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SOCIAL ACCOUNTABILITY IN SERVICE DELIVERY IN CAMBODIA

Introduction

The Royal Government of Cambodia, as part of decentralisation and deconcentration reform, adopted a Strategic Plan on Social Accountability for Sub-National Democratic Development in 2013. The Strategic Plan aims to improve public service delivery and strengthen relations between the state and citizens, as these are associated with local development and accountable and effective governance. However, little has been written about social accountability in Cambodia, aside from Burke and Nil (2004), World Bank (2013), Rodan and Hughes (2012), Norman (2014) and Babovic and Vukovic (2014). Most research

was conducted at an early stage of social accountability initiatives in Cambodia and scant attention has been paid to how and why social accountability initiatives emerge in Cambodia and to what extent they work to motivate collective citizen action and influence state response. This study is intended as a contribution to filling this gap and informing realistic expectations of social accountability.

Social accountability here is defined as ongoing collective efforts by civil society to hold public officials accountable for their decisions and actions. It is to be achieved through imposing political and reputational costs on public officials to respond (Peruzotti and Smulovitz 2006). A variety of social accountability tools have been experimented with. These include community scorecards for social



services, public expenditure tracking surveys, local participatory budgeting, public forums, capacity building and other forms of local civic engagement. Social accountability is thus an evolving umbrella concept for a wide range of approaches adopted by civil society to aggregate interests and voice and exert stronger demands on state officials (on voice, see Goetz and Jenkins 2005; Hirschman 1970).

This article is based on the findings of a study on social accountability published in CDRI Working Paper 102 (Eng, Vong and Hort 2015). The study investigates how social accountability initiatives have worked in Cambodia, why they worked in the ways they have and with what results. Specifically, the study examines the extent to which social

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This article was prepared by Dr Eng Netra, research fellow and unit head, Vong Mun, research associate and Hort Navy, research assistant, Governance Unit, CDRI. Full citation: Eng Netra, Vong Mun and Hort Navy. 2015. "Social Accountability in Service Delivery in Cambodia." *Cambodia Development Review* 19(4): 1-4. Phnom Penh: CDRI.

accountability has delivered its promises. What is its contribution to empowering ordinary Cambodians to mobilise effectively and pressure public officials into promoting policies that benefit them and improve public services?

The support for social accountability provided by donors and government offers a range of opportunities to different actors. This study seeks to understand whether the way social accountability is being promoted and implemented in Cambodia has so far provided ordinary Cambodians (especially the poor) with genuine power to scrutinise state institutions and place public demands effectively. These points are examined through three examples of social accountability initiatives in service delivery: primary health care, school textbook monitoring, and urban clean water and solid waste management.

Urban clean water and solid waste services

This case study looks at a donor-financed and -initiated social accountability project in clean water and solid waste management. Silaka, a Cambodian NGO based in Phnom Penh, was contracted to carry out the project, which was implemented from March 2011 to March 2013 in two sangkats in Takhmao municipality, a city about 12 km from Phnom Penh. These sangkats were selected for being the poorest and most lacking in access to piped water and sanitation services. The project set out to strengthen local governance and local democracy through the use of social accountability tools.

Accountability in water supply and waste management

Water supply in Phnom Penh and surrounding areas is the responsibility of the Phnom Penh Water Supply Authority, a state agent that is financially and institutionally autonomous. It has the authority to make decisions about personnel, investment, financial management, and outreach programmes. Sanitation is much more complex than piped water because there are several ministries involved, leading to limited investment and government attention. Solid waste management is the responsibility of the Ministry of Environment. Solid waste collection and management services are usually provided by private companies contracted by the Ministry of Economy and Finance without the involvement of local authorities.

In both cases, decisions about service provision are made by national-level actors with little local feedback and participation.

Outcomes

More than a year after the project had ended, there was no significant improvement in poor people's access to water and sanitation services in the two sangkats. The field visit in August 2014 found that 37 households had access to solid waste services but only in the sangkat located along National Road 2. Some poor households living along paved road in one of the sangkats were connected to piped water. But their access to clean water was not a result of the social accountability project (none of the households interviewed were aware of the social accountability initiative), but of the effective use of patronage networks by local elite.

In both communes, the project achieved little towards villagers' empowerment. The organised neighbourhood committees, which the project hoped would become key actors in placing demands on officials for improved services, ceased to exist as soon as the project ended in early 2013. Some of the representatives said that the knowledge and skills they gained from the project could be useful but they were reluctant to speak out about issues for fear of reprisal, besides which their participation in public forums did not elicit genuine response from officials.

From fieldwork observations, officials showed little enthusiasm for working with Silaka on the project. Both local officials and service providers interviewed for this study remained reluctant to accept the demands and criticisms of citizens and Silaka.

School textbooks monitoring initiative

The Khmer Institute for National Development (KIND), in collaboration with the Affiliated Network for Social Accountability in East Asia and the Pacific, implemented a social accountability project called "Feedback for Improving the Quality of Education" between 2012 and 2014, funded by USAID-Building Bridges for Better Spending in Southeast Asia. This case study investigates the textbook tracing project, with a focus on the project's contribution to empowering parents and students in their relationship with school and education officials to influence changes in service provision

Accountability in education

The Ministry of Education, Youth and Sport (MOEYS) is responsible for the overall education system, quality, policies and regulations. Under the ministry are provincial departments and district

offices. The district office in particular plays very important roles because it works directly with schools over policy compliance and also provides technical support and oversight.

Despite attempts to delegate major functions and responsibilities within the sector, decision making remains highly centralised. Citizen's participation and feedback are expected to be channelled through school support committees. The committee is expected to monitor activities, review the budget and check quality. It also has authority to approve the school development plan before the school sends it to higher levels. In practice, the committees rarely discuss substantive matters regarding the curriculum, staff, budget management or quality control.¹

Outcomes

From the outset, this project seemed to achieve significant results. The director of KIND claimed that it led to a number of MOEYS policy actions under the new minister. Based on the public expenditure tracking survey and citizen report cards, the minister made two changes. First, the ministry issued a warning to stop illegal sales of state textbooks on the open market (Ministry of Education Youth and Sport 2014). Second, the ministry created a working group to manage textbook development and reinforce textbook distribution and usage at every school. It is not clear, however, how effective these measures have been given the scant enthusiasm from lower level officials for compliance and participation in the project.

Empowering students and parents to monitor and oversee school performance was a key aspect of the project. The interviews with project participants and non-participants showed that they were very interested in taking part in social accountability activities and wanted the project to bring positive change to schools. Their interest reflected their awareness of the right to free education and of the obligation of the state. Despite their enthusiasm, there was a strong sense of reluctance to express their dissatisfaction with schools at public meetings for fear of being marked out or humiliated by school and high level officials.

The long experience of education officials in working with NGOs provided an enabling environment for KIND to implement a social accountability project, at least when compared with

other sectors. Nonetheless, while there was good cooperation from some national ministry officials, other actors in the ministry such as the publishing and distribution house and deconcentrated offices were not keen to cooperate. There is still quite a strong feeling of distrust among these officials towards NGOs and their activities. The interviews with district officers and school principals indicated that they were not interested in working with KIND on this project. They told us that they only do what they are instructed by the ministry.

Community scorecards and local health care

In this case study, change in local health services is examined based on the findings of the Community Scorecards for Health Services Project. The World Bank-funded project was implemented in 2012 by Buddhism for Health in 20 health centres in Takeo's Kiri Vong operational district. For this case study, one health centre—Chi Khmar—was selected, which covers three communes: Chi Khmar, Smaong and Tralach. The three communes contain 25 villages with a combined population of more than 160,000, the vast majority of whom are rice farmers.

Accountability in primary health care

With accountability in mind, the health sector has institutionalised a participation structure which includes village health support groups (VHSGs) and health centre management committees (HCMCs). In addition, every health centre has a complaints box (World Bank 2013). This structure was envisaged to promote health centres' downward accountability (Ministry of Health 2008, 9). In practice, however, there are hurdles and some successes. The complaints box has rarely been used. Prohibitive factors include illiteracy, lack of awareness and fear of being identified (World Bank 2013, 35). The VHSG has also been underused. The World Bank (2013) attributes this problem to the perceived status of VHSGs as extensions of health centres. When received, user complaints are discussed at HCMC meetings. This may necessitate follow-up with the health centre workers concerned and commune council interventions, resulting in friendlier attitudes and a better service (World Bank 2013, 37). Unfortunately, as the World Bank (2013) indicates, HCMC assertiveness is not widely evident.

1 For detailed analysis of school management committees, see World Bank (2013) *Voice, Choice and Decision*.

Outcomes

The project was to enhance the quality of services and care at health centres, and on this the project largely succeeded. Buddhism for Health's monitoring reports show that the action plan as a result of community scorecards was mostly successfully implemented. At Chi Khmar health centre a pump was installed to supply water to toilets, and a medical waste disposal facility issue was partly resolved. Importantly, health centre staff attitudes, working hours and diagnosis were addressed at internal meetings, leading to a more user-friendly service, regular operating hours and appropriate prescribing practice.

Both government officials and service providers indicated positive impressions and a receptive attitude. Operating district and health centre staff found the community scorecard provided a useful opportunity to discern public opinion and service gaps and show their willingness to take corrective measures. This attitude was underpinned by a national workshop, attended by NGOs and the secretary of state for health, before the social accountability project started to cultivate a joint decision about its implementation.

