



CDRI - Cambodia's leading independent
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Annual Development Review 2011-12



A CDRI Publication



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Annual Development Review 2011-12

Introduction: Cambodia Outlook - An Overview

Section 1: Economy

- I Searching for Binding Constraints on Growth using Growth Diagnostic Approach: The Case of Cambodia
- II China's Sectoral Composition of Economic Growth, Poverty Reduction and Inequality: Developmental and Policy Implications for Cambodia

Section 2: Natural Resources and the Environment

- III Trends in Cambodia's Agro-ecological Zones and Climate Change
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- VII Gender in Local Politics: The Case of Decentralisation Reform in Cambodia
- VIII Gender in Climate Change Adaptation: A Case Study of the Mekong River and Tonle Sap Basin Corridor
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List of Acronyms

ACLEDA	Association of Cambodian Local Economic Development Agency
ADB	Asian Development Bank
AFD	Agence Française de Développement
AusAID	Australian Agency for International Development
CBHI	Community-based Health Insurance
CDC	Council for the Development of Cambodia
CDRI	Cambodia Development Resource Institute
CIDA	Canadian International Development Agency
CMDG	Cambodian Millennium Development Goal
CNCW	Cambodia National Council for Women
CO ₂	Carbon Dioxide
CoCom	Coordinating Committee
CPA	Complementary Package of Activity
CSES	Cambodia Socio-economic Survey
CSES	Cambodia Socio-economic Survey 2009
CSF	Commune/ <i>Sangkat</i> Fund
D&D	Decentralisation and Deconcentration
Danida	Danish International Development Agency
DFID	Department for International Development
DG	Directorates-General
DGPSR	Democratic Governance and Public Sector Reform
DRF	Development Research Forum
ELC	Economic Land Concessions
EU	European Union
FAO	Food and Agriculture Organisation
FGD	Focus Group Discussions
FWUCs	Farmer Water User Communities
GIZ	German Society for International Cooperation
GMAG	Gender Mainstreaming Action Groups
GTZ	German Organisation for Technical Co-operation
HEF	Health Equity Fund
HRDD	Human Resources Development Department
HRH	Human Resources for Health
HSSP	Health Sector Strategic Plan
IFAD	International Fund for Agricultural Development

IFC/MPDF	International financial Cooperation/Mekong Private Sector Development Facility
IFIs	International Financial Institutions
ILO	International Labour Organisation
IPCC	Inter-governmental Panel on Climate Change
JICA	Japan International Cooperation Agency
KHANA	Khmer HIV/AIDS NGO Alliance
KII	Key Informant Interviews
LAMC	Law on Administration and Management of Communes/ <i>Sangkats</i>
MAFF	Ministry of Agriculture, Forestry and Fisheries
MBPI	Merit Based Performance Incentives
MOU	Memorandum of Understanding
MOWRAM	Ministry of Water Resources and Meteorology
MPA	Minimum Package of Activity
NAPA	National Adaptation Programme of Action
NEA	National Employment Agency
NIPH	National Institute of Public Health
NIS	National Institute of Statistics
NPAR	National Public Administration Reform
NPRS	National Poverty Reduction Strategy
NSDP	National Strategic Development Plan
NSSF	National Social Safety Fund
NTFP	Non-Timber Forest Products
OAA	Other Aquatic Animals
OD	Operational Health Districts
PAP	Priority Action Plan
PDA	Provincial Department of Agriculture
PDOWRAM	Provincial Department of Water Resources and Meteorology
PHD	Provincial Health Department
PLA	Participatory Learning and Action
PMG	Priorities Mission Group
POC	Priority Operating Cost
PRA	Participatory Rural Appraisal
PSI	Population Service International
RGC	Royal Government of Cambodia
RHAC	Reproductive Health Association of Cambodia
RTC	Regional Training Centre
RUPP	Royal University of Phnom Penh
SEZ	Special Economic Zone
SMEDF	Small and Medium Enterprise Development Framework

SOA	Special Operating Agency
TWGAW	Technical Working Group on Agriculture and Water
TWG-G	Technical Working Group on Gender
TWGH	Technical Working Group for Health
UNDP	United Nations Development Programme
UNFCCC	UN Framework Convention on Climate Change
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNIFEM	United Nations Development Fund for Women
UoS	University of Sydney
USAID	United States Agency for International Development
VHSG	Village Health Support Groups
WCCC	Women's and Children's Consultative Committees
WDC	Women's Development Centre
WEF	World Economic Forum
WHO	World Health Organisation
WRMRCDP	Water Resources Management Research Capacity Development Programme
WTO	World Trade Organisation

Introduction: Cambodia Outlook – An Overview

by Hing Vutha, Khieng Sothy, Lun Pide, Saing Chan Hang and Larry Strange¹

1. INTRODUCTION

CDRI's 2011-12 Annual Development Review is published to coincide with the 2012 Cambodia Outlook Conference, a partnership of CDRI, Cambodia's leading independent development policy research institute, and ANZ Royal Bank. The 2012 conference, on the theme *Cambodia's Priorities for Inclusive Growth, Regional Integration and ASEAN Leadership*, focuses on three critical issues for Cambodia and its socio-economic outlook – how to achieve high levels of inclusive growth and associated sustainable development and poverty reduction, the critical role that the integration of Cambodia's economy in the Greater Mekong Sub-region, ASEAN and the broader East Asian region will play in achieving that growth and development, and the opportunity presented by Cambodia's chairing of ASEAN in 2012 in promoting the pace and quality of that integration, and the benefits it will bring. This introduction provides an overview of Cambodia's current economic and development situation, its outlook and imperatives for future growth and development, its regional context, and some of the challenges and policy responses that should be considered as Cambodia moves forward.

2. CAMBODIA TODAY: ITS ECONOMY AND DEVELOPMENT

Cambodia's economy today is a product of almost two decades of policy transformation from a "centrally planned" to a "market-oriented" economy that favours investment, trade and private sector development within sub-regional (GMS), regional (ASEAN and East Asia) and global contexts. Policy reforms along with the end of civil conflict and political stability have fostered dramatic economic growth, averaging 7.8 percent between 1994 and 2010, lifted per capita income from USD248 to USD735 and changed the economic structure from an agrarian economy to a more balanced mix of agriculture, industry and services².

Growth over the past decade has been driven by four sectors: garments and footwear, hotel and restaurant, construction, and agriculture. The garment and textile sub-sector, the country's leading exporter, accounts for 12 percent of 2010 GDP and has been growing at an average of 30 percent per annum. The hotel and restaurant

1 Khieng Sothy, Saing Chan Hang, and Lun Pide are research associates, Hing Vutha is research fellow, at CDRI; Larry Strange is Executive Director of CDRI.

2 Agriculture's share of GDP dropped sharply from 46 percent in 1994 to 27.4 percent in 2010, industry's share increased from 13.5 percent to 26.4 percent, while the services sector grew steadily from 35.3 percent of GDP to 40.6 percent.

sub-sector accounts for 4.4 percent of 2010 GDP and has been growing at an average of 13 percent per annum, while construction has been growing at an average of 11 percent per annum. Agriculture, which comprises crops, livestock and poultry, fisheries and forestry, while being a steady performer, is the slowest growth sector (averaging 5 percent per annum) with volatile performance due to natural disasters such as flood and drought. This growth pattern is narrow-based, making it highly vulnerable to external shocks and is unlikely to be sustainable in the long run. Except agriculture which is a growth sustainer, other drivers of growth were hard hit by the global financial crisis.

Sustained growth has led to shifts in the employment structure. In 1995 agriculture employed 81.4 percent of the total labour force; by 2007, its share had declined to 55.9 percent (IMF 2009). Meanwhile, industry's share increased sharply from 2.9 percent to 15.4 percent and services' share nearly doubled from 15.7 percent to 28.7 percent. Rapid growth has led to a dramatic decline in poverty but widening inequality. The national poverty headcount fell from 39 percent in 1994 to 30.1 percent in 2007. Urban and rural poverty rates likewise decreased, although poverty levels remain higher in rural areas. Income disparities between the rich and the poor increased during the same period, with the Gini coefficient – derived from national consumption data – rising from 0.35 to 0.43. The most recent poverty incidence data generated by the National Institute of Statistics' Commune Database suggest further poverty reductions to 27.4 percent in 2009 and 25.8 percent in 2010 (NIS 2010).

Cambodia's development strategies have regarded trade and investment liberalisation as key to ensuring inclusive sustainable economic growth that can contribute to poverty reduction and social development. Policy priorities aim to (i) create a favourable macroeconomic and financial environment; (ii) promote sub-regional, regional and global economic integration and cooperation; (iii) foster economic and trade diversification and competitiveness; (iv) strengthen private sector participation; and (v) attract investment through a more conducive business and investment climate. Cambodia is an active participant in a range of sub-regional and regional socio-economic programmes including the GMS, the World Trade Organisation (WTO), Ayeyawady-Chao Phraya Mekong Economic Cooperation Strategy (ACMECS), ASEAN and several ASEAN-initiated schemes including ASEAN Free Trade Area (AFTA), ASEAN-China FTA, ASEAN-Korea FTA and ASEAN-Japan FTA. Cambodia has adopted a range of reforms to ensure that its trade policy and practices are fair and non-discriminatory, transparent and predictable.

