.

Recommendations

A better understanding of the catchment's hydrology would enable local water managers to improve irrigation water management and planning. Interviews with farmers and FWUC members revealed a pressing need to create a CIMC and move beyond the current individual focus of irrigation management.

A CIMC will not have the capacity to carry out its function of coordinating planning without the full participation of all catchment water management agencies (see Figure 4). For that to happen, these agencies must have up-to-date hydrological information to understand fully the imperative of joint water and crop planning.

Limited collection of irrigation service fees for operations and maintenance remains a major worry for FWUCs. The suggested CIMC will improve coordination, ensuring that each irrigation scheme receives the right amount of water at the right time. In turn, better access to a more reliable water supply will encourage farmers to pay the irrigation service fee.

The proposed CIMC will coordinate and facilitate the collection and sharing of hydrological data and information to support water allocation decision-making and the harmonisation of crop planning between upstream and downstream irrigation schemes. Further, irrigation systems could provide more benefits if a high level of coordination in crop planning and water allocation between FWUCs, community councils and district officials is achieved. With reliable information on spatial and temporal water distribution, the CIMC could ensure that both upstream and downstream farmers have equitable access to water, especially when water supplies are limited.

Dry season cropping should be planned using hydrological information. Extremely low flows in March (4 million m^3) cause serious water shortages downstream for Tang Krasang, Chrey Bak and Trapeang Trabek irrigation schemes. Highly coordinated efforts for these schemes are required to accommodate existing and anticipated irrigation demand in line with water availability. Cropping patterns should be adjusted year by year in line with rainfall (amount and timing) upstream and Tonle Sap flood (big or small) downstream. Cropping calendars should be planned using hydrological information. Importantly, the dry season cropping areas of the three schemes should not exceed 740 hectares in total, otherwise they risk facing serious water shortages and crop damage.

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My Decade with CDRI in Cambodia – A Personal Reflection

Introduction: Balancing independence and engagement

Over more than a decade as Executive Director of CDRI, I was invited to give many presentations about Cambodia and its development, both in Cambodia and elsewhere in the Asian region. I often began by saying "In the international development literature Cambodia is often described as a least developed, post-conflict, aid-dependent country, all relatively negative descriptors. I would like to present a more balanced picture of modern Cambodia's remarkable development achievements since peace and stability were finally achieved in 1998, and the many challenges that remain." It is this commitment to balance, to evidence-based research and analysis, and to constructive policy engagement and influencing that has guided my approach to leadership of CDRI.

The value of this approach was affirmed by the independent appraisal commissioned by the Swedish International Development Agency (Sida) for their mid-term review of its five-year (2011-16) programme of partnership and support for CDRI (www.sida.se/publications). One of the key findings, based on an assessment of CDRI's policy research products, activities and systems, and interviews with 25 stakeholders in government, its development partners, academia and the research community, the private sector and civil society, was that CDRI had "managed the balance of independence and engagement well", being seen as a constructive but critical actor in policy debate in a complex political environment. They found this to be the case in both its research products and public forums, and in its private dialogue with government and other influential stakeholders in Cambodia's development.

In reflecting on my past decade with CDRI, three things stand out for me—the pace of growth and change for both Cambodia and for CDRI; some important lessons learned about real partnership, real institutional capacity building and real civil society; and how CDRI's current and future development landscape is inextricably linked to its region—the Greater Mekong Subregion (GMS), ASEAN, East Asia and beyond.

A decade of growth and change—for Cambodia, for CDRI

The decade 2004-14 saw remarkable changes in both Cambodia and CDRI. At the CDRI leadership transition celebration in September, I reminded my colleagues of what we had achieved together. CDRI staff grew from 65 to 85, its annual operating budget from USD1.5 million to 2.5 million, and its research department from 20 to 45 researchers, from a position of having no Cambodian researchers with doctorates to having seven and rising. Our research programme was restructured to reflect five major priority development areas for Cambodia, with Cambodian senior researchers as coordinators of each programme. We introduced an Annual Development Review to disseminate some of our most policy-relevant research findings in an accessible form. We initiated, in partnership with our first private sector partner, ANZ Royal Bank, the annual Cambodia Outlook Conference, now in its ninth year, with increased attendance each year.

We achieved a strengthening of support from our major partner, Sida, from three-year programmes of support for core operating costs and our work on governance, particularly the decentralisation and deconcentration reforms, to a broader five-year programme of support to also fund important emerging issues such as inclusive growth, education and climate change. With strong support from the International Development Research Centre (IDRC) of Canada, we initiated the Development Research Forum (DRF) in Cambodia, a locally owned and driven partnership of leading research institutions—CDRI, Royal University of Phnom Penh, Royal University of Agriculture, The Learning Institute, National Institute of Public Health, and Cambodian Economic Association. Its six thematic research

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interest groups, each led by a DRF partner, and an annual Symposium and ICT platform provide opportunities for both established and emerging young researchers to share knowledge, learn from each other and build their research capacity.

With the support of IDRC and the Rockefeller Foundation we strengthened our regional collaborative Development Analysis Network to form a GMS-wide partnership involving leading research institutions from Cambodia, Laos, Myanmar, Thailand, Vietnam and Yunnan province of China, with important work on issues such as inclusive growth in the GMS. And we worked hard, given the importance of regional integration and cooperation to Cambodia's future, to "regionalise" CDRI as an institution, playing active roles in regional research networks through various development policy partners and forums.

Some commonly misused terms: Partners, capacity building, civil society

Effective partnerships and long-term institutional capacity building have been fundamental to CDRI achieving its goals. Sadly, over my past decade with CDRI I have come to the conclusion that three of the most commonly misused terms in the local development lexicon are "partners" or "partnership", "capacity building" or "capacity development", and civil society". Why do I say this and why have I chosen to speak in so many regional and international forums on this subject?

I believe that too much of the overseas development assistance (ODA) delivered to less developed nations in our region has been supply driven rather than demand-driven, and not reflective enough of local initiative and ownership. Short termism in ODA commitments and delivery, and associated country programme design, remains a constraining factor on aid and its effectiveness, with too often a failure or incapacity to invest in the long-term strengthening of local institutions, and examples of distinct ideological and institutional favouritism in the choice of institutions where major investment is to be made.

Many of the aid management and coordination challenges faced by aid-dependent, least developed countries stem from the fact that international development cooperation is a very large and powerful multi-billion dollar industry. Until relatively recently this field has been dominated by the developed nations and the multilateral development agencies they control, their own bilateral development agencies, consulting companies and individual consultants, many of whom are former employees of those development agencies, and the academic consulting arms of universities and research institutions facing income generating imperatives. This development industry, as international development policy and fashion changes, also regularly creates lucrative subindustries, including over the past two decades for example, on governance, gender, capacity development and, most recently, aid effectiveness itself.

Our genuine partners

Over the past decade, CDRI has enjoyed positive project and resource collaboration with most of the multilateral and bilateral partners in Cambodia's development, but it has had two genuine development partners who have strongly supported our goals and activities—Sida and IDRC. Sida has been with CDRI from early in its history, building its support over the years until it is now CDRI's most significant long-term partner. The five-year programme of Sida support for core operating costs enables CDRI to achieve high standards of governance, efficient operating systems and institutional strengthening, as well as to conduct high quality research on governance and public sector reform, inclusive growth, education, skills and employment, and climate change.

IDRC has provided invaluable medium to long-term support for CDRI's GMS Development Analysis Network (GMS-DAN), DRF Phases I and II, and an innovative programme on climate change and water resource governance in Cambodia, a partnership of CDRI with the Ministry of Water Resources and Meteorology (MOWRAM), Tonle Sap Authority, Institute of Technology of Cambodia and Royal University of Agriculture. In both cases, these "real" partners demonstrate respect for local ownership and initiative, the value of a medium to long-term investment in local institutions, demand- rather than supply-driven programme development, and two-way transparency and accountability.