Although service delivery outcomes have been achieved, empowerment remains an illusion. At the start of the community scorecard process, the lead facilitator commented that it was difficult to entice villagers to attend village meetings because many were busy or simply disinterested. A participant villager, who could barely recall the experience, confirmed that people who were busy did not go to the meetings; however, those who were at home complied with the invitation, whether they were interested or not. In this light, people did not attend community scorecard meetings out of an urge to voice their opinions about health services but to comply with an authoritative invitation and fulfil a social routine.

Policy implications

This study examined three examples of social accountability initiatives in public services in order to explain how social accountability works in Cambodia, and to identify specific dynamics that enabled or constrained these initiatives. Overall, we found that the initiatives had not contributed to greater participation of villagers in the governance of public services nor led to improved relations between government and NGOs, though some improvements in service provision were documented.

The important point for policy from this study is that enhancing the impacts of social accountability initiatives in Cambodia requires removing some of the constraints discussed in the three examples; namely citizens' reluctance to demand improvements and criticise services for fear of reprimand, and service providers' lack of genuine interest in necessary interventions.

A number of recommendations can be drawn to inform and feed into the design, strategy and implementation of future social accountability initiatives in Cambodia.

- NGOs need to do more groundwork before they implement accountability projects to ensure they involve the right people with the appropriate level of authority and at the right level for the project.
- Project funders need to conduct regular monitoring to ensure inclusiveness particularly of villagers who have no connections with local authorities, marginalised groups and opposition supporters.
- Conduct an analysis of the sectors to find out whether government officials accept social accountability principles in the first place. This is important as it affects the result of social accountability initiatives and at the same time impacts on villagers' empowerment and their motivation to participate in the projects.
- There is merit in implementing local accountability projects prior to elections, as the government is more likely to listen and be responsive to local demands.

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Exploring Climate Change Vulnerability and Adaptation in the Tonle Sap: A Tale of Three Catchments

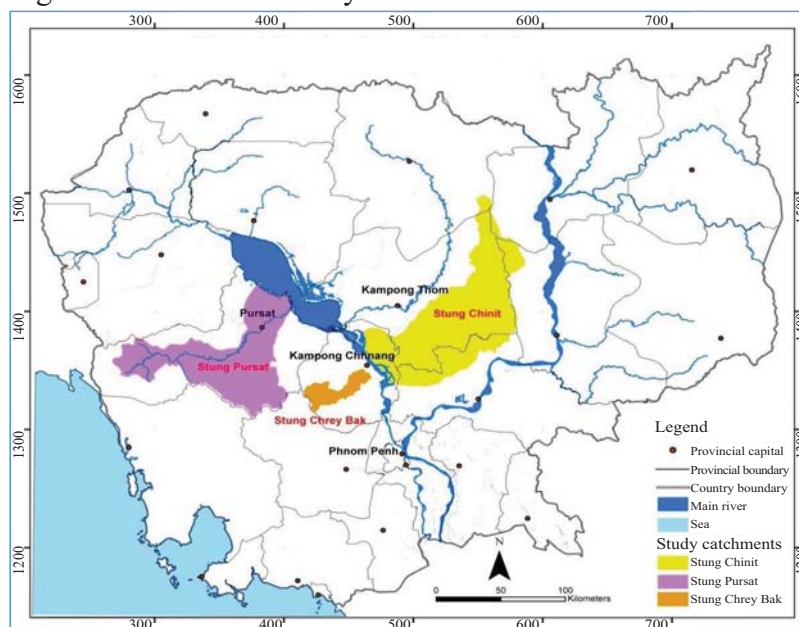
Background

The Tonle Sap Basin is undergoing accelerating and significant hydrological change, as confirmed by the AusAID-funded “Exploring Tonle Sap Futures” study (Keskinen et al. 2011). The study demonstrates that changes in the Tonle Sap flood pulse and water regime over the next 30 years are more likely to be caused by infrastructure developments than by climate change. However, climate change will compound this situation and add further uncertainty to the future of water in the Basin. Unless issues related to water security and climate resilience are adequately addressed, it will become increasingly difficult to sustain food and energy security, ecosystem services and poverty reduction. Effective strategies and action plans to deal with these challenges will require both accurate and reliable water resources assessment (MOE 2013) and ongoing qualitative vulnerability assessment.

Assessment reports on vulnerability to climate change in the Tonle Sap Basin exist; however, the absence of location-specific vulnerability assessments is one of the biggest failings hampering risk management and adaptation resilience at local level. Lack of specificity means that adaptation responses might be insufficient to mitigate or to keep pace with climate change.

In response, the central part of a three-year program of participatory action research, aiming to increase community adaptive capacity, deliver evidence-based decision making and promote adaptive governance that serves local priorities (Sam and Pech 2015), was assessment of local vulnerability to climate in three of the Tonle Sap’s

Figure 1: Location of study sites



Source: Chem and Kim 2013

most at-risk catchments: Stung Chinit, Stung Pursat and Stung Chrey Bak (Sam et al. 2015) (Figure 1). Specifically, the assessment looked at (1) how climate change affects the vulnerability of men and women differently, and (2) how these vulnerabilities vary across topography (upstream and downstream areas).

This article summarises the main findings of that vulnerability assessment. Before setting out the results, we define some important terms and briefly describe the research design, data collection and data analysis. Then we present the key findings, first the indices for each component of vulnerability followed by the overall vulnerability index. The final section concludes and offers suggestions for further study.

Some key terms defined

Exposure is “the nature and degree to which a system is exposed to significant climatic variations” (IPCC 2001, 987).

Sensitivity is “the degree to which a system is affected, either adversely or beneficially, by climate-related stimuli” (IPCC 2001, 993).

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Adaptive capacity is “the combination of the strengths, attributes and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities” (IPCC 2012, 556).

Vulnerability is “the degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate variation to which a system is exposed, its sensitivity, and its adaptive capacity” (IPCC 2007, 883).

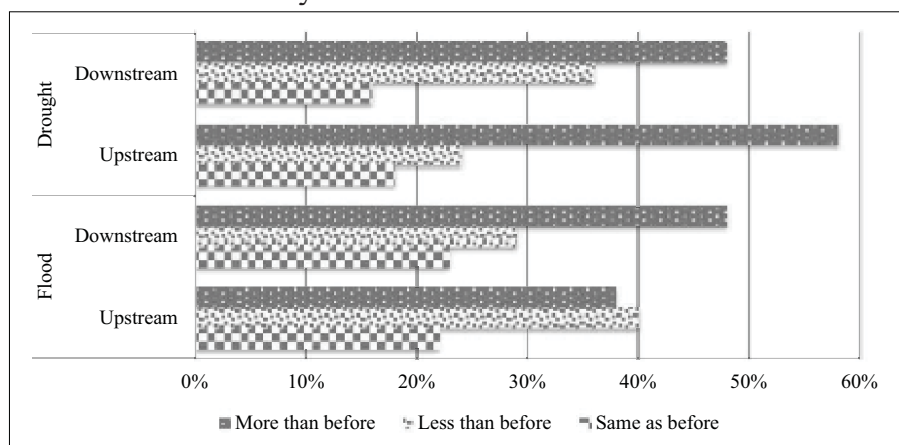
Research design

The study used a mixed quantitative-qualitative participatory approach which included a two-stage survey of 907 and 900 households involving 191 and 180 female-headed households, respectively, 18 focus group discussions, three provincial workshops, a provincial and a national validation workshop. To get an overview of the local situation and context, collected data on access to disaster information, emergency preparedness, perceived risks and vulnerabilities was validated against secondary data on risk information, water and food security, poverty reduction and sustainable livelihoods.

Following Piya et al. (2012), we used descriptive and inferential statistics to analyse the three elements of vulnerability (exposure, sensitivity and adaptive capacity) and produce a vulnerability index. Indices for all three elements were calculated using principal component analysis. This is done by normalising the values of each indicator and subtracting the mean from the observed values divided by the standard deviation. The normalised variables are then multiplied with the assigned weights to construct the indices for exposure, sensitivity and adaptive capacity (Piya et al. 2012). Then the household vulnerability index is estimated as:

$$\text{vulnerability} = \text{exposure} + \text{sensitivity} - \text{adaptive capacity}$$

Figure 2: Local perceptions of changes in flood and drought frequency in the last 10 years



Source: Field survey 2014

The overall vulnerability index simplifies interhousehold comparison within the study areas. A high vulnerability index value indicates high vulnerability, but this does not mean that a negative index value indicates that the household is not vulnerable at all. These index values allow a comparative ranking of the sample households. Analysis of variance (ANOVA) was carried out to compare mean values across the study areas and between female and male-headed households.