Several significant reforms and programmes have been introduced to further improve the investment climate. In 2005, the Investment Law was amended to make regulatory framework more conducive to both domestic and foreign investment. The Government-Private Sector Forum was established, with meetings held twice a year between the Prime Minister, the Cabinet of the Royal Cambodian Government and representatives of the private sector. The government also established special economic zones (SEZs) in 2005 through a special decree in an attempt to attract industrial and export-oriented investment projects.

Such a liberal and outward-looking economic regime has fostered rapid expansion of trade and investment. Total trade between 1995 and 2009 increased at an annual average rate of 17.02 percent, reaching USD10.02 billion and exceeding GDP with total trade to GDP ratio (commonly known as the trade dependence index) at 105.7 percent. Exports are highly concentrated in a few products, reflected in the higher export product concentration index of 36.4 percent. Textiles and apparel accounted for USD3.45 billion or 76 percent of total exports, while footwear accounted for USD356 million or 7.6 percent of total exports. Other export products were wood products, rubber, rice, cassava and live animals. Cambodia's exports are also highly concentrated in few markets, with the US and EU absorbing about two-thirds of Cambodia's exports, mainly garments and footwear. The other major export markets are Hong Kong (19.3 percent), Canada (6.7 percent) and Vietnam (3.9 percent).

FDI grew from almost nothing in the late 1980s to an annual average of USD163 million between 1993 and 2004 and USD604 million in the second half of the 2000s. FDI stock between 1993 and 2010 reached USD5.58 billion, accounting for 34 percent of total private investment, or an annual average of 5.4 percent of GDP. FDI in Cambodia, however, remains low compared to its ASEAN neighbours. Several impediments to investment remain, making the investment climate less conducive to business. The World Bank's Doing Business Survey has identified governance and corruption as the biggest obstacles to the growth of private business (World Bank 2010). The other major constraints were crime, theft and disorder, barriers to entry and competition, regulatory policy uncertainty, and weaknesses in the judiciary, custom and trade regulations, and tax administration.

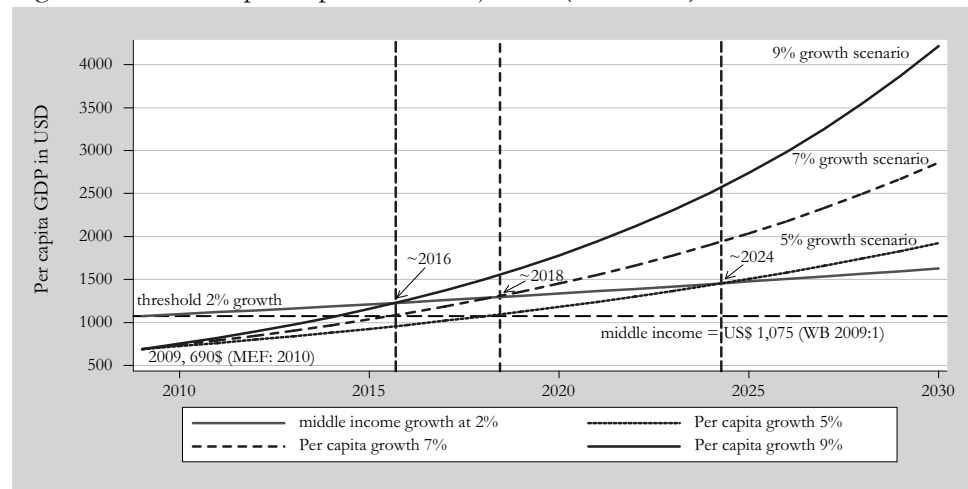
Insufficient infrastructure is also a major issue in enhancing the country's competitiveness and growth (WEF 2011). Road transport remains embryonic and inefficient. Despite a significant upgrading programme, the railway system is still in poor shape with little traffic demand. While the effectiveness of ports has improved, the cost of shipping remains high. Power supply is costly, inadequate, and to some extent unreliable. Telecommunications coverage remains limited. Both national and GMS infrastructure programmes for "connectivity" are critical to future growth and development – roads, railways, waterways, bridges, ports, energy generation, and the "soft" infrastructure required to enhance transport and logistics.

3. DEVELOPMENT GOALS, STRATEGIES AND PROSPECTS

Cambodia's aspirations and development strategies are reflected in the country's development plans, namely the Government Rectangular Strategy I & II and the National Strategic Development Plan 2006–2010 and 2009–2013. As highlighted in these policy documents, over the next decade Cambodia aspires to have (i) graduated from least developed country (LDC) status; (ii) achieved sustainable socio-economic development; (iii) significantly reduced poverty; (iv) become less aid-dependent; (v) attained a more diversified and less dollarised economic system; (vi) achieved macroeconomic stability; and (vii) attained a more equitable distribution of wealth.

Cambodia graduating from LDC status and maintaining stable macroeconomic environment: Assuming that a middle income country has per capita GDP of at least USD1,075 and grows at 2 percent per annum, with three simple compounding rates for real GDP per capita growth – 9 percent (high), 7 percent (medium) and 5 percent (low) – CDRI estimates that Cambodia could reach middle income status by around 2016 under the high growth scenario, by 2018 under the medium growth scenario, and by 2024 under the low scenario, all other things being equal (Figure 1).

Figure 1: Cambodia per Capita GDP Projection (2010-2030)



Source: CDRI projection using 5, 7, 9 % growth scenarios

Government efforts to industrialise the economy could make at least 6.2 percent growth attainable, if the sources of growth are diversified and the economy becomes more resilient to external shocks. Cambodia can achieve a rate of 5-7 percent growth, but the achievement of 9 percent growth is more challenging, putting more pressure on the allocation of human and natural resources to support growth-enhancing and new emerging sectors, and requiring more substantial investment in energy and transport infrastructure and quality human capital development.

Inflation is projected to remain below 5 percent between 2010 and 2015 (MEF 2010), although this target will remain susceptible to fluctuations in oil, food and commodity prices. Inflation could also rise if the government invests too much revenue from oil and gas resources too quickly in social infrastructure. The former risk factor could be tackled through government rice export policy, while the latter could be avoided by cautious and disciplined fiscal spending. By so doing, stable price levels could continue over the next decade.

Cambodia less aid-dependent: Cambodia is still characterised as an “aid-dependent” nation. Total aid, including disbursements to NGOs, amounted to around USD10.873 billion between 1992 and 2010. In 1992, aid disbursements were only USD250.2 million, mainly in the form of natural disaster and civil war relief. By 2010,

disbursements had grown to USD1.085 billion, covering sectors such as governance, agriculture, environment, education, healthcare, energy and transport³.

Over time, dependence on aid should dissipate as tax revenues grow in tandem with the economy. The ratio of domestic revenue to GDP increased from 10.1 percent in 2000 to 12.6 percent in 2010, and is expected to reach 15.2 percent in 2015 (MEF 2010). The ratio of aid disbursements to total budget spending has declined significantly, from 87.5 percent in 1999 to 47.9 percent in 2010 (CDC 2010). Additionally, there are multiple offshore blocks of oil and gas reserves in Cambodia, and these are expected to generate significant revenues in a couple of years time. This suggests a gradual shift away from aid dependency.

Cambodia as a more diversified economic regime: In 2006, the government, in collaboration with the UNDP, produced a “Diagnostic Trade Integration Strategy” (DTIS) which identifies 19 products and services with varying high export potential (UNDP 2007a)⁴. The DTIS was meant to diversify Cambodia’s export base and export markets. A Trade Sector-Wide Approach (Trade SWAp) was subsequently introduced to help coordinate and manage the Aid for Trade for Cambodia. The introduction of a policy to promote paddy rice production and export of milled rice in mid-2010 is expected to intensify the expansion of the rice sector. The Ministry of Commerce has also begun seeking new markets for garments export, such as Japan, Russia and countries in the Middle East.

Capital accumulation is critically important for diversifying Cambodia’s narrow economic base. Therefore, revenue from the offshore oil and gas sector, which is expected in a few years time, could come into play to facilitate the growth of either growth-augmenting or newly emerging sectors. This could be made feasible through selective intervention using the 19-product list jointly identified by the government and its development partners.

Cambodia as a less dollarised economic regime: Government efforts to de-dollarise the economy have been cautious, but slow progress is being made. Some of the measures taken include the use of Cambodian riel for the payment of public salaries, taxes and utility bills. Banning the use of the dollar has never been attempted, given Laos’ negative experience with this approach in 2007. Menon (2008), Duma (2010) and Huot and Khan (2010) concede that de-dollarisation will have to be a gradual long-term process. Zamaróczy and Sa (2002), Huot and Khan and Menon recommend the adoption of currency board arrangement (CBA), but Menon qualifies this by noting that this could be beyond the financial capacity of Cambodia at present. More steps have to be taken in order to viably replace the dollar with the riel over the next decade.

3 See The Cambodia Aid Effectiveness Reports for details (CDC 2007, 2008 & 2010)

4 For a list of the 19 product and service export potentials and action matrix see UNDP (2007:4; 36-60)

Cambodia as a poverty-free and equitable society: Further reductions in poverty and inequality will require a significant increase in public investment in pro-poor sectors, i.e. healthcare, education and rural development. Based on Cambodia's Millennium Development Goal (CMDG), the proportion of people whose income is below the national poverty line is expected to decline to 19.5 percent by 2015. The ratio of public investment to GDP stood at around 5.8 percent between 1993 and 2010, and is projected to reach 6.8 percent between 2010 and 2015.