What does 'real' capacity building mean?

On any day, the lobbies of Phnom Penh's hotels are full of signs directing participants to a wide range of development seminars, workshops and other events. Many of these are promoted as "capacity

building" but they are in fact short-term training or awareness raising exercises, some of value, some not, and often piecemeal, superficial and without sound research foundations. Our experience at CDRI has taught us that effective institutional capacity building or development, particularly for a research institution, involves a combination of institutional needs analysis, institutional redesign and strengthening, the upgrading of educational and professional qualifications and skills through postgraduate education, professional development and training programmes, the provision of expert technical advice and skills transfer, as well as institutional collaboration, personnel exchanges and internship schemes. It can also be most effective, in our local context, when it involves longer-term institutional collaboration between weaker and stronger research institutions, particularly in the countries of our region (ASEAN, China, South Korea and Japan) where longer-term economic and development relationships will lie. Over-reliance on expensive international consultants and technical advisers, often short-term rather than long-term investments in building local capacity and ownership, means capacity substitution rather than capacity development, and entrenches dependency. "Real" institutional capacity building is a mindset that requires strong commitment; it is demanding for both management and staff; it is challenging to design effectively; it must be strongly internally owned and driven; it usually requires both internal and external expertise; it is expensive and time consuming; and it is never completed, as an institution's environment and client needs change.

Towards a 'real' civil society in Cambodia

In 2013 CDRI researchers published two controversial papers, with my encouragement, titled *NGOs and the Illusion of a Cambodian Civil Society* and *20 Years' Strengthening of Cambodian Civil Society: Time for Reflection* (Ou and Kim 2013a, b). They raised important public policy issues about the role, quality and governance of Cambodia's vast, diverse NGO community, and the immaturity of any real civil society despite decades of significant international financial support. Over the previous decade I had also become increasingly concerned at the very uneven quality and effectiveness of NGOs in Cambodia, despite their large numbers, receipt of very large amounts of financial support, often with weak or non-existent monitoring and evaluation mechanisms, and a poor understanding of and commitment to high standards of governance in their own organisations while advocating this for others,.

I came to Cambodia after a professional career in Australia that featured major involvement in leading civil society organisations and networks, as a trade union industrial advocate, as a staff member then Board member then Board Chair of the Public Interest Advocacy Centre, one of Australia's leading public interest legal centres, and as the Australian Consumer Association's nominee on the NGO certification committee of what was then called the Australian Council for Overseas Aid (ACFOA), the peak body for the many Australian NGO's involved in international aid.

With this background, I was very pleased to serve a term on the NGO certification committee of the Cooperation Committee for Cambodia (CCC)'s NGO Good Practice Programme (NGO-GPP), an important locally owned and driven mechanism to promote improved governance, transparency and accountability in the NGO community. This experience exposed me to the quality services delivered by many Cambodian and international NGOs and their peak bodies, such as the NGO Forum and CCC, who play useful roles in health, education, women and youth development, community development, microfinance, election monitoring and other sectors. They also demonstrate a commitment to good governance and constructive engagement in policy influencing with government, development partners and the research community. I would encourage others who have not demonstrated this level of maturity to more often "practice what they preach" in improved governance, transparency and accountability, responsible engagement, and the use of objective research-based evidence in their advocacy and activism.

The development paradigm, Cambodia and its region—and some game-changers?

Immediately before I came to CDRI and Cambodia, I worked for ten years as Director of The Asia-Australia Institute, an independent think-tank working on Australian foreign policy, regional integration and major geopolitical trends in East Asia, with a network of leading policy and research institutions across the region. When I was appointed the CDRI Board encouraged me to use this background to

situate CDRI more strategically as both a national and regional policy research institution.

As a result, over the decade we have established extremely rewarding collaborations with institutes of the Chinese Academy of Social Sciences (CASS), the Korean Institute for International Economic Policy (KIEP)'s East Asian Institutes Forum, the World Bank East Asian Development Network (EADN), the Asian Development Bank (ADB) and ADB Institute's regional development think-tank networks, United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)'s ARTNeT research network on trade and Singapore's Institute of Southeast Asian Studies (ISEAS), and actively supported the establishment of and partnership with the Myanmar Development Resource Institute (MDRI).

This positioning has helped us achieve our goal of having CDRI at the table of many of the significant policy research discussions on Asian regional integration and cooperation and their implications for the region's and for Cambodia's socio-economic development and shared regional future.

In 2011 I was invited by Professor Zhang Yunling, Director of International Studies of CASS, to join a team of regional experts working on a project he was leading for the Economic Research Institute for ASEAN and East Asia (ERIA), on the theme *Moving Toward a New Development Model for East Asia: The Role of Domestic Policy and Regional Cooperation*. My contribution was to be a chapter on *ASEAN Small Less Developed Economies: Need for a New Approach* (Strange 2012). My contribution to this study enabled me to bring together many of the ideas I have presented in national and regional forums, and both published and unpublished writings over the past decade.

In summary, I believe that a more effective approach to development cooperation for Cambodia and for other developing countries in East Asia, to achieve better outcomes in institutional and human resource capacity development, should involve a more regional approach with the following features:

- a greater respect for and sensitivity to local needs and local ownership;
- a reduction in overt or covert conditionality in the provision of development assistance;
- a focus on long-term institution building and capacity development; a more sophisticated understanding of the complexity of anti-corruption and governance strategies in different systems, and their role in poverty reduction and sustainable development;
- long-termism in ODA design and delivery; a more effective role for ODA-private sector partnerships;
- a greater respect for and mobilisation of local experience and expertise, and the sharing and developing of solutions and regional models; and, very importantly
- the establishment of long-term collaborative institutional partnerships between governments, the private sector, education, policy and research institutions, and civil society organisations in the East Asian region—all useful building blocks for regional development cooperation, but also for a future regional community. (Strange 2006)

Even with the current complex regional geopolitical tensions in East Asia, progress in the design and implementation of the Regional Comprehensive Economic Partnership (RCEP) of the ASEAN 10 member states plus China, South Korea, Japan, India, Australia and New Zealand, or ASEAN+6 in shorthand, provides a promising vehicle to achieve this more regional approach to effective development cooperation for Cambodia and other developing countries in our region. ASEAN+6 leaders, during the annual ASEAN summitry in Myanmar in 2014, reaffirmed their commitment to achieve agreement on the RCEP framework by the end of 2015 then move to implementation, building on AEC 2015 and other regional free trade and cooperation agreements. RCEP specifically acknowledges the diversity of member economies and the special circumstances of Cambodia, Laos, Myanmar and Vietnam (the CLMV), requiring flexibility for special and differential treatment, including a commitment to mandate economic and technical cooperation to reduce development gaps.

The year 2014 saw not only a commitment by the ASEAN+6 countries to the progress of RCEP, but also some other significant developments that may well be game-changers for Cambodia and its development paradigm. These include the establishment of the BRICS (Brazil, Russia, India, China, South Africa) New Development Bank in Shanghai and the Asian Infrastructure Investment Bank (AIIB) in Beijing, both of which Cambodia has signed up to. At the 2014 GMS Summit, China's President Xi Jinping

also announced huge infrastructure development assistance and investment by China in GMS infrastructure and connectivity linked to poverty reduction and production capacity, and new AIIB funds, linked to China's land and maritime Silk Road initiatives. While the details of some of these new initiatives and development resources are not yet clear, they are likely to impact significantly on Cambodia's and its immediate neighbourhood's development landscape.