Key findings

Exposure

Local people reported suffering more damage from drought than from flood; overall, around half of them observed that floods (41 percent) and drought (55 percent) have become more frequent in the last 10 years (Figure 2). The results show variation between upstream and downstream effects. Rapid flooding events (mountain or flash floods) were thought to be occurring more often by 48 percent of downstream and 38 percent of upstream respondents, whereas 40 percent of

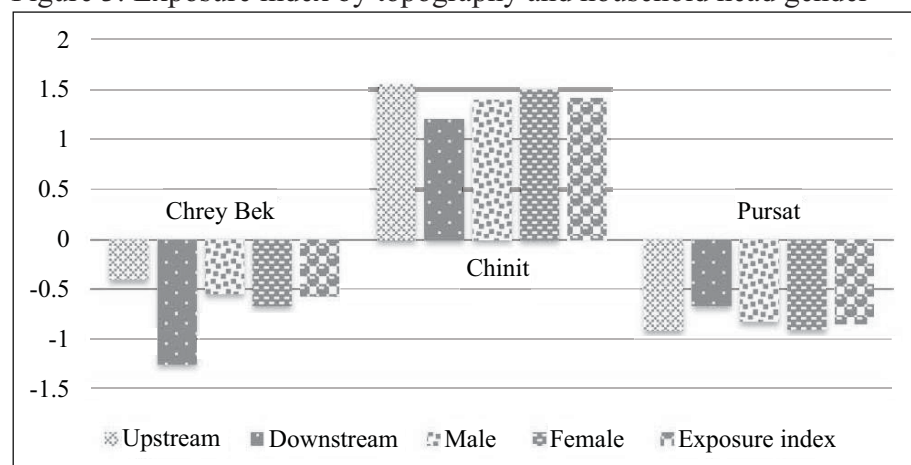
Table 1: Weights and average natural disaster frequency in the last 50 years

Natural disasters	Weight	Chrey Bak	Chinit	Pursat
Flood	0.42	4.50	5.33	4.67
Drought	-0.46	4.50	0.67	2.00
Thunderstorm	0.78	3.00	5.67	0.00

Note: Weight is the relative importance of a given variable on a scale of -1 to +1 (from least to most important).

Source: Data collected from provincial workshops in Kompong Chhnang, Kompong Thom and Pursat, 2014

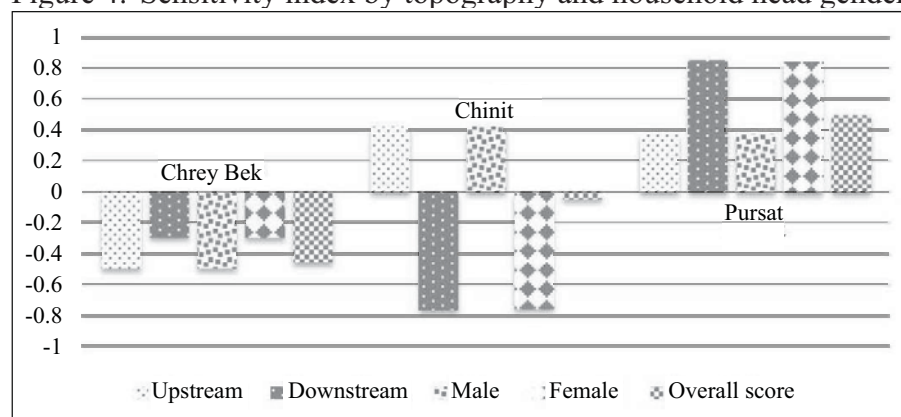
Figure 3: Exposure index by topography and household head gender



Note: The higher the score, the higher the level of exposure to disaster risk

Source: Field survey 2014

Figure 4: Sensitivity index by topography and household head gender



Note: the higher the score, the higher the sensitivity to climate conditions

Source: Field survey 2015

upstream respondents felt that floods have been less frequent. Drought frequency was considered high: the perception of 58 percent of upstream and 48 percent of downstream respondents was that drought had become more common.

An exposure index, calculated based on the number of reported natural disasters, reveals that thunderstorm hazards pose the highest risk, followed by flooding and drought (Table 1). Among the three catchments, Stung Chinit experienced the most natural disasters, though drought is not a big problem there as the area is served by a modern storage reservoir and irrigation structures.

As seen in Figure 3, among the three catchments, inhabitants in Chinit have the highest level of exposure to disaster risk. In terms of topography, upstream dwellers in Chinit and Chrey Bak are more exposed to climate risk than their downstream counterparts, whereas the opposite is true in Pursat.

By gender, in both Pursat and Chrey Bak catchments, male-headed households are more exposed to climate risks than female-headed households; the opposite holds in Chinit.

Sensitivity

Overall, among the sensitivity indicators shown in Table 2, the share of natural resource income (from farming, fishing and forestry) in total household income contributes the most to climate risk. In contrast, wages from non-resource livelihood opportunities reduce dependence on climate-sensitive activities. The second biggest contributing factor to climate sensitivity is the land area affected, followed by the crop area affected.

Across the three catchments, people in Pursat have the greatest overall sensitivity to climate conditions, while the biggest difference in sensitivity rating is related to topography in Chinit (Figure 4). Upstream dwellers in Chinit are more reliant on resource-based livelihoods than

those downstream and therefore have a higher level of sensitivity. In terms of gender, female-headed households in Chrey Bak and Pursat have higher levels of livelihood sensitivity than their male counterparts because they had lost larger areas of crops to disasters. The reverse situation is true in Chinit, where male-headed households depend more on resource-based income than female-headed households and are therefore more sensitive to climate hazards.

In addition to the indicators in Table 2, the sensitivity index also takes into account water availability and supply. Rainwater and groundwater are the main sources of water for domestic use. In the wet season, about 40 percent of households use rainwater (2 percent in the dry season), 23 percent (36 percent in the dry season) draw water from dug wells and 18 percent (29 percent in the dry season) from tube wells. Few households (1.5 percent in the

Table 2: Mean values and weights for sensitivity indicators in the last 10 years

Indicators	Weight	Aggregate	Chrey Bak	Chinit	Pursat
Fatalities	-0.01	0.012	0.01	0.01	0.03
Land affected	0.20	1.09	0.45	1.14	1.68
Livestock affected	0.03	3.33	2.79	4.24	2.97
Crop area affected	0.10	0.76	0.68	0.69	0.90
% of resource income	0.69	46.14	36.41	44.94	57.07
% of non resource wages	-0.69	53.86	63.59	55.06	42.93

Note: Weight is the relative importance of a given variable on a scale of -1 to +1 (from least to most important).

Source: Field survey 2015

wet season and 2.4 percent in the dry season) are able to connect to a piped supply. Almost two-fifths (38.7 percent) of all survey respondents face water shortages for domestic use, and either bought water or paid to have it transported to their homes. Of those, 107 spent up to 10,000 riels/month on water in the dry season, 55 of whom also spent a similar amount on water in the wet season.

Farmers use different sources of water supply depending on the season. In the wet season 71 percent of farmers rely on direct rainfall to water their crops, nearly 16 percent get water from a natural stream and almost 9 percent use water from an irrigation canal. In the dry season, the largest

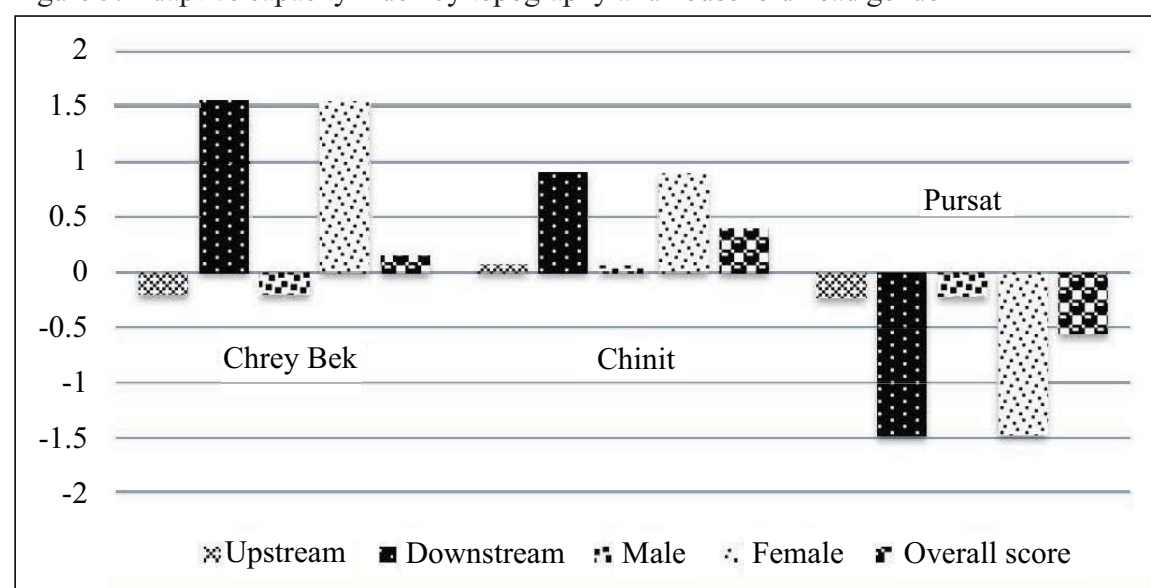
number of farmers, nearly 35 percent, divert water from rivers to water their fields, about 24 percent take water from an irrigation canal, and about 19 percent use pond and lake water. Eighty-one percent of respondents said that the main water stress affecting their farming is either too much and/or too little water. The remaining 19 percent had no problems with water supply: 15 percent of downstream and 21 percent of upstream respondents reported having enough water to meet their needs.

Adaptive capacity

Adaptive capacity, whether to climate change, disasters or other shocks, is taken as the function of the ownership or availability of five types of livelihood assets: physical, financial, natural, human and social. Of these, in the study areas, the enhancement of adaptive capacity is most heavily influenced by human assets (Table 3), particularly education level rather than training, whereas the dependency ratio decreases adaptive capacity. Next are physical assets, of which a disaster-proof house contributes the most to better adaptive capacity, closely followed by mobile phone and radio by which people receive disaster alerts and information; land with a water supply is the least influential indicator in this category. Of the five livelihood assets, adaptive capacity improvement is least influenced by ownership or access to natural assets.

Among the three catchments, as Figure 5 shows, people in Chinit have the highest overall adaptive

Figure 5: Adaptive capacity index by topography and household head gender



Note: The higher the score, the higher the adaptive capacity.