In 2007, Thailand and Vietnam – countries with comparable healthcare and education outcomes – allocated around 20.8 percent and 19.8 percent of total spending for education and 13.1 percent and 8.7 percent for healthcare (World Bank 2011). Thus, Cambodia could allocate around 16.4 to 21.4 percent of total spending to education and 11.9 to 15.6 percent to healthcare which would significantly improve public service delivery and coverage provided resources are used in an efficient, transparent and accountable manner. Such additional allocation could accelerate the CMDG-related achievements to date in (i) girls and women's education and literacy, and (ii) further reduce the maternal mortality rate to 140 per 100,000 live births by 2015 and improve women's overall access to healthcare. If the projected revenues from offshore oil and gas resources are realised, the government could considerably increase spending in these sectors.

4. CAMBODIA'S DEVELOPMENT AND ITS REGIONAL CONTEXT

Cambodia's economic and strategic location in the GMS and ASEAN and its proximity to China is a major asset, with strong prospects for the development over time of an integrated GMS production network and market from southern China through the GMS, then south to other ASEAN economies, Australia and New Zealand, contributing to growth, private sector development, employment generation and poverty reduction. There are already promising signs of increasing exports to China – rice, rubber, cassava, maize, soya beans and minerals – along with agri-business and food processing investment. Trade and investment relationships with Vietnam, South Korea and Japan are also deepening rapidly.

Cambodia is also a major beneficiary of GMS and ASEAN hard infrastructure development and connectivity initiatives, with the completion or upgrading in progress of major roads, railways, bridges, waterways and ports. However, soft infrastructure, the administrative systems and skills to enable the smooth flow of goods and people across borders, still lags behind, acting as a constraint on the movement of people, transport and trade facilitation.

In 2012, Cambodia assumes the chair of ASEAN, having been an active and committed member since 1999 and an active supporter of ASEAN, ASEAN+3 (China, Japan and South Korea) and broader dialogue and cooperation processes. Cambodia stands to reap significant benefits from ASEAN+1 FTAs, especially the ASEAN-China FTA and its Early Harvest programme for agricultural producers, and ultimately, the benefits of an East Asian FTA and/or economic cooperation agreement.

Human resource development and long-term institutional strengthening is central to Cambodia's and other ASEAN LDCs' capacity to move to the next stage of economic development and sub-regional and regional integration. Cambodia has a strong commitment to the ASEAN Economic Community (AEC) 2015 but there are concerns that it will not be fully achieved. Currently, Cambodia is ranked third in ASEAN on AEC preparedness on key deliverables, but there are still unresolved issues on cross-border transactions and LDC-specific provisions. Cambodian preparedness for AEC 2015 is a function of both the general openness of the Cambodian economy and WTO compliance along with specific AEC compliance. However, private sector engagement in ASEAN processes and awareness of benefits and opportunities of ASEAN FTAs and regional integration is very uneven to poor.

In chairing ASEAN, Cambodia's priorities will be to promote the successful achievement of the AEC by 2015 through closer economic integration and connectivity, to strengthen ASEAN mechanisms to ensure regional peace, security and stability such as the ASEAN Regional Forum (ARF), and to strengthen ASEAN as an effective regional institution with a more influential voice in international affairs. It is also imperative for Cambodia and other ASEAN LDCs that ASEAN delivers on the ASEAN Charter commitment to "alleviate poverty and narrow the development gap within ASEAN through mutual assistance and cooperation". The complex set of initiatives to promote connectivity and socio-economic development and reduce poverty in ASEAN and the GMS are a challenge for the capacity of Cambodian institutions and the private sector, making the synchronicity and long-term institutional capacity development for ASEAN-GMS LDCs a priority for both the GMS programme of the Asian Development Bank and ASEAN's Initiatives for ASEAN Integration.

Cambodia's strong and deepening relationship with China is fundamental to its ASEAN and East Asian future, with the significant recent expansion of trade, tourism, investment and development cooperation. China is now Cambodia's number one source of both investment and development assistance along with a strong and deepening political, economic and strategic relationship, but Cambodia balances this key relationship with good relations with other major regional players such as Japan, South Korea, Vietnam, the United States and Australia, a position which can only be strengthened through its chairing of ASEAN.

5. SOME MAJOR CHALLENGES IN MOVING FORWARD

Although Cambodia has shown remarkable progress in economic growth, socio-economic development, poverty reduction and improved living standards for its people, the country still faces a number of challenges in achieving its longer term aspirations. They include the following:

Human Resource Development: Human development is a driver of economic development and provides the foundation for improved standards of living (World Bank 2006). Despite the gains that have been made in improving Cambodia's educational system and outcomes, human resource development continues to be a major constraint, with women frequently being at a disadvantage. The shortage of

educated and skilled labour has slowed the shift from a predominantly agrarian society towards a more diversified economy, where services and manufacturing contribute more to economic growth.

Other remaining challenges towards improved human resources and competitive labour supply include: the low quality of education, high drop-out and repetition rates, low research capacities in higher education institutions (HEIs), mismatch between labour supply and demand, low labour productivity, and the lack of both soft and hard skills. Improvements in these areas will be essential for further economic growth and sustainable development. There are serious issues that need to be addressed in the higher education system, particularly with regard to improving quality. Research capacity in HEIs likewise leaves much to be desired (Pith & Ford 2004; Chet 2009; DRF Cambodia 2010). Improving the quality and research capacities of Cambodian universities is critical because “independent and rigorous scholarly research at universities could be potentially significant for national development in the long run” (DRF 2010: 47).

Sustainable Growth based on Agricultural Development and Economic Diversification: The remarkable role of agriculture in the Cambodian economy became evident during the global economic and financial crisis and its aftermath, yet the sector’s full potential has not been realised due to low agricultural productivity and lack of diversification. Productivity has been greatly constrained by insufficient public investment in technology and rural infrastructure, such as paved roads and irrigation systems. In the long term, the sector also faces the risks of climate change and natural disasters. Although Cambodia has been less affected by such calamities compared to other countries in the region, the risk remains real.

The issue of economic diversification remains a major challenge if long-term sustained growth is to be realised. Thus far, garments, construction, tourism and agriculture have contributed to the country’s economic growth in the last decade despite their lack of within-sector diversification. To achieve sustainable long-run growth, Cambodia needs to broaden and diversify the economic base, taking into account the big challenge of improving the country’s competitiveness and investment in technology and infrastructure as essential inputs to enhancing productivity.

Poverty Reduction: Poverty remains a serious challenge in Cambodia, despite the recent decline in the national poverty headcount. The global economic and financial crisis may have actually led to an increase in poverty in some areas, given the reduction in income due to unemployment in garments, construction and tourism (see Jalilian & Reyes 2010). This may have pushed many people back into poverty, or at least widened the poverty gap. The World Bank (2009) estimates that the global financial crisis could increase the poverty headcount by 1 to 4 percentage points from the 2007 level; if so, it would take around two to six years for poverty to return to the 2007 level, assuming the economy grows at an average of 7 percent per year.

Since poverty remains predominately rural, with most of the poor engaged in agriculture, achieving broad-based agricultural growth in the country is fundamental to poverty eradication. Eradicating poverty will require improvements in access to important social services such as healthcare and education, as well as appropriate social safety nets such as (conditional) cash transfers, and food-based projects that can help poor households cope with temporary income shocks. The country also needs to address the rural credit gap, estimated to be USD60 to USD70 million annually (Hang 2009). Lack of access to credit prevents poor farmers from investing in land and labour.

Natural Resource Management: Cambodia is endowed with abundant natural resources. Offshore oil and gas resources represent a major potential source of future revenue. Cambodia also has mineral reserves such as gold, bauxite, metal ores, precious gemstones and marble, the extraction and exploration of which are on the rise. A growing population and higher demand for energy have already put pressure on the sustainable use of such resources, requiring closer collaborative effort among stakeholders involved. The challenges to the management of natural resources include effective management and coordination among local communities as well as strengthening state institutions and human resource capabilities. Governance of the oil and gas sectors, for example, requires high technical expertise across different areas. Equally important, sound macroeconomic and fiscal policies need to be designed to oversee and manage the macroeconomic impact of revenue collection and expenditure. Natural resources management requires a synergy among all stakeholders, from central to local governments to the private sector. There is no single model for managing natural resources in a sustainable way; one needs to take into account the local context and challenges.

Regional Integration and Connectivity: Cambodia scores high in its commitment to regional integration, yet the benefits from it have not been fully reaped. Cambodia's intra-regional trade volume is meagre compared to other countries in the region. One of the challenges is the development gap between the less developed countries like Cambodia and more advanced ASEAN nations known as the ASEAN 6. ASEAN FTAs, for instance, have put pressure on Cambodia to increase revenues from non-tariff duties over the next few years. The other challenges to be addressed include the diversification of exports and building of basic infrastructure, and the improvement of institutional arrangements and capacity building. Regional integration could also pose security threats and create social problems among member countries, especially those that share borders. An increase in illegal migration and incidents of human and drug trafficking in the last decade have created many problems for both origin and destination countries.