Cambodia, art and life

Finally, one of the great joys for me over this decade has been the local contemporary art scene, the acquisition of an eclectic collection of Cambodian contemporary art, and friendships with some of Cambodia's leading contemporary artists and performers. In April 2013, I had the privilege of attending a week of major events in the Season of Cambodia cultural festival in New York which brought together many Cambodian artists in the visual and performing arts for a month-long programme of performances, exhibitions, seminars and associated events initiated and coordinated by Cambodia Living Arts and its partners.

In just one week I attended the solo exhibition by Cambodia's leading contemporary artist, Pich Sopheap, in the Metropolitan Museum of Art, and his associated interview with the exhibition's curator to a packed Met auditorium; a performance of Sophiline Cheam Shapiro's powerful contemporary dance work A Bend on the River in the Joyce Theatre, with giant modular rattan crocodiles by Pich Sopheap and music by leading composer Him Sophy; and a panel discussion involving these three artists moderated by US-based Cambodian cultural academics, again to a packed audience at the prestigious Asia Society.

I believe the vibrancy of cultural life and the arts to be an important indicator of the stage of development and social health of a nation and a society. Economic growth alone does not mean prosperity. Art and aesthetic development are also key to building a creative, harmonious and prosperous society that values diversity. I hope that these courageous local artists, and the emerging younger generation of artists, will be more visible, valued and supported as Cambodia moves forward.

Conclusion: CDRI's leadership succession

I had always hoped that, when the time came for me to step down, I would be succeeded by a suitable qualified Cambodian. In mid-2014 the CDRI Board appointed Dr Chhem Rethy, an eminent Cambodian, then Director of Division of Human Health, Department of Nuclear Sciences and Application at the International Atomic Energy Agency (IAEA) and keen to return to serve in Cambodia, as CDRI's new Executive Director from September 2014. I was very pleased to accept his request that I continue to be engaged as a Senior Advisor to CDRI to support a smooth leadership transition to the end of 2015, while exploring other opportunities to serve Cambodia in the future.

I would like to conclude by sincerely thanking my many CDRI colleagues, Board Chairs and members, past and present, and our partners and stakeholders, for making this both a very challenging but deeply rewarding and life-changing experience. May CDRI grow and prosper in the service of Cambodia and its people.

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Economy Watch—External Environment

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

Economies in Asia in the third quarter continued to perform well compared to those of advanced countries, although slowdowns were seen in some Asian countries such as Thailand and Singapore. New global risks have emerged, including cyber attacks and geopolitical instability.

Indonesia's real GDP annual growth rate averaged 5.0 percent until the third quarter, and Malaysia's was up 5.6 percent. Growth in Singapore in the 12 months was 2.4 percent compared to 5.8 percent a year earlier, and that in Thailand was 0.6 percent compared to 2.6 percent. Political tension and decreased world prices of important agricultural commodities (e.g. rice and rubber) partly explain Thailand's decreased growth. Growth slowed slightly in China, to 7.3 percent.

Growth in the eurozone, while hardly satisfactory at 0.3 percent in the third quarter, was still an improvement from a contraction of 0.4 percent a year earlier. Japan's real GDP contracted 1.2 percent over the 12 months despite ongoing implementation of Abenomic initiatives. The US enjoyed relatively strong growth at 2.3 percent, up from 1.6 percent a year earlier. The US job market has recovered from the worst recession since the Great Depression. 252,000 jobs were added in December 2014, resulting in an unemployment rate 5.6 percent.

World inflation and exchange rates

Inflation rates in both emerging and developed economies in the third quarter were single digit and in some countries lower than expected. Inflation in Cambodia decreased to 4.0 percent from 4.9 percent in the previous quarter. Decreased oil prices lowered prices for commodities whose production relies heavily on petroleum. Annual inflation was 4.3 percent in Indonesia and 3.0 percent in Malaysia. Inflation in Vietnam has normalised to 4.5 percent from the peak of 23.3 percent in 2008—the year of global crises and expansionary fiscal policy in Vietnam. Inflation in the eurozone remained low, while Japan experienced its highest price increases in two consecutive quarters since deflation in the second quarter of 2013. Inflation in the US remained lower than expected at 1.8 percent despite quantitative easing. There were no signs of aggressive tapering from the Federal Reserve. It seems that one global risk is deflation in major economies. In the same quarter, the riel appreciated 0.1 percent against the dollar from a year earlier to KHR4059.5. The euro and the yen depreciated 0.1 and 5.2 percent, respectively, benefiting exports through price competitiveness.

Commodity prices in world markets

World prices of major commodities declined in the third quarter from a year earlier. Prices of maize were down 29.0 percent year on year to USD174.8/tonne, of palm oil 6.8 percent to USD770.7/tonne and of rubber 30.2 percent to USD1672.1/tonne. The price of Thai rice dropped 11.0 percent from a year earlier to USD447/tonne and of soybeans 15.1 percent to USD463/tonne. Prices of crude oil decreased 5.7 percent to USD100.8/barrel, of gasoline in the US 4.4 percent to USD0.70/litre and of diesel 7.3 percent to USD0.74/litre. The decreased prices of these major commodities have benefited importing countries like Cambodia.

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

Economy Watch—External Environment

Table 1: Real GDP growth of selected trading partners, 2008-14 (percentage increase over previous year)

	2008	2009	2010	2011	2012	2013				2014		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
Selected ASEAN countries												
Cambodia	6.8	0.1	6.0	6.1	6.2	-	-	-	-	-	-	-
Indonesia	6.1	4.2	6.2	6.5	6.3	6.0	5.8	5.6	5.7	5.2	5.1	5.0
Malaysia	4.6	-2.4	9.0	4.9	5.4	4.1	4.3	5.0	5.1	6.2	6.4	5.6
Singapore	1.1	-4.5	4.7	4.7	1.3	0.2	3.7	5.8	5.5	5.1	2.4	2.4
Thailand	2.6	3.3	7.9	0.0	6.7	5.4	2.6	2.6	0.4	3.1	0.3	0.6
Vietnam	6.2	4.7	6.7	6.1	5.0	-	-	-	-	-	-	-
Selected other Asian countries												
China	9.0	8.2	10.4	9.3	7.7	7.7	7.5	7.8	7.7	7.1	7.5	7.3
Hong Kong	2.4	-3.2	6.9	4.9	2.9	2.8	3.3	2.9	3.0	2.5	1.8	2.7
South Korea	2.2	-1.0	6.1	3.6	2.1	1.5	2.3	3.3	4.0	4.1	3.5	3.2
Taiwan	0.1	-3.6	1.1	4.2	1.2	1.7	2.3	1.7	2.9	3.1	3.7	3.8
Selected industrial countries												
Euro-12	0.9	-3.8	1.6	1.6	-0.5	1.1	-0.7	-0.4	0.5	0.9	0.7	0.3
Japan	-0.7	-5.4	4.1	-0.8	1.7	0.4	0.9	2.7	2.6	3.1	-0.1	-1.2
United States	1.1	-2.5	2.7	1.8	2.1	1.8	1.4	1.6	2.5	2.3	2.6	2.3

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

Table 2: Inflation rate of selected trading partners, 2008-14 (percentage price increase over previous year—period averages)