Source: Field survey 2015

Table 3: Adaptive capacity index

Livelihood asset	Aggregate Index	Component indicator	
		Description	Subindex
Physical	0.55	Disaster-proof house	0.42
		Mobile phone and radio	0.39
		Land with water supply	0.21
Human	0.59	Education level	0.47
		Dependency ratio*	-0.03
		Training	0.28
Natural	0.07	Lowly fertile land	-0.12
		Natural water source supply	0.04
Financial	0.51	Household annual income	0.39
		Livestock standard unit	0.33
		Savings	0.022
Social	0.27	Membership in community-based organisation	0.10
		Access to credit	0.18

Note: Adaptive capacity is rated on a scale of -1 to +1 (from the least to the most influential); * calculated by subtracting the number of adults from the total number of family members.

capacity; this is largely due to their higher gross household incomes. Downstream dwellers in Chrey Bak and Chinit catchments have higher adaptive capacity than upstream dwellers because they own more of all five assets. The opposite is true for

Pursat catchment, where people living in upstream areas own more physical, natural, financial and social assets and therefore have a higher adaptive capacity than people living downstream. In each study catchment, the differences between the adaptive capacities of upstream and downstream communities are statistically significant at the 1 and 5 percent levels.

Female-headed households in Chrey Bak and Chinit have higher adaptive capacities than male-headed households, though this result is not statistically significant. In Pursat on the other hand, male-headed households can access more resources and therefore have a higher adaptive capacity than female-headed households; the difference is statistically significant at the 5 percent level.

Disaster and severe weather warnings, and emergency preparedness, play important roles in enhancing adaptive capacity. One-fourth of all respondents said they had received flood, storm or drought warnings: radio was the main source of information for the majority (56.23 percent), followed by television (50.06 percent), word of mouth (39.14 percent) and local authorities (8.71 percent). As seen in Figure 6, around half of the respondents said they had not done anything to prepare for a major natural disaster, and only some 20 percent maintained an emergency food supply.

Figure 6: Preparation for disaster

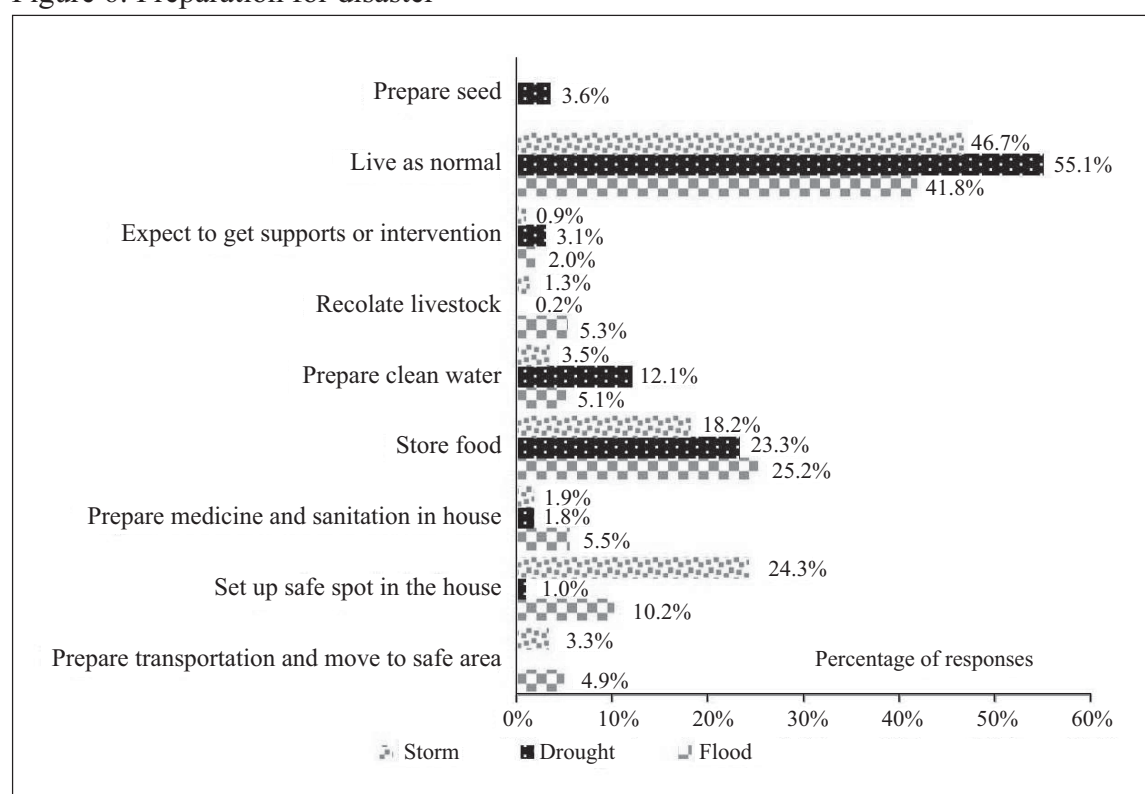


Table 4: Ranking of alternatives if current livelihoods are destroyed by disaster (%)

Livelihood source	1 st	2 nd	3 rd
Shift to another natural resource activity	4.99	0.00	4.00
Shift to livestock cultivation	5.49	1.28	4.00
Shift to farming	1.37	1.28	0.00
Seek employment locally	12.97	10.26	0.00
Migrate to find work	6.73	15.38	8.00
Start own business	3.49	9.62	8.00
Borrow money/food from others	4.74	37.82	24.00
Depend on help from others	2.24	9.62	44.00
Not sure	40.40	5.13	0.00
Other	17.58	9.62	8.00
	100	100	100

Similarly, few respondents had tried different farming practices or crops to build resilience to weather variability or climate change. Owing to habit and water-related constraints, 93 percent of rice and crop farmers were growing the same crop varieties using the traditional cropping calendar. Many of those who had not changed their crops despite flood and drought damage said they did not have the expertise to select and grow different

crops nor enough information about the crop varieties that can improve their resilience.

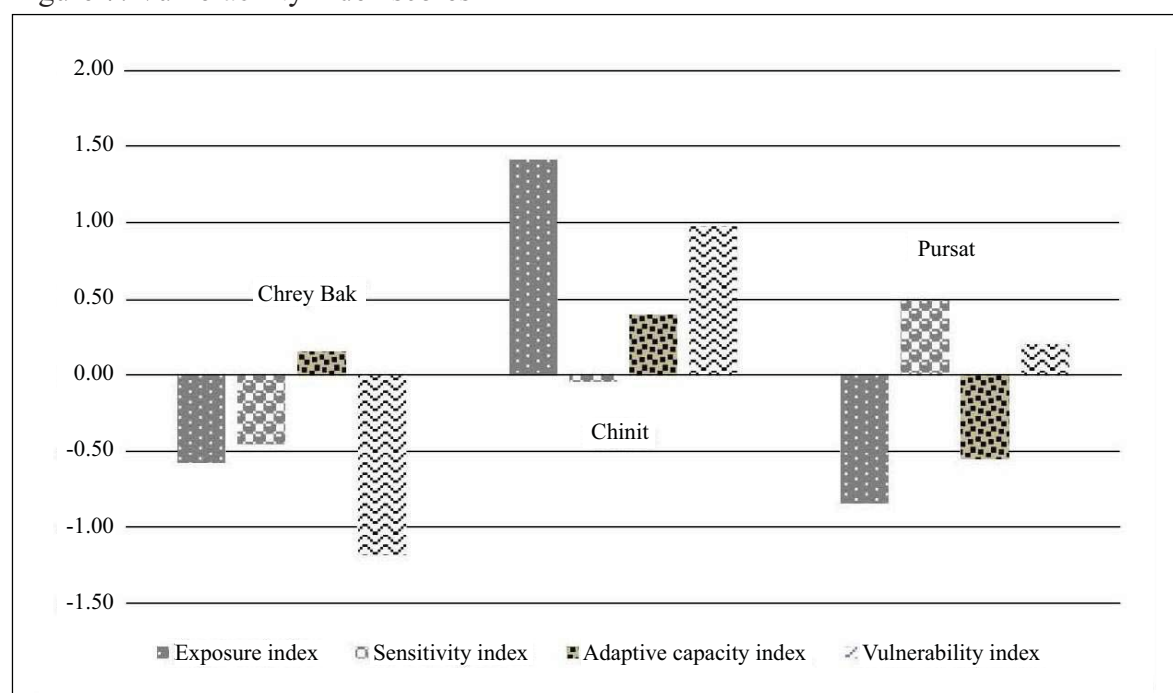
Another element of adaptive capacity concerns people's coping strategies when disaster has destroyed their livelihoods. Respondents ranked "not sure what to do" as their first option, followed by "borrowing money" and "depending on help from others" (Table 4). The continued dependence on climate-sensitive natural resources suggests a lack of self-help or self-reliance. It can be therefore be inferred that local people have no alternative livelihoods at all, thus contributing to their high level of vulnerability.

Vulnerability

The calculation of a vulnerability index reveals that, overall, Chinit catchment is the most vulnerable and Chrey Bak the least vulnerable (Figure 7). This result is statistically significant at the 1 percent level. The vulnerability index, however, does not take into account predicted future impacts of climate change. Although Chinit has the highest adaptive capacity score, when the scores for the three components are combined, it turns out to be the most vulnerable.