Policy and Institutional Reform and Strengthening: Cambodia's tragic history has left the country in a disadvantageous position; the country has had to rebuild its institutions almost entirely from scratch. In strengthening the institutions, the government has initiated a number of institutional reforms including public financial and administration reforms, decentralisation and deconcentration (D&D) reform, and legal and judicial reform, yet challenges within the implementation of

those reforms remain. The civil service reform package has led to improvements in personnel management systems and the establishment of regulatory frameworks, yet attracting a highly competent workforce remains a challenge since the remuneration package is not attractive enough. Achievement has been noted within D&D reform, yet uneven coordination and accountability among public agencies, insufficient financial resources and capacity building of local officials remain challenges to be addressed. Lastly, progress in judicial reform is evident given the promulgation of various laws such as the criminal and civil codes, and the establishment of a model court. However, the justice system in Cambodia is still poorly-regarded. Low salaries are partly to blame, though weak law enforcement has also contributed to corruption. Judicial reform is also constrained by the shortage of qualified legal personnel like jurists, as well as insufficient resources for capacity building. A business court has yet to be established; such a court is crucial for the private sector to solve commercial matters.

6. CONCLUSION: SOME POLICY PRIORITIES

As Cambodia moves forward, some policy priorities to consider that would be fundamental to achieving its socio-economic development goals include:

- **Diversify the economy** through expansion of current sources of growth and further development of the agricultural sector, expansion of industrial manufacturing, and diversification of export products and markets;
- **Deliver on the commitment to more inclusive growth** through national socio-economic development strategies that achieve growth and poverty reduction goals but reverse increasing inequality;
- **Maintain a stable macroeconomic environment** through reigning in inflation below a 5 percent target, ensuring cautious and disciplined use of revenue from oil and gas sectors, keeping close track on the evolution of the real estate sector as well as the banking sector, and ensuring the capacity of the economy to absorb the large pool of new entrants to the workforce every year;
- **Increase revenue collection** by strengthening the capacity of tax administration, expanding the current domestic tax base and encouraging private informal businesses to formalise and register in order to strengthen government finances and reduce reliance on ODA;
- **Establish a well-managed sovereign wealth fund**, if the significant national income potential from the exploitation of off-shore oil and gas resources is realised, to resource national development priorities and stimulate private sector investment in support of economic diversification, and learn from the experience of other ASEAN economies;
- **Expand public investment in priority sectors** to improve access to quality healthcare, education, agriculture and rural development, and transport infrastructure;

- **Develop human capital** using an integrated approach to address both the quality of education to equally benefit women and men at all levels, and the urgent need for technical and vocational education and training, including research and development (R&D) (as one of the missions of higher education institutions) to assist policymaking, and technological upgrading;
- **Invest in soft and hard infrastructure:** increase budget spending for building and upgrading underdeveloped rural infrastructure – rural roads, irrigation systems; improve production capacity and efficiency of power generation in order to reduce costs and expand rural electrification;
- **Promote the agricultural sector:** make the most of factor endowments such as land and labour, lift agricultural productivity and diversify the agricultural base;
- **Deliver on commitment to sustainable use of natural resources:** improve the governance of natural resources to ensure sustainable use and increased value-added;
- **Ensure the complementarity of mutually supportive objectives and adequate resourcing of the GMS Programme and Initiatives for ASEAN Integration,** with a focus on regional cooperation to achieve long term human resource development and institutional strengthening to bridge the development gap in ASEAN and East Asia and promote deeper regional integration;
- **Increase private sector engagement in regional and sub-regional integration** and awareness of opportunities under regional FTAs and connectivity initiatives.

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Section 1

ECONOMY

- I -

Searching for Binding Constraints on Growth Using Growth Diagnostic Approach: The Case of Cambodia

by Saing Chan Hang¹

1. INTRODUCTION

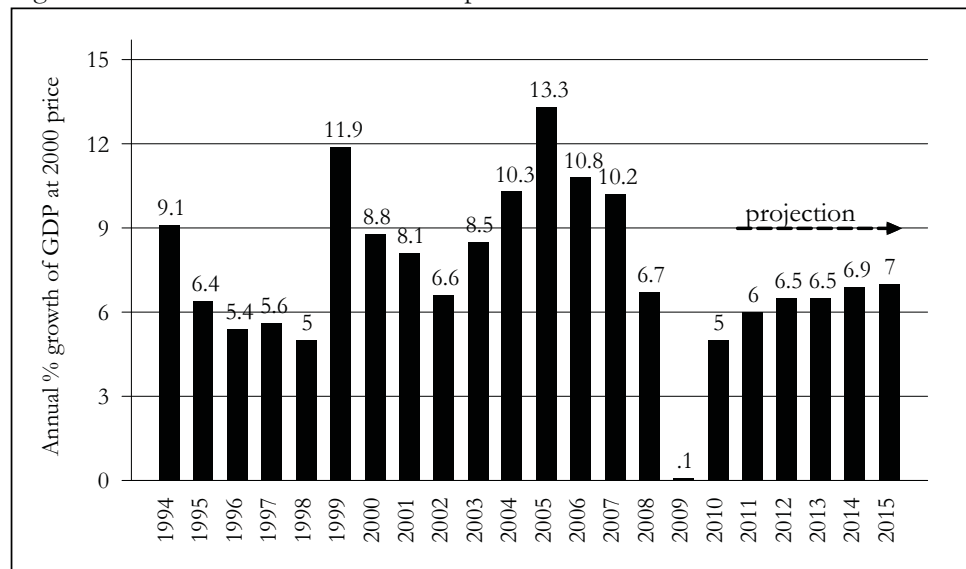
Despite its post-conflict donor-dependent status, traditionally plagued by weak governance, rampant corruption and limited institutional capacities (World Bank 2004), and regardless of the downturn in 2008-09, Cambodia's economic development has fared remarkably well during the last decade. Real output growth was rapid, averaging 9.1 percent from 1998 to 2008, largely due to Cambodia's macroeconomic and political stability as well as regional and global prosperity. Growth during this period was driven mainly by drastic expansion in manufacturing industry, dominated by textiles and garments, at an average annual rate of 14.4 percent and a marked rise in tourism given the significant and constant spike in the number of tourist arrivals.

Such vibrant and robust growth was hit hard by the two crises which significantly changed the strong and dynamic momentum of the country's economy as growth nosedived from 10.2 percent in 2007 to 0.1 percent in 2009, plunging the three growth-enhancing pillars, namely garments, construction and tourism, into deep contraction (Figure 1). The most severe cyclical impact is evident in the garment industry given the considerable decline in export to the US and EU markets and the massive lay-off of garment workers in 2009. Growth rebounded to around 5 percent in 2010.

There has been a notable transformation in the structure of Cambodia's economy from a highly agrarian to a less agriculture-based one. Share of agriculture to GDP declined markedly from approximately 46 percent in 1994 to around a third in 2009, while shares of industry and services to GDP rose constantly. Share of industry increased from 13.5 percent in 1994 to 24.8 percent in 2009, while share of services went up from 35 percent in 1994 to 40 percent in 2009. This indicates the growing roles of industry and services in bolstering Cambodia's economy.

1 Saing Chan Hang is a research associate at CDRI. The author is grateful to Dr Tong Kimsun, coordinator of the Economy, Trade and Regional Cooperation Programme at CDRI and Mr Larry Strange, executive director of CDRI, for their kind support in making this study happen.

Figure 1: Annual GDP Growth at 2000 prices



Source: Ministry of Economy & Finance, 2010

This paper aims primarily to examine likely binding constraints on Cambodia's growth by using the growth diagnostic approach developed by Hausmann, Rodrik and Velasco in 2005, which is elaborated in Section 2. Factors constraining growth are discussed in Section 3. Concluding remarks are made in Section 4.

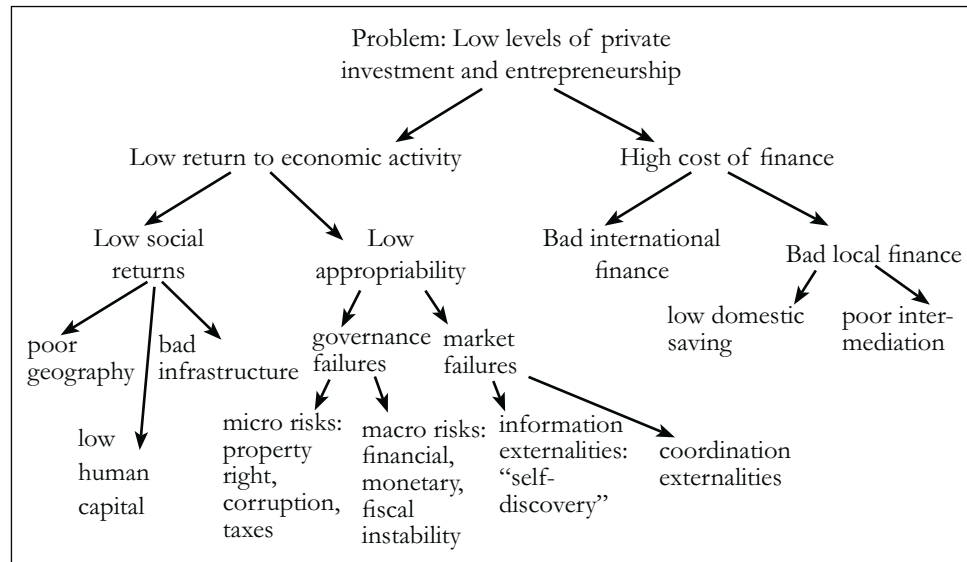
2. FRAMEWORK OF ANALYSIS

From growth theory to growth empirics, a large body of literature explains the factors—whether low human capital, limited private credit or scarce physical capital accumulation—that constrain growth. Majority of the studies apply cross-country regression technique to explore the constraints. How useful this technique is in validating factors found, however, is debatable as each country in the sample tends to have its unique macroeconomic conditions and socio-political environment. In order to overcome this problem, Hausmann, Rodrik, and Valesco (2005) developed the growth diagnostic approach as a tool for identifying binding constraints on growth in any individual developing country. This paper applies this technique to seek constraints on Cambodia's growth during the last decade (1999-2009).