	2008	2009	2010	2011	2012	2013				2014		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
Selected ASEAN countries												
Cambodia	19.7	-0.5	4.1	5.5	3.0	1.5	2.2	3.8	4.3	4.5	4.9	4.0
Indonesia	10.1	4.7	5.1	5.4	4.3	5.3	5.7	8.6	8.4	7.7	7.1	4.3
Malaysia	5.3	0.4	1.7	3.2	1.7	1.4	1.8	2.2	3.0	3.5	3.3	3.0
Singapore	6.5	0.5	2.9	5.2	4.6	3.6	1.6	1.8	2.0	1.0	2.3	0.9
Thailand	5.5	-0.9	3.1	3.8	3.0	3.1	2.3	1.7	1.7	2.0	2.5	2.0
Vietnam	23.3	7.3	9.0	18.6	9.3	6.9	6.6	7.0	5.9	4.8	4.7	4.5
Selected other Asian countries												
China	5.9	-0.8	3.2	5.4	2.7	2.4	2.4	2.8	2.9	2.1	2.2	2.0
Hong Kong	4.3	-0.3	2.4	5.3	4.1	2.2	4.0	5.3	4.3	4.1	3.6	4.9
South Korea	4.6	2.8	3.0	4.4	2.1	1.4	1.1	1.2	0.9	1.1	1.6	1.4
Taiwan	3.2	-1.1	1.0	1.4	1.9	1.8	0.8	0.0	0.5	1.1	1.6	1.5
Selected industrial countries												
Euro-12	3.3	0.4	1.6	2.7	2.5	1.8	1.5	1.3	0.6	0.6	0.6	0.4
Japan	1.4	-1.3	-0.7	0.1	-0.03	-0.3	-0.3	0.9	1.4	1.5	3.6	3.4
United States	3.8	-0.4	1.7	3.2	2.1	1.7	1.4	1.6	1.2	1.4	2.1	1.8

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

Table 3: Exchange rates against US dollar of selected trading partners, 2008-14 (period averages)

	2008	2009	2010	2011	2012	2013				2014		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
Selected ASEAN countries												
Cambodia (riel)	4054.2	4140.5	4187.1	4063.6	4037.8	3995.0	4032.9	4062.0	4018.9	3993.8	4026.9	4059.5
Indonesia (rupiah)	9699.0	10413.8	9089.9	4374.0	9363.0	9681.9	9783.6	10,666.0	11,545.1	11,765.8	11,615.3	11,775.7
Malaysia (ringgit)	3.3	3.5	3.2	1.5	3.1	3.1	3.0	3.2	3.2	3.3	3.2	3.2
Singapore (S$)	1.4	1.5	1.4	1.3	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.3
Thailand (baht)	33.4	34.3	31.7	30.5	31.1	29.8	29.9	31.4	31.7	32.6	32.4	32.1
Vietnam (dong)	16,382.0	17,725.2	19,200.8	20,574.3	20,856.9	20,829.6	20,828.0	20,908.7	21,036.0	21,036.0	21,036.0	-
Selected other Asian countries												
China (yuan)	6.9	6.8	6.8	6.5	6.3	6.2	6.2	6.1	6.1	6.1	6.2	6.2
Hong Kong (HK$)	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
South Korea (won)	1137.2	1277.8	1156.3	1108.6	1126.6	1085.9	1123.4	1108.8	1062.0	1069.7	1028.9	1027.5
Taiwan (NT$)	31.5	33.0	31.3	29.4	29.6	29.5	29.9	29.9	29.6	30.3	30.1	30.0
Selected industrial countries												
Euro-12 (euro)	0.840	0.720	0.755	0.719	0.777	0.757	0.767	0.755	0.735	0.730	0.729	0.755
Japan (yen)	102.5	93.6	87.8	79.9	79.8	92.3	98.8	98.9	100.5	102.8	102.1	104.0

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

Table 4: Selected commodity prices on world market, 2008-14 (period averages)

	2008	2009	2010	2011	2012	2013				2014		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
Maize (USNo.2)—USA (USD/tonne)	218.2	167.3	167.3	291.4	296.5	305.2	291.4	246.2	199.3	209.6	214.7	174.8
Palm oil—north-west Europe (USD/tonne)	912.2	686.8	834.7	1125.4	999.3	852.7	850.3	827.3	897.3	911.3	887.3	770.7
Rubber SMR 5 (USD/tonne)	2586.3	1884.8	3152.2	4630.6	3200.7	3029.5	2497.2	2394.6	2380.0	2034.7	1777.6	1672.1
Rice (Thai 100% B)—Bangkok (USD/tonne)	615.3	524.5	456.2	558.5	594.8	607.0	570.0	502.3	455.7	450.7	411.7	447.0
Soybeans (US No.1)—USA (USD/tonne)	460.4	414.0	375.4	507.9	566.1	558.4	569.8	545.1	514.9	533.0	565.7	463.0
Crude oil—OPEC spot (USD/barrel)	95.4	60.5	71.6	106.2	109.5	109.5	100.9	106.9	106.4	104.7	105.9	100.8
Gasoline—US Gulf Coast (cents/litre)	62.2	42.9	49.8	71.9	74.6	74.8	71.2	73.3	65.7	70.1	74.1	70.0
Diesel (low sulphur No.2)—US Gulf Coast (cents/litre)	51.6	75.7	83.8	77.8	80.7	80.3	81.5	75.6	79.6	77.5	77.1	73.7

Sources: Food and Agriculture Organisation and US Energy Information Administration

Economy Watch—Domestic Performance

Main economic activities

Fixed asset investment approvals in the third quarter amounted to USD625.8 m, up from USD257.9 m a year earlier. Of the total, 69.4 percent was in industry (USD434.4 m) and 30.6 percent in services. No investments were approved in agriculture. Investments in garments increased 25.2 percent from a year earlier to USD81.6 m. Although growth in investments and exports of garments and textile products were strong amid political tensions, strikes and continuing debates over pay and allowances, one of the priorities for the government and private sector is diversification into sectors with high comparative advantage.

Services have been, and will continue to be, one of the major contributors to GDP growth. Investments in the sector in the third quarter reached USD289.1 m from USD5.3 m a year earlier—93 percent were in hotels and hospitality. Tourist arrivals in the same period rose 3.5 percent from a year earlier to 998,690. Arrivals by air were up 16.2 percent, while those by land and water dropped 6.6 percent. Growth in tourist arrivals has been modest for the last two years.

Exports rose 8.3 percent from a year earlier. Garment exports, which accounted for 76.2 percent of the total, increased 3.6 percent to USD1.6 bn. The US and EU remained major markets for garments and textile products, accounting for 31.5 and 41.5 percent, respectively. Nonetheless, garment exports to the US dropped 14.5 percent from the previous year. Garment exports to ASEAN grew 17.8 percent and to Japan 19.8 percent, though exports to these countries accounted for 1.3 and 7.2 percent, respectively, of the total. Both market and subsector diversification is necessary to mitigate further external shocks. Rising minimum wages and the opening up of Myanmar may make an efficient choice for diversification.

In the same quarter, exports of agricultural commodities, accounting for 6.3 percent of total exports, increased by 3.8 percent from a year earlier. Exports of rubber declined 28.8 percent, of rice 2.7 percent and of fish 27.8 percent. The decreases were mainly due to a drop in world prices. The world price of rubber continued declining to USD1672.1/tonne in the third quarter. The price of Thai rice dropped 11.0 percent from a year earlier to USD447/tonne. The heavy reliance of Cambodia's farmers on Thai and Vietnamese markets could further lower their bargaining power.

Imports in the third quarter rose 35.7 percent from a year earlier to USD2.8 bn. Imports of gasoline went up 12.5 percent, of diesel 8.3 percent and of construction materials 60.9 percent. Petroleum imports could increase because of the decreased international oil prices. The trade deficit totalled USD662.3 m in the third quarter, compared to USD89.8 bn a year earlier.