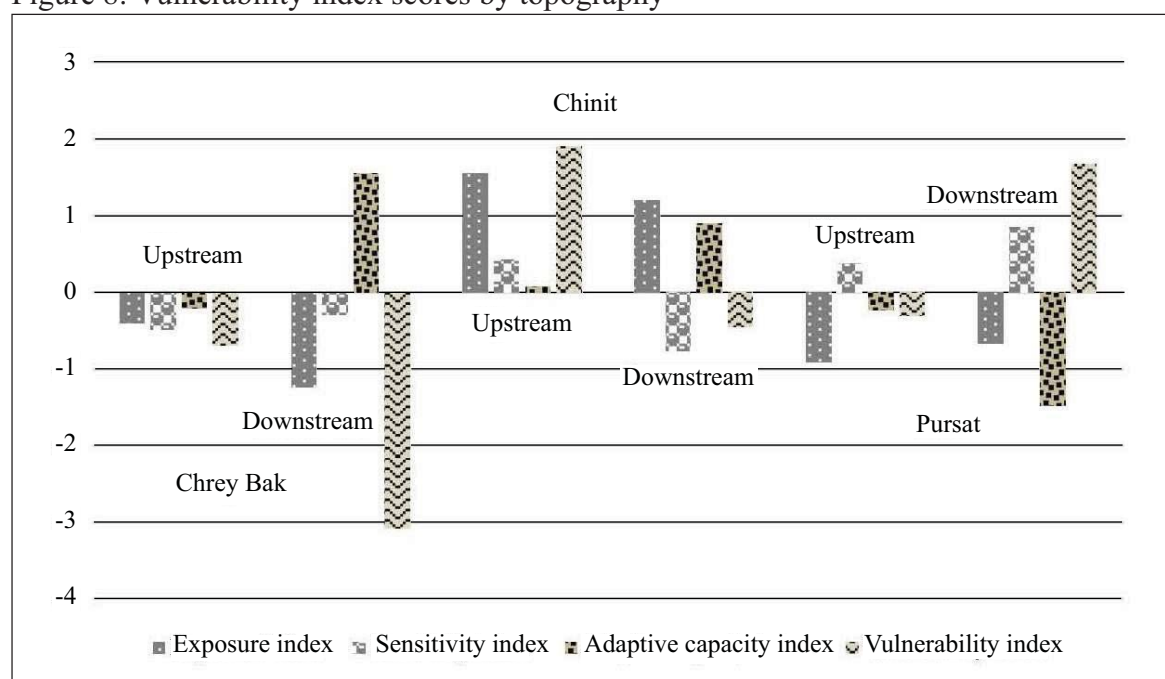
Vulnerability levels differ significantly between upstream and downstream areas in the three catchments. In Chrey Bak, upstream dwellers are more vulnerable than those downstream

Figure 7: Vulnerability index scores



Note: The results are statistically significant at the 1 percent level.

Figure 8: Vulnerability index scores by topography



Note: The results are statistically significant at the 1 and 5 percent level.

(Figure 8). Although the level of exposure is lower upstream, low adaptive capacity creates higher vulnerability. This result is statistically significant at the 1 percent level. A similar result is found for Chinit catchment, where, due to high exposure and sensitivity, communities in upstream areas are also more vulnerable than those downstream. The opposite holds for Pursat catchment, however; because of high sensitivity, downstream reaches are more vulnerable than upstream parts. This result is also statistically significant at the 1 percent level.

Regarding differences in vulnerability related to household head gender in the three catchments, the results show that female-headed households in Chrey Bak and Chinit, due to their slightly higher adaptive capacity, are less vulnerable than male-headed households. However, these results are not statistically significant.

Conclusion and further research

This participatory assessment of climate change vulnerability in Stung Chrey Bak, Stung Pursat and Stung Chinit finds that local people in the three catchments have low to moderate adaptive capacity, high sensitivity to water availability for domestic use and farming, and high exposure to frequent thunderstorms, flooding and drought. It can therefore be concluded that communities in

the three catchments are highly vulnerable to the impacts of climate change.

Efforts to build adaptive capacity should pay greater attention to natural and social assets, which have so far been largely neglected in the field of disaster management. Social assets including access to credit, saving groups, seed banks, local networks and community-based organisations should be built up and expanded.

Adaptation and disaster preparedness measures have been slow to operationalise, to the point that the motivating effects of even extreme weather events quickly fade. This emphasises the urgent need to equip rural households with the knowledge, skills and means required to undertake adaptation and mitigation responses. At the same time, the need for early warning alerts and disaster information could readily be met through mobile phone messaging which is a fast and economically feasible way to reach the most people.

Upstream dwellers in Chinit and Chrey Bak catchments are more vulnerable than those downstream. Frequent droughts and flash floods combined with low adaptive capacity heighten vulnerability in upstream areas, and downstream reaches are susceptible to river and flash floods and dry-season drought. However, people living downstream, especially near the Tonle Sap Lake, have adapted better to climatic stress. Regardless

of location, without much expansion in alternative livelihood options, improving household adaptive capacity is beyond the means of most households. Thus more attention must be paid to initiatives that can support crop diversification, sustainable productivity increases such as in integrated rice-fish/duck systems, growing vegetables as cash crops, and local off-farm job creation.

An interesting, though non-significant, finding is that female-headed households in Chrey Bak and Chinit catchments, due to their slightly higher adaptive capacity, are less vulnerable than male-headed households. Given that uncertainty about the intensity of climate change is high, efforts must focus on improving overall adaptive capacity. Even so, the survey results highlight the importance of investing in women and encouraging women's greater participation in decision making as an essential element of climate change response. This can be achieved through the provision of social, emotional, financial and technical support, not only from government agencies and NGOs but also from their own communities and local networks. The results highlight that special attention should be paid to the situation of female-headed households in Pursat catchment.

This study serves as a baseline for assessing the vulnerability of local people to climate impacts and disaster risks. A follow-up study in the same locations using the same sample size would complement and consolidate the study findings. The resulting panel data would broaden understanding of household and community vulnerabilities and their potential resilience capacities. Future vulnerability and adaptation assessments should use simple but tangible indicators so that the multidimensional aspects of vulnerability are measured in a comprehensive and robust way.

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A Brief Review of Cambodian Higher Education

Deepening ASEAN integration has brought to the fore concerns about the quantity and quality of Cambodia's human resources. The issue of quality in higher education has also come under scrutiny. Related reforms over the last two years have raised many important questions about educational process. This brief review finds that Cambodian higher education is evolving significantly and in the right way, but slowly. There remain some challenges, particularly the need for effective mechanisms to hasten the development of higher education.

Introduction

More than half (51 percent) of Cambodia's population is under the age of 25, and one fifth (19.96 percent) is in the 15-24 year age group and therefore classified¹ as youth (MOP 2015). Boosting the skills of this young workforce will support industry and lift growth. However, failing to unlock this huge one-time potential by "Not providing young people with quality education and skills needed in the country's labour market could amount to forgoing the demographic dividend" (Khieng, Madhur and Chhem 2015, 234).

Human resource development through education has been identified as a top research and policy priority (MOEYS 2015; World Bank 2015), with a significant focus on improving the quality of learning and teaching in Cambodia's higher education institutions and facilitating the transition from education and training to employment for the highly skilled (Sam, Zain and Jamil 2012a, 224).

Despite the substantial literature on higher education in Cambodia that has been built up since the 1990s, a contemporary review of this body of work has yet to be compiled. Therefore, the

main objective of this paper is to present a broad literature review of higher education in Cambodia, covering the history of higher education, the issues facing higher education today, and the nature and scope of higher education policy. The paper concludes by identifying knowledge and research gaps to ensure that future work on higher education in Cambodia supports the pressing needs of the country.

History of higher education

Cambodian higher education dates from the Angkor period. There is documented evidence (Chhem 1997) that higher education institutions were established in the ninth century during the reign of King Yasovarman I (889-910) in the form of small colleges. Almost three centuries later, under King Jayavarman VII (1180-1220), Buddhist monastic universities flourished. The largest ones, Ta Prohm and Prah Khan, were founded on the model of Nalanda University (427 to 1197), India's ancient seat of learning. Teachers, monks and thousands of students lived on the same campus. The curriculum included religious studies (Mahayana Buddhism, Saivism and Vaishnavism), Sanskrit, art and architecture, medicine, astrology and astronomy, mathematics and so on (Chhem 2007, 2008). This Angkorian culture of learning and teaching seems to have faded progressively.

Very few written records exist regarding the history of Cambodian higher education between the 13th and 19th centuries. Further research is needed to shed light on this largely unexamined

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¹ Following the United Nations' definition (United Nations Secretary-General 2001).

topic. Some aspects of the Cambodian education system during the French colonial period (1863-1953) were described by French administrators, but by then the higher education system based on large Buddhist monastic universities no longer existed. Instead, there were many small schools operating within the Wat (pagodas). These were the only types of indigenous schools existing within the kingdom when the French annexed Cambodia in 1863 (Ayres 2000; Peycam 2010) and they were open only to boys.

Wat education continued into the early twentieth century (Leng 2013), when primary and secondary schools were established under the French Protectorate (1863 to 1953). Modern higher education institutions (HEIs), based on the French model, were set up towards the end of the colonial period. The National Institute of Law, Politics and Economics was the first Cambodian HEI to be built in the late 1940s (Sloper 1999; Yuok 2007). It later became the Royal University of Law and Economics.