In order to identify binding constraints, the paper starts by following the decision tree (Figure 2) and seeks to answer the principal question of whether low return to economic activity or high cost of finance is the most binding constraint to the level of private investment and therefore growth. For the former, the study examines whether the problem of low return to economic activity comes from low social returns or low appropriability, while for the latter, it verifies whether high cost of finance results from bad international finance or bad local finance. It then investigates further whether low social returns result from poor geography, low human capital and bad infrastructure and discusses whether low appropriability is caused by micro or

macro risks (government failures), information and coordination externalities (market failures). It also validates whether bad local finance stems from low domestic savings and poor financial intermediation. Indicators at the bottom of the decision tree are potential binding constraints measured based on the extent of the supporting evidence available.

Figure 2: Growth Diagnostic Problem Tree



Source: Hausmann, Rodrik and Valesco, 2005

Additionally, a top-down approach with evidence- and anecdote-based methods, following the problem tree in Figure 2, is used to determine which constraint is most binding. Under most circumstances, regional benchmarks and comparators, i.e. ASEAN nations, are utilised for constraint identification. However, it should be noted that given data limitation the study at some points relies on findings of a previous study by the World Bank (World Bank 2009b).

3. EVIDENCE OF CONSTRAINTS ON GROWTH IN CAMBODIA

3.1 Cost of and Access to Finance

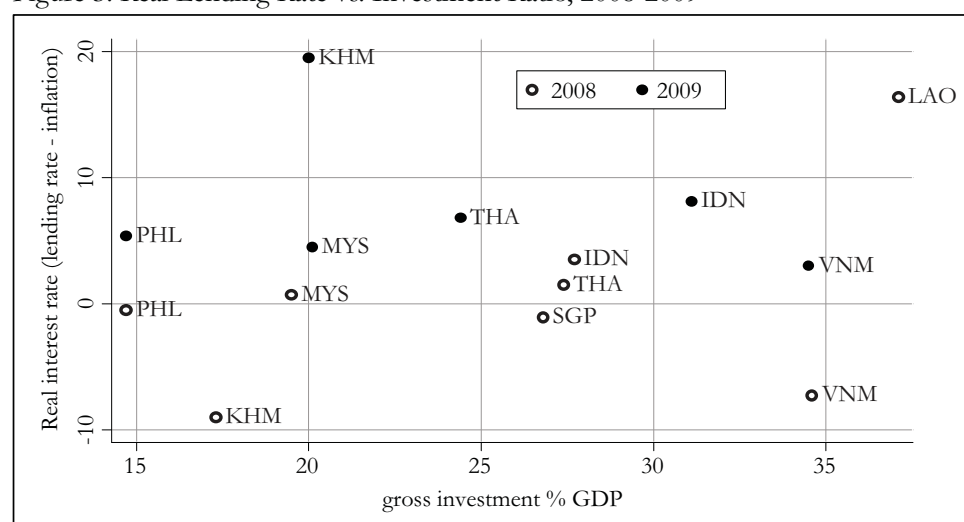
Cambodia's financial sector is still underdeveloped. Credit to the private sector in terms of share to GDP was around 23.5 percent in 2008, higher than Laos' 9.5 percent but lower than Vietnam's 90.6 percent and Thailand's 113.1 percent (World Bank 2011). It appears that credit supply is scarce; however, it is important to explore shadow prices in the sector, namely the real interest rate in connection with investment demand.

Real lending rate was negative in 2008, but share of gross investment to GDP at 17.5 percent was lower than that of other countries in the region. Thus, it is unlikely that cost and supply of credit was a constraint given the meagre demand for credit in 2008. Astoundingly, in 2009 real lending rate shot up to 19.5 percent from -9 percent

in 2008 (World Bank 2011), the highest among ASEAN nations, while the private sector's share of credit to GDP did not accelerate (Figure 3) given the substantial reduction in total output that year (due to the global financial crisis).

Despite the rise in the real lending rate as a result of the reduction in overall consumer price level, the cost of finance does not appear to have been a barrier to investors' access to finance as credit to the private sector went up from USD2.39 billion in 2008 to USD2.5 billion in 2009 in absolute terms (NBC 2009:2). It is, however, important to note that growth of lending in the banking system in 2009 (5 percent) was far slower than in previous years (77 percent in 2007 and 50 percent in 2008), which could be attributed to the decline in domestic and external demand in 2009 (NBC 2008, 2009).

Figure 3: Real Lending Rate vs. Investment Ratio, 2008-2009



Source: World Bank, WDI 2011 & IMF, IFS 2011

As shown in Table 1, access to finance was ranked fifth out of 15 factors for doing business in Cambodia by the majority of executives surveyed in 2009 and 2010, indicating that access to finance does not appear to be a severe constraint on growth. However, executives' perception of access to finance changed slightly between 2008 and 2010, which could be attributed to banks' fear of default and new guidelines/instructions introduced by the National Bank of Cambodia (the Central Bank) during the recession. Moderate recovery from recession in 2010 onwards may allay banks' fear and put the pace of lending back on its pre-crisis track.

There is no sign of constraint on access to international finance as executives surveyed in the World Economic Forum Report ranked "foreign currency regulations" 14th in 2009 and 13th in 2010 out of 15 factors worrying investors in doing business in Cambodia (Table 1). On foreign capital inflows, foreign aid contributed approximately 45.8 percent of gross capital formation during 1999-2007, the highest in the region, the regional average being 14.8 percent. Aid inflows come in the forms of concessional

loan and grant, the major proportion of which is concessional loan. Share of FDI to GDP between 1999 and 2009 is above the regional average, which is relatively high (Table 2). This indicates no serious constraint on access to, but significant dependency on international finance. Thus, access to finance at macro level does not appear to be a constraint, but the opposite occurs at micro enterprise level.

Table 1: Most Problematic Factors for Doing Business in Cambodia, 2008-2010
(Ranking: 1 most problematic, 15 least problematic)

Problematic factors	Year of report		
	2008	2009	2010
Corruption	1	1	1
Inefficient government bureaucracy	2	2	2
Inadequately educated workforce	4	3	3
Inadequate supply of infrastructure	3	4	4
Access to finance	7	5	5
Tax rates	10	12	6
Tax regulations	8	8	7
Poor work ethic in national labour force	9	9	8
Inflation	5	7	9
Restrictive labour regulations	13	13	10
Policy instability	6	6	11
Poor public health	11	11	12
Foreign currency regulations	15	14	13
Crime and theft	12	10	14
Government instability/coups	14	15	15

Source: WEF 2009-2011

Table 2: Foreign Direct Investment (Percentage of GDP)

Year	BRN	IDN	KHM	LAO	MMR	MYS	PHL	SGP	THA	VNM	Average
1999	-	-1.3	6.4	3.5	-	4.9	1.6	20.1	5.0	4.9	5.6
2000	-	-2.8	4.0	2.0	-	4.0	3.0	17.8	2.7	4.2	4.4
2001	1.1	-1.9	3.7	1.4	-	0.6	0.3	17.6	4.4	4.0	3.5
2002	3.9	0.1	3.5	0.2	-	3.2	2.0	7.2	2.6	4.0	3.0
2003	1.9	-0.3	1.8	0.9	-	2.2	0.6	12.8	3.7	3.7	3.0
2004	1.4	0.7	2.4	0.7	-	3.7	0.8	19.2	3.6	3.5	4.0
2005	1.8	2.9	5.9	1.0	-	2.9	1.9	12.3	4.6	3.7	4.1
2006	0.8	1.3	6.6	5.3	-	3.9	2.5	20.0	4.6	4.0	5.4
2007	-	1.6	10.4	7.5	-	4.5	2.0	20.2	4.6	9.8	7.6
2008	-	1.8	8.6	4.2	-	3.3	0.9	5.6	3.1	11.8	4.9
2009	-	0.9	5.4	5.4	-	0.7	1.2	9.2	1.9	8.4	4.1
Average	1.8	0.3	5.3	2.9	-	3.1	1.5	14.7	3.7	5.6	4.5

Source: World Bank, WDI 2011

3.2 Appropriability of Return

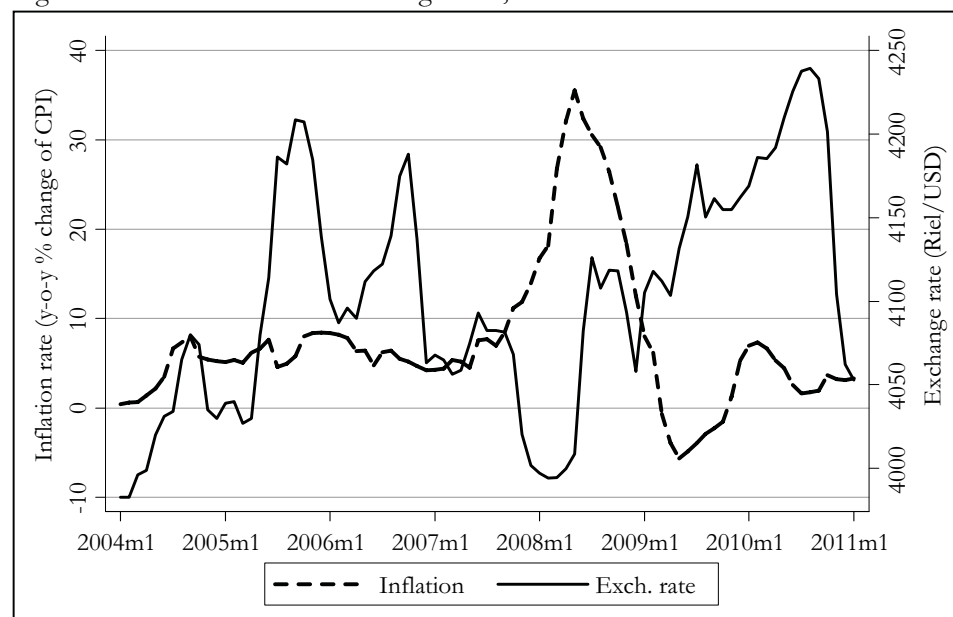
For the purposes of this study, appropriability of return refers to the external factors that govern an investor's ability to profit from an investment project, or an innovator's ability to capture profits generated by an innovation.