Public finance

Total government revenue in the third quarter rose by 38.1 percent from a year earlier to KHR2580.6 bn (USD636 m), of which current revenue increased 38.4 percent to KHR2571.4 bn. Tax revenue, which accounted for 88 percent of the total, went up 37.6 percent to KHR2264.6 bn (USD558 m). Non-tax revenue increased 44.6 percent. In the same quarter, total expenditure declined 19.8 percent to KHR2480 bn, partly due to the decrease in capital expenditure from 57.7 percent a year earlier. Current expenditure went up 9.6 percent to KHR1909.5 bn, expenditure on wages and subsidies and other social assistance rose 9.5 and 52.2 percent, respectively. The budget surplus amounted to KHR100.5 bn, compared to a deficit of KHR1224.1 bn a year earlier. Increasing revenue collection and cutting wasteful spending remain priorities. Recent efforts to revamp tax collection (property, land and income) have received mixed reaction from the public. Nonetheless, efficient, simple and equitable tax procedures and collection are welcomed. Transparent use of tax money is also crucial.

Inflation and foreign exchange rates

Overall prices in the third quarter rose 4.0 percent, compared to 3.7 percent in the previous 12 months. The jump was seen in the prices of food and non-

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alcoholic beverages, which increased by 5.1 percent. Albeit in single digits, inflation has risen since 2012. The riel appreciated 0.1 percent against the dollar and 3.2 percent against the Thai baht from a year earlier. The price of gold declined 3.5 percent from the previous year to USD155.5/chi while those of diesel and gasoline rose 0.5 and 2.0 percent, respectively.

Monetary developments

In the third quarter, total liquidity increased by 38.9 percent from a year earlier, money 18.3 percent and quasi-money 42.8 percent. Net foreign assets rose 43.3 percent from a year earlier, and net domestic assets increased 31.2 percent. Credit to the private sector expanded by 25.6 percent from the previous year. While the increase is good news for private businesses, the growing money supply could have a positive correlation with long-run inflation. Although the overall price level is still manageable, it is also trending upward. Close monitoring of the increase in money supply and long-term inflation is recommended. The central bank would also need to ensure a healthy banking sector and that credits are directed towards businesses that invest in productive sectors.

Poverty situation

In November, the real daily income of scavengers declined compared with the previous year.

Compared with the previous survey, the earnings of skilled construction workers fell by 10 percent to KHR 18,302/day. Although construction increased, there were more workers competing for work. All the interviewees were from the provinces, especially Svay Rieng (40 percent) and Prey Veng (23 percent). They were the main income earners for their families. Sixty percent of these workers had moved to Phnom Penh alone. Eighty-five percent of them stayed overnight at the worksite. On average, half of workers' income went on daily consumption, especially food, which took 91 percent of the total. However, 65 percent could only partly support their families; these households also depended on raising livestock.

In November, rice field workers' earnings shrank by 23 percent from the preceding survey to KHR 6781/day. Fifty-three percent of the interviewees had no land, while others had less than a hectare. The workers were the breadwinners but could not earn enough to support their families because they could not find work for the whole month. Eighty-three percent had to take loans or ask for help from relatives, while others depended on common resources and other jobs.

On the positive side, earnings of waiters/waitresses increased by 25 percent to KHR 9435/day due to the holiday season. Workers spent only 38 percent of their income per day, mainly on food, while lodging was provided. However, they could not save because most of their earnings were sent to their families.

Cyclo drivers earned 18 percent more than in the previous survey, reaching KHR 11,634/day. The number of drivers declined, said 68 percent of the interviewees. Only 35 percent of the drivers owned their cyclo, while others rented it. The interviewees slept on the road or in a pagoda or the cyclo owner's house. They had to support their families, but only 25 percent said their income was enough for the family's needs. Drivers complained about high daily spending taking 89 percent of their income.

Earnings of vegetable vendors rose by 15 percent from August to KHR17,735/day due mainly to the festival season. Sixty percent of vendors were from Kandal and returned home after selling. Seventy-three percent of the vendors needed more capital to expand their businesses.

Scavengers' daily earnings were KHR 9548, a 15 percent rise from the preceding survey. Eighty-five percent of the respondents were from the provinces, largely from Prey Veng. They moved to Phnom Penh with their families. They could not rely on their earnings but had to get loans just to buy food, according to 68 percent.

Earnings of garment workers were 4.9 percent better than in the previous survey, reaching KHR 12,092/day. They were frequently offered overtime, reported 46 percent. The workers could not save because most of their wages went on food and remittances to their families. Thirty-eight percent did not want to change their job because they were not able to find other jobs with their low education and skills.

Economy Watch—Domestic Performance

Table 1: Private investment projects approved, 2008-14*

	2008	2009	2010	2011	2012	2013				2014		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
	Fixed assets (USD m)											
Agriculture	92.0	615.0	530.68	725	531.6	2.3	57.8	133.1	738.3	28.9	27.6	0.0
Industry	724.9	818.5	403.66	2860.1	829.3	195.4	1928.3	119.5	1014.1	179.0	239.3	434.3
. Garments	142.8	90.1	122.81	393.9	497.0	109.5	76.4	65.15	73.1	109.3	172.4	81.6
Services	10,003.2	4432.0	1337.34	3425.4	916.6	21.2	106.0	5.3	8.3	219.1	114.4	289.1
. Hotels and tourism	8758.1	3980.1	1105.14	2850.9	691.5	0.0	106.0	0.0	0.0	163.3	15.4	268.1
Total	10,570.9	5865.5	2271.7	7010.42	2278.0	218.9	2091.1	257.9	1760.7	426.9	302.2	625.8
	Percentage change from previous quarter											
Total	-	-	-	-	-	-81.1	855.5	-87.7	582.8	-75.8	-29.2	64.1
	Percentage change from previous year											
Total	308.6	-44.5	-61.3	209	-67.5	-47.5	666.0	-39.9	52.2	95.1	-81.8	142.7

* Including expansion project approvals.

Source: Cambodian Investment Board

Table 2: Value of construction project approvals in Phnom Penh, 2007-14

	2007	2008	2009	2010	2011	2012	2013				2014	
							Q1	Q2	Q3	Q4	Q1	Q2
	USD m											
Villas and houses	79.1	154.7	64.3	36.2	185.5	175.2	145.2	10.3	51.6	110.2	27.1	8.8
Flats	297.2	221.6	149.6	183.8	219.6	372.1	114.1	33.0	62.7	131.9	106.5	75.2
Other	259.6	740.9	227.3	269.7	199.9	463.6	154.4	238.3	336.0	130.8	190.0	141.7
Total	635.8	1117.0	441.2	489.8	605.0	1010.9	413.7	281.6	450.3	372.9	323.6	225.7
	Percentage change from previous quarter											
Total	-	-	-	-	-	-	130.3	-36.5	59.9	-17.2	-13.2	-30.2
	Percentage change from previous year											
Total	96.7	75.7	-60.5	11.0	23.5	67.1	28.1	-15.6	157.5	107.6	-21.8	-19.8

Source: Department of Cadastre and Geography of Phnom Penh municipality

Table 3: Foreign visitor arrivals, 2008-14

	2008	2009	2010	2011	2012	2013				2014		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
	Thousands											
By air	1239.4	1111.7	1304.3	1480.4	1722.1	611.2	398.1	428.0	580.4	699.0	438.2	497.5
By land or water	881.9	999.7	1094.6	1401.4	1862.2	560.9	522.5	536.6	572.5	569.0	495.2	501.2
Total	2121.3	2111.5	2398.9	2881.8	3584.3	1172.1	920.5	964.6	1153.0	1268.0	933.4	998.7
	Percentage change from previous quarter											
Total	-	-	-	-	-	16.4	-21.5	4.8	19.5	10.0	-26.4	7.0
	Percentage change from previous year											
Total	5.3	0.5	13.6	20.1	24.4	17.8	20.9	17.5	14.5	8.0	1.4	3.5