Immediately after Cambodia gained independence from France, the number of HEIs increased steadily and university student enrolment grew from 200 in 1953 to 5753 in 1970 (Sam, Zain and Jamil 2012a, 228). This rapid rise stopped when Cambodia was drawn into successive national and regional conflicts. During the period 1970-75, when Cambodia was known as the Khmer Republic, US carpet bombing and civil war displaced nearly half of the population and destroyed about 50 percent of educational facilities (Mysliwiec 1988; Chet 2006; Duggan 1997). Then, in 1975-79, the Khmer Rouge deliberately annihilated the formal education system. Universities were closed and the majority of the educated citizens were killed or went into exile (Clayton 1998).

Protracted civil war after the Khmer Rouge was ousted led to further destruction of educational institutions and infrastructure (Duggan 1997; Chet 2006, 13). The geopolitics of superpower diplomacy between 1979 and 1993 left Cambodia in virtual diplomatic, political and economic isolation throughout the 1980s (Mysliwiec 1988), profoundly debilitating post-war reconstruction efforts. With assistance from the former Soviet Union and its allies, the country made some progress in restoring its primary education system,

while “higher education benefited little from this effort, and the embargo against assistance to Cambodia by the United Nations from 1979-1989 prevented many other countries from giving direct aid to Cambodia” (Chet 2006, 13; Read 1992). Reconstruction started in earnest after the UN-sponsored election in 1993, and the Cambodian education system was once again open to multiple international influences (Chhem 1997).

In sum, over the last six decades, the modern Cambodian higher education system has been moulded on various academic models: through the prism of the French “mission civilisatrice” to the imposition of the Soviet format of education, and then, from 1993 onwards, an era of intense internationalisation with a flux of technical assistance from international and regional organisations and countries such as Australia and Japan and more recently China. The French model remains in a few HEIs, though English is now the second language of choice for Cambodian students. Thousands of students choose to study abroad, mainly in Japan and Australia.

The single main challenge of Cambodian HEIs is to provide a qualified and relevant workforce to further develop the Cambodian economy, as articulated in the government’s Industrial Development Policy 2015-25. Education reform aiming at strengthening the quality and relevance of HEIs is a must.

Higher education today

A snapshot of tertiary enrolments, completion and teachers

Investment in education has played a key role in Cambodia’s development, in keeping with national strategy to “align economic and national development by strengthening the education sector” (Duggan 1996, 362). The shift in the 1990s from a centrally planned to a more open market economy led to the emergence of both private HEIs and fee-paying programs in public HEIs. The number of HEIs mushroomed from just 14 in 2000 to 110 in 2015. Even so, Cambodia’s tertiary enrolment ratio² is one of the lowest

² Defined as “The number of pupils enrolled in tertiary education, regardless of age, expressed as a percentage of the total population of the five-year age group following on from the secondary school leaving age” (UNESCO Institute for Statistics 2016).

Table 1: Number of new higher education graduates in 2013/14

Tertiary graduates	Associate	Bachelor	Master	PhD	Total
Male	3338	21806	3468	33	28645
Female	2264	16428	1047	1	19740
Total	5602	38234	4515	34	48385

Source: Authors' aggregation of data from MOEYS 2015, 34-35

Table 2: Qualifications of tertiary teachers, 2012-14

Teacher	2012/13				2013/14			
	Bachelor	Master	PhD	Total	Bachelor	Master	PhD	Total
Local teacher	3470	6023	700	10,202	3139	6632	717	10488
Foreign teacher	250	285	105	640	270	485	119	874
Total	3720	6317	805	10,842	3409	7117	836	11362

Source: MOEYS 2015

across the ASEAN region; standing at a meagre 16 percent in 2011, it is second only to Myanmar (14 percent) and trailing behind Vietnam (24 percent) and Thailand (53 percent) (UNESCO 2016).

In academic year 2013/14, HEIs produced 48,385 graduates (Table 1) and employed 11,362 teaching staff (Table 2). Most HEI faculty members are Cambodian and hold a master's degree, implying that efforts to build the teaching capacity of Cambodian HEIs have been relatively successful. However, these improvements appear to have stagnated in recent years: the number of staff with a master's degree increased by roughly 1000 between 2009/10 and 2013/14, whereas it rose by almost 1900 between 2008/09 and 2009/10 alone (Khieng, Madhur and Chhem 2015, 47). In 2012/13, just over 255,000 students were enrolled in higher education degree programs,³ some 60 percent of them in private HEIs (Khieng, Madhur and Chhem 2015, 38; MOEYS 2015).

Key issues besetting higher education

Despite increases in the numbers of HEIs, graduates and qualified teachers, widespread problems persist. The key issues facing the revitalisation of Cambodia's higher education sector are summed up neatly by Sam et al. (2013, 284) as "the Government's financial constraints, lack of admission requirements and academic support services, lack of human resources, teaching quality, and research capacity, academic relevance, and autonomy, and academic freedom within universities". Our literature review reveals three significant challenges: inequalities in access to higher education, poor quality teaching and learning, and skills mismatches.

Higher education access

Twenty of the 25 provinces and Phnom Penh municipality have HEIs (MOEYS 2015). However, because a large number (60 percent) of HEIs are privately funded, they have concentrated in Phnom Penh. This has led to rural-urban education disparities and consequent information asymmetries in the provision of education further exacerbating inequalities in access to higher education. Many young people are therefore compelled to move from the provinces to access

³ The enrolment rate comprises the total number of enrolled students across all year levels (first year to final year), though it is not uncommon for students to be enrolled full-time at multiple HEIs simultaneously, which may distort student numbers (Innes-Brown 2006).

higher education opportunities in the capital. This migration of students is not a new phenomenon, yet there is a lack of systematic research to address issues related to learning and training opportunities and services provision. The modest body of published work on migration in Cambodia (MOP 2012; Bylander 2015) emphasises employment rather than accessible education.

Urban-rural divide aside, an earlier study by Chet (2006) sheds light on the narrow and inflexible pathways to higher education. Few entry routes to higher education exist, and only for students who pass grade 12 or hold an associate's degree or equivalent.

Other studies have identified gender-based disparities (Un, Chuon and Ngin 2013a). For instance, Un and Sok (2014, 17) identified "... a number of areas where action needs to be taken: inequitable access from certain groups like female students and poor families." Compared with men, women arguably face more limitations to accessing higher education, mainly related to entrenched gender roles and stereotypes in society expecting women to stay at home and get married. Even upon gaining access to higher education, women may face further challenges including coping with living in the city, lack of on-campus housing in schools, commuting long distances which could be unsafe, sexual harassment and discrimination, and continued household pressures and parental expectations. And yet, research reveals that investing in women's education is a key factor for socioeconomic development at local and national scales (Khieng, Madhur and Chhem 2015; CDRI 2015).

Education quality

Even in areas served by many HEIs, the quality of higher education is by no means assured. A scoping study of research capacities in 15 Cambodian universities (Kwok et al. 2010, 9) stresses that "quantitative expansion of the HEI sector raises questions about the quality of universities, especially the lack of research culture and research capacity". Tertiary students also seem to focus more on quantity. Hashim, Leong and Pich (2014, 503) observed how "in order to maximise the perceived future gains", university students typically enrol in multiple degree programs and HEIs concurrently. Although

multiple degree programs may complement each other, the authors posit that the focus on higher education quantity may have adverse impacts for student performance and university admission requirements.

Despite quantitative improvements in tertiary teacher training, the quality of higher education teaching and the availability and use of specialist resources for teaching and research remain problematic (Sam et al. 2013). A research model developed by Sam et al. (2013) to examine the quality of Cambodia's tertiary graduates articulates the links between student background and work ethic (student inputs), the educational environment (institutional inputs) and academic success (higher education outputs). However, further empirical research is required to identify readily feasible measures that could support improvements in education quality and research capacity in Cambodia's HEIs.

Skills mismatches and vocational education

Recent studies have identified marked skills mismatches between the knowledge and skills new graduates have acquired and what potential employers need (Chen, Sok P. and Sok K. 2007; Chet 2009; Madhur 2014). These mismatches are especially pertinent in the science, technology, engineering and mathematics (STEM) sector. A STEM skills base is integral to Cambodia's socioeconomic development and vital for underpinning industrial growth. Yet the majority of tertiary students opt to specialise in humanities or social sciences, especially business, economics and foreign languages (Un, Chuon and Ngin 2013b; Sam et al. 2013, 284).

A similar imbalance is evident in technical and vocational education and training (TVET): the most popular courses are business, finance, ICT and English language, rather than hardcore subjects such as mechanics and engineering (Lonn and Khieng 2015, 93). Despite its importance and potential for upskilling the workforce, TVET remains a relatively under-researched and undervalued area in Cambodia, and wrongly stigmatised as a second-best option for underachievers (Lonn and Khieng 2015).

The rapidity of economic growth and the deepening of ASEAN integration, coupled with uncoordinated economic reforms, meant that

the provision and relevance of higher education and training was sidelined (Chet 2006). Underlying factors for the poor development of higher education include insufficient financial support (Un, Chuon and Ngin 2013b), outdated curriculums, shortage of quality faculty, low teacher salaries, and fragmented HEI governance, management and financing (Chet 2006). Another aspect is the absence of university-government-industry strategic partnerships (Khieng, Madhur and Chhem 2015, 71).

The following section looks at how these challenges are being addressed through policy, with a focus on recent steering documents of the Ministry of Education, Youth and Sport (MOEYS).