Macro risks

Signs that recovery has started have been apparent since the last quarter of 2009 with rebound in key growth-enhancing sectors, namely garments, tourism and construction. Year-on-year average growth of garments export went up from -14.7 percent in 2009 to 24.5 percent in 2010. Additionally, holiday and business arrivals to Cambodia marked more drastic pickup as average year-on-year growth in 2010 stood at 19 percent and 8.4 percent, rising from 3.4 percent and -10.2 percent at the end of 2009, respectively. The construction sector also regained momentum in 2010 as annual growth of construction equipment import was 1.1 percent in 2010, up from -26.6 percent in 2009. It is important to note that majority of domestic construction projects use imported construction equipment.

Inflation has not been a concern since the sharp rise in consumer prices in 2008 (25.1 percent) and deflation in 2009 (-0.4 percent). That concern has subsided is also indicated in the private business survey by the World Economic Forum between 2008 and 2010 (see Table 1). Average year-on-year consumer price inflation of 4.1 percent in 2010 appears to have been under control, dropping to 3.6 percent in the first quarter of 2011. The quick turnaround of exchange rate appreciation during the last quarter of 2010 and early 2011 could undermine Cambodia's current and future export competitiveness, but the extent is unlikely to be significant given that Cambodia's economy is anchored by a high degree of dollarisation, i.e. majority of transactions can be legally carried out using US dollars.

Figure 4: Inflation Rate and Exchange Rate, 2004-2011



Source: NIS & NBC, 2011

Micro risks

Recent study by the World Economic Forum (WEF 2010) and the World Governance Indicators (World Bank 2011) show that Cambodia is lagging behind other countries in the region in terms of institutional quality and intellectual property rights. In terms of property rights, Cambodia was ranked last among ASEAN countries, while on intellectual property protection it rose to a better position, slightly ahead of the Philippines and Vietnam, but far behind Thailand and Indonesia. The World Bank “Investment Climate Assessment” identifies the lack of dispute settlement/mechanisms to facilitate private business operation in case of breach of trust and the like (World Bank 2004, 2009b). This is confirmed by the WEF survey finding that among its regional comparators, Cambodia is only better than the Philippines with regard to settling disputes and the level of judicial independence. Cambodia is ranked in a low position concerning regulatory quality in general, but is surprisingly better than Vietnam and Laos. It is moderately likely that lack of dispute settlement mechanism and limited law enforcement could act as potential constraints to growth.

On land rights, overall only 10 percent of the 500 firms surveyed in 2007 viewed it as a severe constraint (World Bank 2009a). This could be explained by the decline in the number of firms owning land (from 54 percent in 2003 to 36 percent in 2007) and buildings (down from 53 percent in 2003 to 39 percent in 2007) as they switched to renting instead, indicating the decline in the number of land disputes. This is also in line with a survey of 504 small and medium size enterprises in 2009 by the International Financial Corporation, which reports that 45 percent of the enterprises rent their business premises (IFC 2010:30). It is not apparent that land rights could act as a constraint.

Table 3: Indicators of Institution and Regulatory Quality, 2009-2010

Country	Property rights*	Intellectual property protection*	Settling disputes*	Judicial independence*	Regulatory quality†
Brunei	52	55	36	43	82.9
Cambodia	110	99	72	108	39.0
Indonesia	84	58	60	67	42.9
Laos	-	-	-	-	14.3
Malaysia	41	33	30	52	60.0
Myanmar	-	-	-	-	1.0
Philippines	99	103	122	111	52.4
Singapore	3	3	1	21	100
Thailand	89	84	46	54	61.9
Vietnam	81	109	61	64	31.0

Source: World Economic Forum 2011; World Bank's World Governance Indicators 2011

Note: * WEF's ranking out of 139 countries in 2010;

† WGI's classification 0 lowest, 100 highest regulatory qualities in 2009

As shown in Table 4, Cambodia's overall tax rate is the lowest among ASEAN nations in 2010 (WEF 2011; Heritage Foundation 2010), while its income tax and corporate income tax rates are the lowest in the region, except for Singapore's corporate tax rate. In terms of the extent and effect of taxation, however, Cambodia ranks second from the bottom after the Philippines. This seems to contradict the private sector's perception of tax administration, which was rated as not a major concern to business activity in 2007 (World Bank 2009a). This might indicate the likely constraint of tax administration on growth.

Table 4: Ranking of Extent and Effect of Taxation and Tax Rates in Asia

Country	Extent & effect of taxation*	Total tax rate*	Income tax rate† (%)	Corporate tax rate† (%)
Brunei	15	31	-	-
Cambodia	61	15	20	20
Indonesia	17	60	30	25
Laos	-	-	25	35
Malaysia	28	47	26	25
Myanmar	-	-	30	30
Philippines	77	99	32	30
Singapore	3	24	20	17
Thailand	53	58	37	30
Vietnam	58	67	35	25

Source: World Economic Forum 2011; Heritage Foundation 2010; The Wall Street Journal 2010

Note: * WEF's ranking out of 139 countries in 2010;

† Heritage Foundation 2010; The Wall Street Journal 2010

A study by the World Bank in 2009 suggests that Cambodia is exposed to the problems of self-discovery and coordination. Our study is intended to gather new evidence and validate this hypothesis. As observed, the pace of discovering new products and services appears to be lagging given that newly discovered products are often replicated making it difficult for the owners of the new products to appropriate returns (World Bank 2009b: 65).

Limited self-discovery is also evident through changes in the number of exported products and the level of survival rate of new exported goods. Table 5 illustrates the marked rise, at an average growth rate of 41.1 percent, in the number of exported products during 2000-09. During the same period, Cambodia exported on average 260 new product lines, which represent about 35.3 percent of the total number of exported goods. The proportion of the number of exported products discontinued after one year to the total number of exported goods over 2000-09 was around 31.8 percent, and the survival rate of new exported products stood at around 39.9 percent; that almost 60 percent disappear after one year indicates the limited ability of domestic producers in sustaining new export products.

Table 5: Indicators of Product Discoveries in Cambodia

Year	Number of exported goods	Number of new exported goods	Number of exports discontinued after one year	Number of new exports discontinued after one year	Survival rate of new exports after one year (%)
2000	569	-	-	-	-
2001	659	292	202	179	38.7
2002	715	293	237	175	40.3
2003	683	237	269	144	39.2
2004	701	235	217	134	43.0
2005	738	252	215	152	39.7
2006	777	273	234	149	45.4
2007	836	284	225	167	41.2
2008	754	201	283	137	31.8
2009	803	276	227	-	-

Source: Author's calculations based on UN COMTRADE data, HS 5 digits (SITC-Rev.3)

Note: Data from World Bank's WITS at <http://wits.worldbank.org/wits/> (accessed 14 July 2011)

The executive opinion surveys presented in Table 1 ranked corruption, inefficient government bureaucracy and inadequate supply of infrastructure as the most problematic factors in doing business in Cambodia during 2008-2010, which highlights the economy's vulnerability to the problem of poor coordination. The issue of poor coordination is also observed in the World Bank study on three sectoral case studies, namely garments, rice and livestock (World Bank 2009b).

Absent or weak coordination among stakeholders in the labour market, namely private firms, public institutions (Ministry of Education, Youth and Sport and Ministry of Labour and Vocational Training), public and private universities and vocational training (formal and informal) institutions, creating significant skill gaps and mismatches is also evident. The World Bank survey of 21 training providers and 48 employers in the tourism, garments and construction sectors in Phnom Penh and Siem Reap between December 2008 and March 2009 found that most employers (76 percent) concede that graduates are not equipped with the necessary skills to perform their jobs (World Bank 2010b:52, 54). It also found that a variety of non-formal training providers, such as public provincial training centres, private providers and non-governmental organisations (NGOs), often offer training curricula which do not match employers' needs (World Bank 2010b:66).

In sum, the market could fail in the sense that Cambodia appears to be exposed to lack of self-discovery and weak coordination. However, the issue of limited self-discovery might not constrain growth in that the survival rate of new exported goods (discoveries) stands at around 40 percent, which is not bad, while the issue of weak coordination could be a constraint on growth given its prevalence across sectors.

3.3 Social Return

Given data limitations, the study explores three key indicators, namely supply and level of education of the workforce, quality of infrastructure, and the cost of electricity, and draws implications for growth constraints building on previous study by the World Bank in 2009.