Source: Ministry of Tourism

Table 4: Exports and imports, 2008-14*

	2008	2009	2010	2011	2012	2013				2014		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
USD m												
Total exports	3097.8	2901.6	3630.2	4929.5	6106.4	1576.9	1620.1	1969.9	1815.4	1976.5	1859.8	2132.5
Of which: Garments	2986.2	2565.3	3223.4	4259.6	5015.4	1225.2	1259.0	1568.5	1333.4	1464.0	1379.2	1624.7
. To US	1908.3	1512.6	1853.9	2055.3	2143.3	526.8	474.6	597.9	476.0	531.1	452.5	511.2
. To EU	689.0	644.7	809.5	1322.2	1716.9	397.5	477.5	572.8	521.9	532.7	558.5	673.8
.To ASEAN	10.76	6.9	9.9	17.6	39.4	13.0	12.7	17.4	17.2	21.9	19.3	20.5
.To Japan	25.2	44.5	86.5	147.0	188.6	57.6	51.4	98.1	71.6	101.4	74.9	117.6
. To rest of the world	352.9	356.5	463.6	717.5	927.2	230.3	242.8	282.4	247.4	277.0	273.9	301.6
Agriculture	44.5	73.1	164.9	362.1	376.7	123.8	128.9	362.4	173.0	167.0	157.3	133.7
. Rubber	35.8	51.6	89.1	197.6	176.6	36.6	38.7	282.4	51.1	31.7	40.0	34.8
. Wood	3.4	3.5	34.1	48.8	36.8	14.5	8.9	16.9	33.3	55.9	48.4	19.6
. Fish	2.3	3.9	2.8	3.1	2.0	0.3	0.5	0.2	0.2	0.3	0.2	0.1
. Rice	2.6	10.9	34.7	106.6	146.4	65.8	56.5	57.3	82.7	57.9	52.8	55.8
Other agriculture	0.5	3.0	4.1	6.0	14.9	6.6	24.4	5.7	5.7	21.2	16.0	23.5
Others	67.1	263.2	242.0	307.9	714.4	274.9	232.2	272.6	308.5	345.5	323.3	373.0
Total imports	4272.5	4331.5	5190.6	6375.9	8593.3	2192.1	2211.4	2059.7	2130.1	2238.2	2454.4	2794.8
Of which: Gasoline	84.8	91.13	108.6	294.4	308.0	1225.2	77.2	71.3	80.5	77.4	83.2	80.2
Diesel	19.5	180.67	203.8	447	559.5	526.8	137.4	150.9	132.2	148.5	142.5	163.4
Construction materials	56.3	49.74	57.6	48.1	66.1	397.5	17.8	18.0	17.2	27.8	29.2	29.0
Other	4011.8	4010	4820.6	5586.4	7659.1	13.0	1979	1819.4	1899.6	1984.5	2199.5	2522.2
Trade balance	-1174.7	-1429.9	-1560.5	-1446.4	-1341.6	-615.2	-591.2	-89.8	-314.7	-261.7	-589.5	-662.3
Percentage change from previous quarter												
Total garment exports	-	-	-	-	-	7.4	2.8	24.6	-15.0	9.8	-5.8	17.8
Total exports	-	-	-	-	-	8.4	2.7	21.6	-7.8	8.9	-5.9	14.7
Total imports	-	-	-	-	-	13.1	0.9	-6.9	3.4	5.1	9.4	14.1
Percentage change from previous year												
Total garment exports	1.6	-14.1	25.7	32.1	17.7	14.4	-14.6	18.0	16.9	19.5	9.6	3.6
Total exports	1.6	-6.3	25.1	35.8	23.9	23.2	-8.8	23.4	24.8	25.3	14.8	8.3
Total imports	13.3	1.4	19.8	22.8	16.8	36.2	17.3	2.2	9.9	2.1	10.8	35.7

* Import data include tax-exempt imports.

Sources: Department of Trade Preference Systems, MOC and Customs and Excise Department, MEF (web site)

Table 5: National budget operations on cash basis, 2008-14 (billion riels)

	2008	2009	2010	2011	2012	2013				2014		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
Total revenue	5290.0	4885.2	5989.0	6251.4	7691.9	1820.2	2204.8	1868.9	2361.2	2220.5	2793.7	2580.6
Current revenue	5210.7	4855.9	5859.1	6179.3	7443.8	1817.4	2241.3	1858.1	2316.3	2219.2	2765.2	2571.4
Tax revenue	4409.9	4268.0	4693.0	5277.5	6334.8	1577.7	2024.0	1646.0	1950.4	1988.7	2383.1	2264.6
Domestic tax	3248.4	3088.6	3533.6	4071.6	5002.8	1254.5	1652.9	1300.6	1520.1	1593.6	1943.2	1798.0
Taxes on international trade	1161.5	1064.7	1159.4	1205.9	1331.7	323.1	371.1	345.4	430.3	449.0	439.9	466.5
Non-tax revenue	800.8	702.1	1166.1	901.8	1118.2	239.8	217.4	212.2	365.9	176.6	382.1	306.9
Property income	78.0	64.6	291.1	63.8	143.0	8.4	18.1	24.3	33.2	11.1	40.8	21.2
Sale of goods and services	424.7	408.0	460.1	588.7	667.4	153.3	173.3	178.8	245.0	160.3	197.5	212.9
Other non-tax revenue	298.2	228.2	408.9	249.3	298.8	78.1	25.9	9.0	87.7	5.2	143.7	72.7
Capital revenue	79.3	29.3	129.9	72.1	247.9	6.2	11.5	10.7	45.0	1.3	28.5	9.2
Total expenditure	6297.8	7383.5	8784.6	9032.4	9660.9	2114.8	3181.6	3093.0	4146.4	2078.6	2371.9	2480.1
Capital expenditure	2574.4	2694.9	2853.2	3546.9	3628.3	1108.4	1273.7	1350.6	1834.8	646.9	900.5	570.7
Current expenditure	3809.0	4440.0	4773.1	5341.2	6188.4	1006.4	1907.8	1742.4	2311.6	1431.7	1471.4	1909.5
Wages	1397.0	2012.0	2048.8	2170.6	2486.6	505.0	757.0	827.3	908.0	860.0	931.0	905.7
Subsidies and social assistance	927.1	871.4	1099.4	1518.8	1586.8	252.0	652.5	285.0	373.4	213.1	259.6	433.7
Other current expenditure	1384.9	1556.6	1624.8	1651.8	2115.1	249.4	498.3	630.1	1030.2	358.6	280.8	570.1
Overall balance	-1007.8	-2498.3	-2795.7	-1271.4	-1969.0	-294.6	-976.7	-1224.1	-1785.2	141.9	421.8	100.5
Foreign financing	2055.10	1746.1	1845.2	-2781.0	2457.8	906.0	1150.6	1032.2	1237.4	440.7	623.8	164.0
Domestic financing	-127.00	474.9	938.6	2379.2	-332.9	-470.6	270.3	113.0	65.8	123.7	249.9	347.6

Source: MEF web site

Table 6: Consumer price index, exchange rates and gold prices (period averages), 2008-14

	2008	2009	2010	2011	2012	2013				2014		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
(October-December 2006:100)	Consumer price index (percentage change over previous year)											
Phnom Penh - All Items	19.7	-0.7	4.1	5.4	2.3	1.5	2.3	3.7	4.7	4.6	4.8	4.0
- Food & non-alcoholic beverages	33.1	-0.3	4.4	6.5	2.5	1.6	3.3	4.8	5.8	5.7	5.3	5.1
- Transportation	19.4	-10.7	7.0	6.9	3.3	-0.7	-1.0	-0.1	-0.4	-1.1	0.5	-0.2
	Exchange rates, gold and oil prices (Phnom Penh market rates)											
Riels per US dollar	4058.2	4140.5	4187.1	4063.6	4039.2	3995.0	4033.1	4062.0	4059.0	3993.8	4026.9	4059.5
Riels per Thai baht	123.5	121.1	133.1	133.2	130.0	134.7	135.74	131.4	130.7	123.0	124.8	127.1
Riels per 100 Vietnamese dong	24.8	23.4	21.72	19.7	19.4	19.3	19.34	19.3	19.4	19.1	19.2	19.2
Gold (US dollars per chi)	105.9	113.1	147.5	184.5	200.9	197.3	173.4	161.1	171.8	156.6	155.9	155.5
Diesel (riels/litre)	4555.2	3170.9	3859.3	4761.2	4941.2	5134.4	4992.0	5022.5	4927.0	4971.2	5006.7	5047.6
Gasoline (riels/litre)	4750.8	3593.1	4368.1	5044.5	5312.7	5410.5	5274.5	5245.2	5126.7	5171.5	5200.0	5348.6