Higher education policy

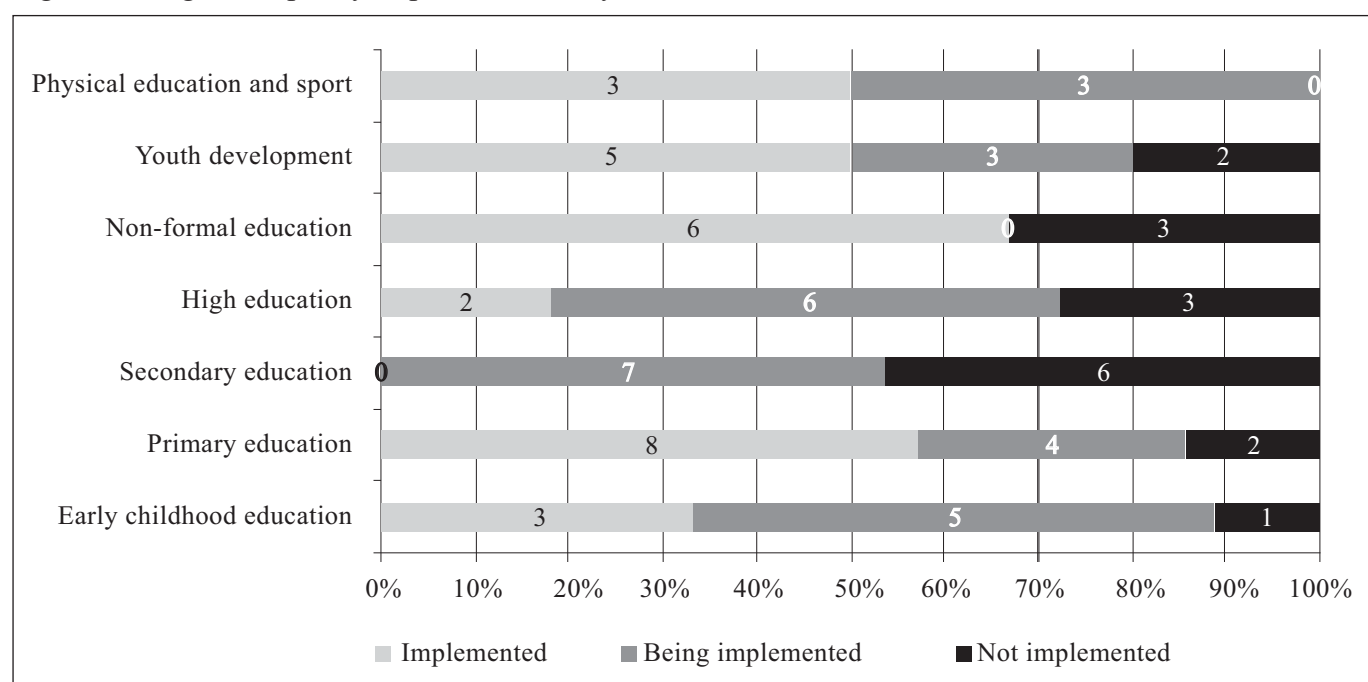
The government's development vision is for Cambodia to become a high-middle-income country by 2030 and a high-income country by 2050 (MOEYS 2014). Towards achieving this vision, MOEYS has placed higher education as a top priority on the education reform agenda, as reflected in Rectangular Strategy III 2014-18 on building capacity and developing human

resources through "Strengthening and Enhancing Education, Science and Technology and Technical Training". The Higher Education Vision 2030, adopted in April 2014, outlines key strategies and comprehensive action plans to ensure equity and access for all, effective and efficient management of the higher education system, and adequate human resources development (MOEYS 2014).

The Education Strategic Plan 2014-18 sets out three top policy objectives: (1) to increase the number of scholarships for eligible students from low-income, especially disadvantaged or vulnerable, families to access higher education opportunities, (2) to improve the quality and relevance of higher education, and (3) to have fully functioning education systems in place by 2018 to support HEIs to meet national and regional standards (MOEYS 2014).

As Figure 1 indicates, despite significant progress in several subsectors, policy actions to strengthen higher education systems are lagging. Possible explanations for the apparent policy inertia are financial and governance constraints. Public spending on education constitutes a meagre 2.6 percent of GDP, higher only than that of Laos and Myanmar among ASEAN member

Figure 1: Progress in policy implementation by subsector, 2014



Note: The figures on the bars represent the number of planned policy actions.

Source: MOEYS 2015, 2

states, and only half of UNESCO's international benchmark of around 5 percent (Khieng, Madhur and Chhem 2015, 234).

A second reason is the highly fragmented governance of the higher education sector. As Un and Sok (2014, 7) point out, "there has been no formal permanent mechanism for overarching coordination" among HEIs, which have been under the supervision of 14 government agencies, known as parent ministries (You 2012; Sen and Ros 2013). Thus collaboration between ministries, let alone cohesive long-term planning and development strategies for the higher education sector, has been very limited. Further, education legal and regulatory framework is not sufficient for controlling the higher education system.

Despite policy and finance challenges, Cambodia has indisputably made significant progress in the development and establishment of quality assurance systems and procedures. The Accreditation Committee of Cambodia (ACC), set up in 2003 in response to the proliferation of HEIs, plays an important role in enforcing external quality assurance functions and procedures for higher education (Un and Sok 2014; Sam, Zain and Jamil 2012b). Although its efficacy and institutional structure have been questioned (Chet 2009; Ros 2015), the ACC is a major step towards improving equity, transparency and accountability in higher education.

However, external reviews by the ACC seem to have had limited impact on improving the quality of learning and teaching in Cambodian HEIs. The issues facing higher education quality are clearly too big to be dealt with by one agency acting alone. Instead, each university should reactivate its internal quality assurance office and work collaboratively with the ACC under the supervision of MOEYS (Khieng, Madhur and Chhem 2015, 61). Indeed, HEIs have become actively involved in implementing complementary and supporting policies and measures. For example, the RUPP developed its 2014-18 Strategic Plan within the framework of the Law on Education, the Higher Education Vision 2030, and the Education Strategic Plan 2014-18 (RUPP 2014).

Public-private partnerships (PPPs) are also being encouraged, wherein researchers, education leaders and government agencies work more closely with the private sector to ensure

the successful development and implementation of higher education policy. For example, in addressing current and expected education/skills and jobs mismatches, information about private sector recruitment needs and practices will help keep higher education policy and practice relevant and pragmatic (Lonn and Khieng 2015, 96-7).

Future research directions

This review highlights the pressing need for policy and action research in Cambodian higher education that:

- Examines in detail remaining rural–urban and gender-related inequalities in higher education access, including the phenomenon of youth migration for education;
- Delves more deeply into the quality assurance of HEIs to understand how best to improve teaching-learning quality and environments for student success;
- Determines the current skills gaps between higher education and industry, especially in STEM jobs;
- Explores the potential for PPPs, specifically how to form and implement PPPs to enhance policy and strategy for developing employability skills, maximise HEI outputs and facilitate the transition of new graduates into rewarding careers.
- Identifies the nature of TVET programs and the need for TVET system reform;
- Re-evaluates the financing of higher education;
- Evaluates university accountability, particularly financing and governance;

Such research will be instrumental in supporting continuous improvement in Cambodia's higher education system, in line with national Industrial Development Policy 2015-25, particularly in relation to the development of a highly skilled workforce. As Cambodia makes fast progress towards its development targets, careful consideration of, and response to, pressing research needs is arguably more important than ever.

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the Chair of CDRI's Board, HE Dr Sok Siphana, CDRI's Executive Director and a senior CDRI researcher. The debate was aired on CNC television in two parts, on 20 and 27 December.

4 December: CDRI, as part of its anniversary celebrations, held a National Essay Competition on the theme *Young Voices, Young Visions*, sponsored by Prudential Cambodia. Open to Cambodian citizens under the age of 30, the competition attracted a good field of entries. Five shortlisted finalists presented their essays to a panel of judges and completed a short writing task to demonstrate their writing skills. The three winners received their prizes—a first prize of USD500, and two second prizes of USD250—at a special reception on 4 December. The winners were also offered a one-day orientation visit to Prudential Cambodia.

8 December: CDRI and the Korean Educational Development Institute signed a memorandum of understanding to establish a framework for research and training collaboration that includes education policy research exchange, joint research activities and joint publications.

21-22 December: CDRI, in collaboration with the Ministry of Education and UNESCO, organised the 2nd Cambodia Education Research Forum, this year on the theme “Science and Technology for Development”. The purpose of the Forum was to discuss the status of scientific research in Cambodia, how to promote scientific research and science and technology outreach and mentoring, and how to disseminate good scientific research practice and strengthen the capacity of higher education institutions to support young scientists.

RESEARCH**Agriculture**

The team is implementing seven projects. Completed tasks include the first draft report for the study on *Livestock Production and Value Chain Analysis*, supported by the Australian Centre for International Agricultural Research (ACIAR), and data analysis for the project *Impact of Rice Export Promotion Policy and Food Security*. Report writing for the latter

is now underway. Having finalised a computable general equilibrium model, the study team for the project on the *Impact of Education Public Spending on Human Capital, Poverty and Inequality: A CGE Approach for Cambodia*, supported by Partnership for Economic Policy (PEP), is preparing the first draft report. The final report for the FAO-funded study on *Off-farm Income Generation Activities in Cambodia* is being finalised based on feedback and comment from FAO experts.