Cambodia has witnessed dramatic demographic transformation during the last decade, which has brought about both opportunities and challenges for this dynamic economy. Latest census in 2008 from the National Institute of Statistics (NIS) of the Ministry of Planning (MOP) indicates that Cambodia has the youngest population in the Asia Pacific region with almost 60 percent of the population aged below 24 years, compared with 61 percent in Laos and the rapidly aging populations of Vietnam and Thailand (World Bank 2010b:32). Latest results from the Cambodia Socio-economic Survey 2009 (CSES) reveal that labour force participation rate is around 84.4 percent, higher than the 82.2 percent in 2004 (NIS 2010:59). This shows that there is no constraint in terms of labour supply.

Table 6 shows that Cambodia performs relatively well in primary school enrolment compared to other countries in the region, but poorly in secondary and tertiary enrolment. This is likely the main factor underlying the inadequacy of the country's workforce. Poor quality of workforce and skill mismatch between labour demand and supply undermine the level of returns to education of the labour force. The World Bank study in 2010 (2010b:32) also confirms that returns to education in Cambodia are among the lowest in the region. Except for skill mismatch, supply of labour will continue to be abundant in years to come given the high labour force participation rate, particularly the low-educated pool, signifying that low returns to human capital do not act as a constraint on growth.

Table 6: Gross Enrolment Rate among ASEAN Members

Categories	Gross primary enrolment (%)			Gross secondary enrolment (%)			Gross tertiary enrolment (%)		
	2007	2008	2009	2007	2008	2009	2007	2008	2009
Brunei	107.8	106.7	106.5	96.9	96.7	98.2	15.4	16.0	17.1
Cambodia	119.7	115.9	116.5	40.4	-	-	5.4	7.0	10.0
Indonesia	120.9	119.5	120.8	75.8	74.4	79.5	18.2	21.3	23.5
Laos	108.9	111.8	121.0	44.0	43.9	-	11.5	13.4	-
Malaysia	96.6	94.6	-	68.2	68.7	-	32.1	36.5	-
Myanmar	115.0	116.9	115.8	49.3	52.7	53.1	10.7	-	-
Philippines	108.2	110.1	-	81.4	82.5	-	-	28.7	-
Singapore	-	-	-	-	-	-	-	-	-
Thailand	94.7	93.4	91.1	74.8	74.3	75.6	46.0	44.7	44.6
Vietnam	-	-	-	-	-	-	-	-	-

Source: World Bank's WDI Online (retrieved 14 July 2011)

In the executive opinion survey by the World Economic Forum (WEF), “inadequate supply of infrastructure” was ranked third in 2008 and fourth in 2009 and 2010 out of the 15 most problematic factors in doing business in Cambodia (Table 1). This indicates the private sector’s lack of confidence over the adequacy of Cambodia’s infrastructure to meet the demands of private business operations. Next to Laos, Cambodia has the lowest percentage of paved road among ASEAN countries, the extent of paved road being twice or even five times as low as in other ASEAN member countries (Table 7). This reflects the country’s relatively low level of connectivity and poor quality of its road infrastructure. Regional statistics on road density reflect a similar picture. The poor state of Cambodia’s road network partly contributes to the high cost of transport in the country. Inadequate road transport connectivity could act as a constraint on growth.

Table 7: Key Indicators of Road Infrastructure in ASEAN Member Countries
(various years)

Countries	Road length (km)	Length paved road (km)	Paved road to total roads (%)	Road density (km)
Brunei	3728 (2006)	2843 (2006)	76.3 (2006)	63 (2005)
Cambodia	11494 (2007)	2376 (2007)	20.7 (2007)	21 (2004)
Indonesia	396362 (2007)	221905 (2007)	56.0 (2007)	23 (2008)
Laos	73323 (2007)	5133 (2007)	7.0 (2007)	15 (2008)
Malaysia	90127 (2006)	71292 (2006)	79.1 (2006)	30 (2004)
Myanmar	--	55157 (2007)	--	4 (2005)
Philippines	29650 (2008)	21677 (2008)	73.1 (2008)	67 (2003)
Singapore	3325 (2008)	3325 (2008)	100 (2008)	475 (2008)
Thailand	98053 (2007)	97988 (2007)	99.9 (2007)	35 (2006)
Vietnam	137359 (2004)	53610 (2004)	39.0 (2004)	48 (2007)

Source: ASEAN Statistical Yearbook 2008; World Bank’s WDI 2011

Note: percentage of paved road=length of paved road (km)/total road length (km);
road density (km) = length of road (km) per 100 km² of land

It is widely recognised among the private business community that electricity cost in Cambodia is one of the highest in the region and the world, despite the government’s continuous efforts to reform and improve the nation’s energy sector. As shown in Table 8, the average cost of electricity in Cambodia is higher than in other ASEAN member countries, except for Singapore. Costs in Cambodia are high for all consumption categories, i.e. residential, commercial and industrial. This may reduce Cambodia’s competitiveness over its regional comparators, particularly Laos, Thailand and Vietnam. It is obvious that electricity cost could act as a constraint on growth.

Table 8: Electricity Tariff in ASEAN Member Countries, 2010 (US cents/Kwh)

Country	Residential	Commercial	Industrial
Brunei	3.82-19.11	3.82-15.29	3.82
Cambodia	8.54-15.85	11.71-15.85	11.71-14.63
Indonesia	4.60-14.74	5.93-12.19	5.38-10.14
Laos	3.34-9.59	8.80-10.36	6.23-7.34
Malaysia	7.26-11.46	9.67-11.10	7.83-10.88
Myanmar	3.09	6.17	6.17
Philippines	6.65-10.52	--	--
Singapore	19.76	10.95-18.05	10.95-18.05
Thailand	5.98-9.90	5.55-5.75	8.67-9.43
Vietnam	2.91-9.17	4.38-15.49	2.30-8.32

Source: Adapted from <http://talkenergy.files.wordpress.com/2011/02/asean-electricity-tariff-2011.pdf>
(accessed 11 July 2011)

4. CONCLUSION

Overall, the study finds that as of 2009 cost of finance does not appear to have been a constraint. Even though the real lending rate rose from -9.0 percent in 2008 to 19.5 percent in 2009, the highest among ASEAN members, the increase resulted primarily from the surge in consumer prices. Credit to the private sector continued to grow by 5 percent in 2009 despite sluggish economic activity during the year, but lower than the 77 percent in 2007 and 50 percent in 2008. In addition, there is no sign of constraint on access to international finance as executives surveyed in the World Economic Forum Report ranked “foreign currency regulations” 14th in 2009 and 13th in 2010 out of 15 factors worrying investors in doing business in Cambodia.

Macroeconomic risk was no longer a concern of firms’ appropriability of return in 2010, with inflation back to the pre-crisis rate and exchange rate fluctuation under control. Corporate tax rate and land rights do not appear to be constraints, but lack of dispute settlement, limited law enforcement and tax administration are likely to be constraints on growth. The problem of limited self-discovery is also evident, but it does not seem to act as a constraint on growth as the survival rate of new exported products stood at around 39.9 percent during 2000-2009. However, the issue of poor coordination could be a constraint as confirmed by substantial evidence observed across sub-sectors of the economy. Despite skill mismatch in the labour market and low level of education of the workforce resulting in low returns to education, low human capital does not act as a constraint on growth at aggregate level because labour is abundant. On the infrastructure side, there is also evidence that inadequate road transport and high cost of electricity are likely constraints on growth.

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-II-

China's Sectoral Composition of Economic Growth, Poverty Reduction, and Inequality: Developmental and Policy Implications for Cambodia

by Roth Vathana¹

ABSTRACT

As far as China's development experiences are concerned, Cambodia can learn from China's dual focus on poverty reduction: growth-oriented poverty reduction policies with programmes that include mechanisms to ensure income redistribution and pro-poor inclusive economic growth. On the economic front, Cambodia can draw lessons in the areas of trade liberalisation; industrialisation focused on diversification, business competitiveness and urban-rural linkages; agriculture and rural development; and the role of the state in directing and coordinating the development agenda. In terms of sectoral composition of economic growth and poverty reduction and among the four pillars of the economy – garments, tourism, construction and agriculture, agricultural development remains crucial to poverty alleviation. Thus, in the short and medium terms, removing constraints to agriculture growth for a more sustainable, productive and pro-poor growth-oriented rural development should be top priority for the Cambodian government. A poverty targeting programme is an option Cambodia could further explore where poverty reduction and income redistribution are concerned.

1. INTRODUCTION

Alongside its rapid GDP growth rate, averaging 8 percent per annum between 1994-2009, Cambodia has achieved a modest² reduction in poverty rate from approximately 50 percent in 1997 to 30 percent in 2007 (World Bank 2009). This accomplishment was reinforced by improvements in increased consumption per capita and a wide range of other social indicators related to service delivery and human development. Income per capita of an average Cambodian grew at an annual rate of

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2 Cambodia's achievement in poverty reduction is modest because the growth elasticity of poverty is small, indicating that the increase in average income of the bottom quintile has been slower than the increase in overall average income of the economy.

5.3 percent from USD209 in 1993 to USD550 in 2010 (World Bank 2011a). In the latest Human Development Report, Cambodia is ranked 124 out of 169 countries with Human Development Index of 0.494, a one-point increase since 2005 (UNDP 2010).