Sources: NIS, NBC and CDRI

Table 7: Monetary survey, 2008-14 (end of period)

	2008	2009	2010	2011	2012	2013				2014		
					Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
	Billion riels											
Net foreign assets	10,345.0	14,655.0	16,697.9	17,893.9	18,154.5	19,976.7	21,772.9	18,720.7	21,260.1	23,344.4	26,235.8	26,817.8
Net domestic assets	15,13.3	1573.0	2778.9	5760.8	10,437.4	10,504.1	9886.1	10,634.8	11,508.3	11,817.4	12,024.4	13,950.5
Net claims on government	-2987.0	-2252.0	-2126.6	-2123.1	-2486.4	-2991.6	-3012.6	-2804.4	-2794.9	-3349.3	-3747.3	-4113.0
Credit to private sector	9894.0	10,532.0	13,331.2	17,552.8	23,536.6	24,820.2	25,146.0	26,445.3	27,608.8	28,584.5	30,621.3	33,226.4
Total liquidity	11,858.0	16,228.0	19,476.8	23,654.7	28,591.9	30,480.8	31,659.1	29,355.5	32,768.4	35,161.8	38,259.9	40,768.3
Money	2399.0	3120.0	3220.9	3956.2	4045.7	4500.6	4585.9	4720.8	4878.2	5376.2	5231.3	5583.1
Quasi-money	9459.0	13,108.0	16,255.9	19,698.5	24,546.2	25,980.2	27,073.2	24,634.8	27,890.2	29,785.7	33,028.5	35,185.2
	Percentage change from previous year											
Total liquidity	4.8	36.9	20.0	17.8	20.9	22.6	18.8	9.3	14.6	15.4	20.8	38.9
Money	16.9	30.1	3.2	16.9	2.3	12.9	18.4	23.6	20.6	19.5	14.1	18.3
Quasi-money	2.2	38.6	24.0	17.9	44.6	24.4	18.8	6.9	13.6	14.6	22.0	42.8

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		
	2012	2013				2014				2014		
		Feb	May	Aug	Nov	Feb	May	Aug	Nov	May	Aug	Nov
Cyclo drivers	10,303	9592	10,681	10,636	10,842	10,832	10,764	9867	11,634	0.6	-7.2	7.3
Porters	12,143	12,749	12,823	14,157	13,260	12,141	12,568	13,399	16,188	-2.0	-5.4	22.1
Small vegetable sellers	10,771	9953	11,571	11,490	12,449	12,294	13,581	15,372	17,735	17.4	33.8	42.5
Scavengers	8680	9487	10,440	9620	9732	9593	9214	8337	9548	-11.9	-13.3	-1.9
Waitresses*	6111	6529	6744	6791	6723	7449	6696	7565	9435	-0.7	11.4	40.3
Rice field workers	6151	5811	6427	7771	6388	8932	5836	8795	6781	-9.2	13.2	6.1
Garment workers	8932	10,004	9776	10,420	10,442	9548	11,412	11,388	12,092	16.5	10.6	15.8
Motorcycle-taxi drivers	12,930	14,433	12,522	13,656	13,189	13,227	13,401	12,656	14,259	6.8	-7.3	8.1
Unskilled construction workers	11,078	12,554	13,728	13,023	13,431	15,162	15,316	15,401	15,436	11.6	18.3	19.9
Skilled construction workers	13,743	15,162	14,136	15,822	16,647	15,163	15,765	20,420	18,302	11.5	29.1	9.9

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

Source: CDRI

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series creates an open space at CDRI for scholars and practitioners, novices or seniors, to meet and share their research interests, knowledge and life experiences. Dialogue across disciplines, narratives, geographic boundaries, culture, expertise and age is believed to trigger creativity and innovative ideas that help enrich our professional lives.

On 9-12 December CDRI held its annual management-staff retreat, this year in the coastal town of Sihanoukeville, to assess and celebrate its achievements in 2014 and lessons learned, to confirm priorities for 2015 in the further implementation of its 2012-15 Strategic Plan and Cambodia 2020 Research Strategy, and to identify organisational issues that require priority attention in the coming year.

The 2015 Cambodia Outlook Conference, a joint partnership between CDRI and ANZ Royal, on the theme "AEC 2015 and Beyond: Our Reform Agenda" will be held on 5 March 2015.

RESEARCH

Agriculture

The team has been undertaking nine projects, four of which are joint works with other research units and the Gender Working Group. The third draft report on the *Impact of Contract Farming on Smallholder Livelihoods*, a Sida-funded project, has been finalised and submitted for approval. Also concluded, with financial support from the World Food Programme, is the final report for the project to *Design Evaluative Framework and Oversee a Baseline and Endline Survey for Productive Assets and Livelihood Support (PALS)*. The first draft report for the *Study on Farm Mechanisation and Agricultural Labour Market Trends* is almost completed and the project report on the *Impact of Rice Export Promotion Policy and Food Security* is in hand; Sida funds both of these research studies.

Well underway as part of Phase II of the ACIAR-supported project *Agricultural Policies for Rice-Based Farming Systems in the Middle Mekong* are two case studies; one focuses on livestock production and value chain analysis and the other explores the impact of agricultural extension services. A contract is being prepared for the newly awarded four-year (2015-18) project on *Testing Innovative Models of Extension in Cambodia's PADEE (Project for Agricultural Development and Economic Empowerment)*, the latest programme funded by IFPRI (International Food Policy Research Institute).

Economy

CDRI signed a Memorandum of Understanding (MOU) on Development Policy Research and Capacity Building Partnership with the Ministry of Economy and Finance (MEF) on 4 November 2014. As part of the activities to support the MOU, the team will hold a consultative meeting with technical staff from MEF in January 2015. The aim is to discuss opportunities for collaborative research especially on developing strategies to close the skills gap in line with the Industrial Development Policy 2015-2025.

The report on *Landlessness and Child Labour*, with financial support from World Vision Cambodia (WVC), was completed and submitted for peer review. For the study on *Community Responses to Violence against Women,* which receives support from Investing in Children and their Society (ICS), data has been collected and the report is being prepared. Fieldwork was carried out for *Interrelations between Partner Countries' Public Policies, Migration and Development: Case Studies and Policy Recommendations,* a project funded by the Organisation for Economic Cooperation and Development (OECD), and report writing is now underway. The research team has finalised and submitted to the Partnership for Economic Policy (PEP) a working paper on *Estimating the Economic Effects of Emigration and Remittances on the Left-behind in Cambodia*. A related policy brief has already been published. Also making steady progress is a joint research study with the University of Manchester, UK, on *Political Settlement and Primary Education in Cambodia*; a desk review of the literature and stakeholder interviews are underway.

The Greater Mekong Subregion Development Analysis Network (GMS-DAN) completed a multi-country research project on *Inclusive Development in Basic Education and Health in the GMS*. The network has submitted a proposal on Improving Job Prospects for the Young: Labour Markets, Skill Development and Private Sector in the Greater Mekong for possible research collaboration with the International Development Research Centre (IDRC) of Canada.