Getting off to a good start is our new three-year (2015-18) research program aimed at *Testing Innovative Models of Extension in Cambodia's PADEE Programme*, funded by the International Food Policy Research Institute (IFPRI). The team has developed the draft questionnaire for the baseline assessment, and data collection should begin in May 2016. Also making good progress is a second new project on *Irrigated Agriculture in Cambodia*, backed by the Australian National University. A comprehensive literature view produced a rich seam of data, and a zero draft report is scheduled to be completed by February 2016. In the pipeline is a project on *Rice Policy Analysis: Implications of Vietnam's Rice Export Policy for Cambodia*, funded by the United States Agency for International Development (USAID) through the Lower Mekong Public Policy Initiative (LMPPI). The working documents should be ready by February 2016.

Economics

The Unit has been awarded three research grants. The Organisation for Economic Co-operation and Development (OECD) is funding two studies, one to explore *Youth Outcomes and Determinants of Youth Vulnerabilities and Negative Outcomes* and the other on *Understanding the Life Choices of High School Dropouts*. The third is from the International Labour Organization's Bureau for Employers' Activities (ACT/EMP) to write *The AEC Guidebook for Businesses in Cambodia*.

Revision of the draft report on *Interrelations between Partner Countries' Public Policies, Migration and Development: Case Studies and Policy Recommendations*, a study funded by the OECD, is underway. Report writing for the remaining component—*Efficiency of Microfinance Institutions in Cambodia*—of the Sida-supported

five-year research project on *Inclusive Growth* is making good progress. The interim report on *Revisiting the Unfinished Agenda: Determinants of Credit Access and Its Impact on Farm Production and the Use of Fertiliser in Rural Cambodia* and a study on *Mapping Sending Channels and the Management of Remittances in Cambodia* were submitted for review.

Education

As part of the Vocational Skills Development Program, funded by the Swiss Agency for Development and Cooperation (SDC), the team conducted a *Policy Review on Vocational Education and Training in Cambodia*. The review reveals that major elements of Cambodia's Technical and Vocational Education and Training (TVET) policy respond to other national policy, especially Industrial Development Policy 2015-25. The positive effect of policy efforts to improve the quality and de-stigmatise TVET in higher education is evident through the increased interest in TVET at various career and employment fairs. Work has started on a pilot study to explore *Perceptions of Sexual Harassment at Cambodia's Higher Education Institutions*. The literature review has been conducted, and the first draft report is expected to be completed in April.

The Education Unit helped to organise CDRI's stand at the 4th National Book Fair, held at the National Library in November. The display attracted much interest in CDRI's publications.

Training on appreciative inquiry in research was provided to researchers, research assistants and interns. This form of inquiry focuses on uncovering the positive within any social situation as a way to create change. Under a Social Science and Humanities Research Council (SSHRC) Partnership Development Grant for the *21st Century Literacies: Research and Development of a 'Cloud Curriculum'* project, of which CDRI is a partner, a research assistant spent five weeks as a visiting researcher at the Western University of Ontario, where she participated in doctoral seminars, narrative inquiry and gender classes, weekly seminars at the Centre for Education Research and Innovation and visited an elementary school.

Environment

The findings of a series of studies on three subcatchments around the Tonle Sap Lake, conducted under the IDRC-funded project on *Climate Change and Water Governance in Cambodia*, have been published as a book titled "Challenges and Perspectives for Water Security and Climate Change in Selected Catchments". The book, with its accompanying Khmer summary, was distributed to provincial and local project stakeholders, NGO representatives and practitioners at a dissemination workshop in Siem Reap in November. The key findings were also shared at a regional workshop involving guest speakers from the Mekong region, also held in Siem Reap in December. Our work highlighted the urgent need to simplify and meld research knowledge with local know-how so that it feeds back into local practices. The project has therefore been extended to produce in Khmer a handbook on "Simplified Knowledge and Responses for Local Climate Change Adaptation".

Two studies are close to completion. Written by an all-woman team, the report for the Sida-funded project on *Common Pool Resources and Climate Change Adaptation: Community-based Natural Resource Management in Cambodia* is pending comment. The end of project evaluation report for *Promoting Climate Change Resilient Livelihoods for Small-scale Farmers in the Most Vulnerable Dryland Areas in Siem Reap and Kompong Cham Provinces*, commissioned by Plan International Cambodia, is being finalised based on feedback from a validation workshop held in Siem Reap in December.

In November, Sam Sreymom, research associate and unit head, gave a presentation on "Local Climate Change Adaptation" at a training day on "Public Finance and Climate Change", organised in Phnom Penh by the United Nations Institute for Training and Research. She also attended a dissemination workshop for the *China Goes Global* project in London, UK.

Governance

A working paper on *Leadership Pathways for Local Women*, which aims to develop a practical model for women to take up local leadership positions, is being published. Fieldwork is ongoing for the study on *Capacity for Deconcentration Reform in Cambodia*.

A working paper should be completed by June 2016. A first working paper examining villagers' perspectives of their resistance to resettlement due to the construction of Lower Sesan II dam in Stung Treng province is being prepared for publication. Another study titled *Participatory Action Research and Local Women in Lower Sesan II* is underway. The paper explores the extent to which capacity building and training contribute to improving the level of women's participation in hydropower decision making. The team, in collaboration with the National University of Singapore and the NGO Forum on Cambodia (project partners), organised a training day on negotiation skills for representatives of affected communities and NGOs taking up responsibilities for protecting local community interests related to dam construction and operation.

Two researchers presented their research findings at international conferences. Mun Vong, research associate, presented a paper on "Responsibility without Accountability: The Case of Social Accountability in Cambodia" at the International Conference on Democracy and Accountability in Surabaya, Indonesia, on 10 November. Dr Eng Netra, research fellow and unit head, presented a paper on "Social Accountability and Education Sector Reform in Cambodia" at the Workshop on the Political Economy of Poor People at Birmingham University, UK, on 2 October.

Health

The report 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, was well received. Three other reports were submitted for comment: a synthesis report of our research on child labour under the *Eliminating eXploitative Child Labour through Education and Livelihoods* (EXCEL) project, and the final reports for *Opinion Leader Research on Infant and Young Child Feeding* and a *Verification of*

Rural Sanitation Outcomes.

Based on a policy roundtable on "Medical Professionalism in Cambodia: Issues and Way Forward", co-organised by CDRI and the National Institute of Public Health (NIPH) in September, the Health Unit is developing a proposal to conduct action research and policy dialogue on *Attributes of Good Doctors*. The purpose of the project is to inform, update and improve medical curriculum to promote ethics and professionalism among health care practitioners and medical students. The main goals are to build key competencies through training workshops, produce a quality core curriculum and manuals for medical students and health care practitioners, and contribute to positive health sector reform that will restore trust between health care receivers and providers in both public and private sectors.

The Health Unit, through partnership with Sida and with complementary support from other partners, commits to provide research inputs to support the new Health Strategic Plan (HSP3), due to start in July 2016, and related health sector reform agenda and priorities. The Cambodia Health Researchers' Forum in November on "Mapping and Planning for Health Systems Research in Cambodia: Building the Evidence Base for Policy and Practice" identified six broad themes to reflect health policy reform priorities. Other research topics and activities will be determined in consultation with Sida and other stakeholders after the launch of HSP3.

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CDRI UPDATE

MAJOR EVENTS

28-29 October: CDRI's Executive Director attended the launching ceremony of the Silk Road Think Tank Network at the Silk Road Forum 2015 in Madrid, Spain, organised by the Development Research Center (DRC) of the State Council of China, the Center for International Relations and Sustainable Development (CIRSD) and the Embassy of the People's Republic of China in Spain. The Executive Director participated in a Think Tank Roundtable. He met with Mr Wang Yanzhi, Executive Director of the Board of Directors and President of the Silk Road Fund, who agreed to participate in the CDRI-ANZ Outlook Conference in March 2016.

5-6 November: CDRI, with support from Sida, organised a "Science4Cambodia Retreat" in Kep to discuss the roles of science and scientists in Cambodia's economic development. The retreat brought together education policy researchers, scholars, academic leaders, senior education policymakers and Sida Resident Representatives. Discussion focused on the status of scientific research; scientists' profiles, motivation, research activities, career development, support structure and mentoring resources; how to develop STEM talent and interest; and how to create STEM-related collaborations. During the retreat, it was proposed that CDRI, in collaboration with the Ministry

of Education and UNESCO, organise the 2nd Cambodia Education Research Forum: Science and Technology for Development.

18-20 November: CDRI was invited by the International Development Research Centre (IDRC) of Canada to the Think Tank Initiative's 5th South Asia Regional Meeting, organised by India's Centre for Policy Research in Sohna, India. The Executive Director participated in the panel discussion on Agriculture, Trade, Food Security. It was a unique opportunity to share with 14 South Asian think tanks CDRI's strategy for resource mobilisation, and for CDRI to learn from their financial sustainability challenges and long-term funding strategies.

1-27 December: CDRI, to celebrate its 25th anniversary, organised a series of events on the theme *Excellence in Development Policy Research*. CDRI staff had the opportunity to meet CDRI's Founder, Eva Mysliwiec, at a staff celebration on 1 December. CDRI hosted key partners, ambassadors, mission heads, current and former CDRI board directors at a reception at Cambodiana Hotel on 3 December. A televised forum before a live audience on the theme *CDRI Leadership and Change – 25 Years and Moving Forward* was held at CDRI on 4 December. Key panelists included CDRI's Founder,

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CDRI's Contact Details
56, Street 315, PO Box 622, Phnom Penh, Cambodia
☎ (855 23) 881701/881384; ☎ (855 23) 880734
e-mail: cdri@cdri.org.kh / pubs@cdri.org.kh
website: www.cdri.org.kh



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