The quarterly *Vulnerable Worker Survey*, monthly *Provincial Price Survey* and monthly *Flash Report on the Cambodian Economy* continue to make good progress.

Education

To support the government's education reform and prioritised action plan, a collaborative research project on Cambodia's skill development and education reforms was initiated in mid-2014. The main objective of this project is to produce CDRI's *Annual Development Review 2014-15* on the theme *Anchoring Education for Employment and Empowerment: Strategic Priorities and Policy Options for Cambodia* for release in 2015. The volume analyses the potential for anchoring Cambodia's education for the employment of its youth and the empowerment of its people, and identifies the strategic priorities and policy options that will be crucial for realising that potential.

The work on this policy research product, along with the associated consultation and collaboration with key stakeholders, has provided a solid foundation for a more ambitious longer term programme that locates and builds expertise within key Cambodian institutions, and lays the groundwork for long term institutional collaboration. CDRI has developed a five-year (2014-18) education policy research study called the "Research and Policy Dialogue Programme on Cambodia's Education Reforms". The objective is two-fold: to produce rigorous policy-relevant research products, and to contribute to evidence-informed education reforms.

Environment

The working paper on *Agricultural Technological Practices and Gaps for Climate Change Adaptation: System of Rice Intensification (SRI),* a Sida-funded study, is being prepared for publication. For the project *China Goes Global*, supported by the Economic and Social Research Council, field data is being analysed. The results will be published in a peer-reviewed international journal and in a CDRI publication in 2015.

The components on climate change vulnerability assessment, applied climate-downscaling information in hydrological assessment, water governance, capacity building and knowledge dissemination, under the IDRC funded *Climate Change and Water Governance in Cambodia* project, are being implemented. Data on exposure, sensitivity and adaptive capacity at the local level in the targeted provinces of Kompong Chhnang, Pursat and Kompong Thom is being analysed. A study on catchment hydrology is in progress. For the *Follow up Study on the 2011 Nationwide Knowledge, Attitude, and Practice Study on Climate Change in Cambodia,* a new project funded by the Cambodia Climate Change Alliance (CCCA) of the Ministry of Environment, the team submitted a mid-stream report and the initial findings will be presented on 19 February 2015. Work has started on a *Community-based Disaster Management Plan in Rural Cambodia*, a new project that receives financial support from the Japanese Institute of Irrigation and Drainage (JIID).

A proposal on Sustainability of Hydropower Development on the Cambodian Mekong River and Tributaries submitted to the Lower Mekong Public Policy Initiative (LMPPI) is being finalised. Other projects submitted to various partners are being reviewed.

Governance

Two working papers are being prepared for publication, one reports on *Social Accountability in Cambodia*, and the other examines *Rights based Approach in Action: Determinants and Prospects in Cambodia.* A joint project with the Environment Unit involves *Decision-making and Capacity Development for Water Resources and Climate Change Adaptation in Cambodia*. The team is currently working on the final draft. A second collaborative study is *Cambodia Education: Employment and Empowerment,* the theme of CDRI's *Annual Development Review 2014-15.* Governance is responsible for the chapter on "Meeting Basic Learning Needs through Primary Education". The unit has been awarded an exciting new three-year research project titled *Space for Dialogues on Mekong Water Governance*. Set to start in January 2015, it will run until December 2017.

In December the team organised a dissemination workshop in Siem Reap province. The event was attended by 300 local officials including commune councillors, district and provincial officials from Kompong Cham, Battambang, Kratie, Kampong Chhnang, Pursat and Siem Reap.

Health

Three major projects are in progress. First the *Research for Building Pro-poor Health Systems during Recovery from Conflict (ReBUILD),* now in its final year, remained a major focus. Data analysis and individual project reports have been completed for three subprojects: one examines the impact of health financing strategies on access to health services, a second evaluates incentives for health worker retention and performance and the challenges faced by health staff in rural and remote areas, and a third assesses health service contracting arrangements. ReBUILD is funded by the Department for International Development (DFID) of the UK, and is conducted in partnership with the Liverpool School of Tropical Medicine. Second, research on *Obstetric Referral in the Cambodian Health System,* a joint project with the Nuffield Centre for International Health and Development and the University of Leeds, receives support from the ReBUILD Responsive Fund. The main fieldwork has been completed and data cleaning, transcribing and translation are underway. A third focus of our work is on child labour. *Eliminating eXploitative Child Labour through Education and Livelihoods (EXCEL),* a four-year (2012-16) partnership with World Vision, Wathnakpheap, Farmer Livelihood Development and Vulnerable Children Assistance Organization, aims at identifying at-risk children employed in sectors diverse as fishing, agriculture and domestic work. Two subprojects on Domestic Child Labour and Landlessness and Child Labour have been completed and the second draft reports have been submitted for final review by the World Vision Cambodia.

A summary paper on "Maternal Health-Seeking Behaviour: A Life History Approach" has been published in the *Cambodia Development Review,* and a project report on *Securing Secondary Education* is pending comments from external peer reviewers. The Health team has developed and submitted three proposals on *Opinion Leader Research (OLR) on Infant and Young Child Feeding (IYCF);* a *Verification of Sanitation Outcomes* to assess the impact of improved rural sanitation; and, from a gender perspective, *Career Pathways for Health Workers in Cambodia.*

CDRI UPDATE

MAJOR EVENTS

In the quarter ending December 2014, CDRI's Executive Director continued to meet several government ministers and officials and representatives from existing and potential partners. Key ministers and senior officials whom he met to discuss policy research priorities included HE Dr Aun Porn Moniroth, Chairman of the Supreme National Economic Council and Minister of Economy and Finance, HE Dr Hang Chuon Naron, Minister of Education, Youth and Sport, HE Dr Ing Kantha Phavi, Minister of Women's Affairs, HE Suy Sem, Minister of Mines and Energy, and HE Dr Vongsey Vissoth, Secretary of State, Ministry of Economy and Finance.

CDRI's senior management also met senior officials from the National Institute of Public Health and held discussions and explored opportunities for partnerships with Ambassadors from Canada, the European Union, Japan, South Korea and Sweden, and representatives from the Asian Development Bank, World Bank, International Monetary Fund, USAID, and the German Enterprise for International Cooperation (GIZ). The major private sector institutions whose representatives he met included Prudential (Cambodia) Life Assurance, International Business Chamber, British Chamber of Commerce and Tata South East Asia Ltd.

Delegations from the Chinese Academy of Social Sciences, Shanghai Institute for International Studies and the Vietnam Academy of Social Sciences visited CDRI to exchange development perspectives on Cambodia and explore joint partnerships. CDRI's senior management and staff also attended many conferences, seminars and workshops—inside and outside Cambodia—and gave presentations and speeches.

In October CDRI's Executive Director attended the 10th East Asian Institutes Forum on the theme "Global Value Chains and East Asia Economic Integration" in Danang City, Vietnam, as well as the SEAMEO Congress on the theme "Rethinking Education Science and Culture for Regional Integration" in Bangkok, Thailand. He also represented CDRI at the 2nd ADB-Asian Think Tank Development Forum 2014 on "Accelerating Innovation and Inclusion for a Prosperous Asia" in Seoul, South Korea, on 20-21 November.

In November CDRI signed a first memorandum of understanding (MOU) with the Ministry of Economy and Finance (MEF). The MOU will facilitate joint policy research on emerging issues important for Cambodia's socio-economic development, research capacity development at CDRI and MEF, and the sharing of financial resources between the two institutions. In January 2015, CDRI will sign a similar formal partnership with the National Institute of Public Health to pool our two institutions' resources and professional expertise to undertake joint research for informed health policy and practice.

The first of the new internal Pharos lecture series/dialogues on the theme "The Idea of Corporate Identity" was held in November. The

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