Cambodia has also made progress in the course of attaining the Cambodia Millennium Development Goals (CMDGs). Considerable improvement has been made in reducing child mortality (CMDG4) and combating HIV/AIDS, malaria and other diseases (CMDG6), where key indicators are on track. CMDG9 (De-mining, ERW and Victim Assistance) is moderately off-track, though there is a framework to achieve target. CMDG2 (Primary Education) and CMDG3 (Gender Equality) demand attention since some of the indicators have fallen behind, while CMDG1 (Poverty and Hunger), CMDG5 (Maternal Health) and CMDG7 (Environmental Sustainability) are off-track and need robust interventions and strong commitment.

Nonetheless, the development agenda is far from complete. Cambodia needs to focus on achieving existing targets and also dealing with new emerging issues such as inflation, business competitiveness, lack of productive job opportunities for all, faltering social safety nets and inequality. One concern that has surfaced is the sizeable variation in the contribution of economic growth to poverty reduction – poverty elasticity of economic growth. Although the poverty headcount index decreased from 34.8 percent in 2004 to 30.1 percent in 2007, overall inequality measured by the Gini coefficient went up from 0.396 (39.6 percent) to 0.431 (43.1 percent) (World Bank 2009).

This study aims to: (1) analyse the current economic composition – agriculture, industry and services – in China and Cambodia; (2) assess the appropriateness for Cambodia of learning from pro-poor policies that China adopted in its political and economic reforms to assist income (re)distribution to urban and rural households; and (3) examine possible developmental and policy implications that Cambodia can draw upon against its existing economic endowments and sectoral composition. The study is timely in that reform in Cambodia has increasingly intensified in almost every sector of the economy from industry to agriculture and services. There is also a growing interest or partnerships between South-South countries to exchange development experiences and expertise.

The rest of the paper is structured as follows: Section 2 examines lessons Cambodia can learn from China to enhance its economic growth and poverty reduction efforts. Section 3 discusses constraints Cambodia might face in replicating China's economic growth and poverty reduction models. Section 4 concludes the paper.

2. LEARNING FROM CHINA'S EXPERIENCE OF POVERTY REDUCTION AND INCLUSIVE GROWTH

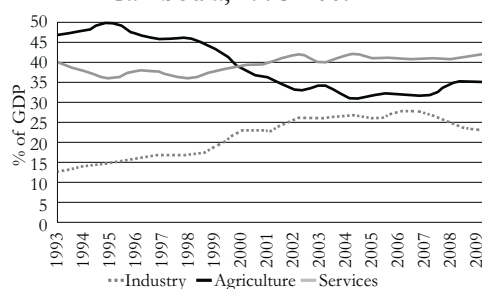
2.1 Overview of Economic Structures of Cambodia and China

Recognising the need to address poverty reduction and enhance rural development, the Cambodian government has made these objectives top priority since its first mandate. Various policies and strategic frameworks emphasise the importance of achieving broad-based economic growth as a prerequisite to poverty alleviation, and specific supplementary government interventions aim directly at tackling root causes of poverty.

Cambodia's economy grew at an average of 8 percent per year for the last ten years. Between 1993 and 2009, industry was the fastest growing sector with an average annual growth rate of 13 percent, compared to 8 percent for services and 5 percent for agriculture. Industry's share of GDP (21 percent), however, is low compared to agriculture (39 percent) and services (40 percent). Manufacturing has been the main driver of growth. Between 2003 and 2007 manufacturing contributed on average 19 percent of GDP, within which textiles, clothing and footwear contributed 14.3 percent and food, beverages and tobacco 2.4 percent. Construction is the second largest industrial contributor to GDP, accounting on average for 6.1 percent (NIS 2008).

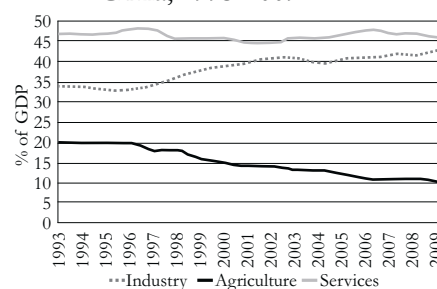
Agriculture still contributes a large percentage to GDP and is the primary source of rural employment given that about 80 percent of the population were living in rural areas in 2008. However, the sector has been underdeveloped; fixed capital investment is limited, and the use of traditional production techniques is common.

Figure 1: Sectoral Share of GDP in Cambodia, 1993-2009



Source: World Bank 2011a

Figure 2: Sectoral Share of GDP in China, 1993-2009



Although industry has started to employ more workers, agriculture remains vital to employment. From 1993 to 2008, agriculture employed on average 70.3 percent of the total employed labour force per year compared to 6.5 percent in industry and 23.1 percent in other sectors such as services. The annual growth of agriculture employment continues to be positive, amounting to 3 percent compared to 14.4 percent in industry and 9.6 percent in other sectors. Absorption of the rural labour force into industrial work has been low given the narrowly based industrial structure focusing mainly on garments and textiles.

One of the poorest countries in the world in the 1950s, China has changed its status remarkably to being the world's second largest economy with GDP of approximately USD4.9 trillion in 2009, and is home to 20 percent of the world's population (World Bank 2011a; Maddison 2010). In the eyes of many, China is a success story in terms of its economic and, to a lesser extent, political reform – which initially took place in the early 1980s – with major improvements in the living standard of millions of Chinese people for the last three decades. With an impressive 10 percent annual growth rate, China has been able to lift millions of its citizens of abject poverty, reducing poverty incidence from about 60 percent at the onset of reform to 7 percent in 2007 (Dollar 2008). From 1978 to 1995, over 200 million Chinese moved out of poverty (Yao 2000). Average incomes in China have been growing at an annual rate of 14 percent from 1990 to 2009, with an average annual income growth of 14 percent in urban and 12 percent in rural areas (China's NBS 2010).

2.2 Some Combined Determinants of Growth-oriented Poverty Reduction

2.2.1 Trade Liberalisation

One of the key features of post-reform has been to open China to the world by expanding trade and encouraging more foreign investment (Winter *et al.* 2004). An increasing number of firms were allowed to directly import and export; by mid-1980 there were about 8000 companies in the country (Dollar 2007). A gradual decrease in overall tariff rate, which is relatively lower than that of some developing countries, is another feature of China's reform. According to a customs report, China has been able to reduce overall tariff rate from 15.6 percent in 2000 to 9.8 percent in 2009 when the average tariff rate on agricultural products was 15.2 percent and that on industrial goods was 8.9 percent. The reduction was partly attributable to phasing out tariff rates as a result of China's accession to World Trade Organisation (WTO) membership.

Low overall tariff rate might not be the sole factor to have boosted foreign trade. China is famed for its successful development of Special Economic Zones (SEZs) and port facilities together with improvements in import and export procedures. It has developed a number of SEZs, three of which – Shenzhen, Zhuhai and Shantou – are located in Guangdong, the southern coastal province. Foreign investors are motivated to set up factories in the SEZs where they are subject to certain preferential treatments such as import duty exemption on a wide range of production equipment and materials, a 15 percent instead of the normal 25 percent enterprise income tax, special allowances for overseas remittances, and simple and easy entry and exit procedures. China has also constantly reformed its doing business regime by simplifying procedures in a number of critical areas such as paying taxes, trading across border, getting credit, enforcing contracts, dealing with construction permits, and closing business. While required documents and time to export and import are comparable, China charges approximately USD500 for export containers and USD545 for import containers, whereas Cambodia charges USD732 and USD872, respectively (World Bank 2010a).

To date, in principle, Cambodia's trade regime is as open and liberated as China's. However, the government should have been stronger and more committed to

improving port facilities and simplifying trade procedures thereby motivating importers and exporters which would have expedited the process. Doing business in Cambodia is still complicated, lengthy and costly in terms of trade-related procedures compared to China and other neighbouring countries except Laos (World Bank 2010a). Cambodia's membership of ASEAN and WTO pressures further reform in trade regime to be consistent and standardised with the organisations' rules and regulations and especially to be competitive. In response, Cambodia has attempted to reform trade procedures by simplifying systems and cutting required documents and costs, yet they remain relatively high. The reform does not necessarily involve heavy policy design but it does require the restructuring of organisation with clear and effective division of labour and responsibility.

2.2.2 Industrialisation

Three lessons that Cambodia could further explore from China's industrialisation are: (1) industrial diversification, (2) competitiveness and (3) capacity of urban areas to absorb rural workforce.

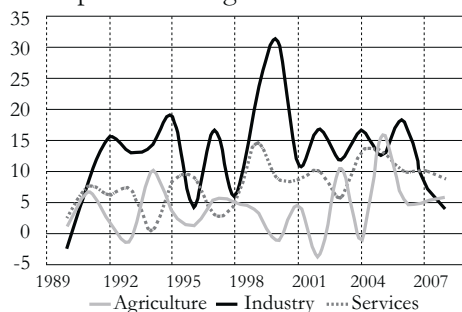
Industrial Diversification

From a historical perspective, Cambodia experienced robust industrial growth in the 1960s when a variety of factories manufactured diverse products from nails to furniture. Industrial activities declined in the 1970s and completely stopped during the Khmer Rouge regime (1975-1979) resuming with limited capacity in the early 1980s. In fact, excluding the garment industry, Cambodia's industrialisation was more developed in the 1960s and 1980s.

To date, most of the industrial firms in Cambodia involve light manufacturing and are narrowly based, depending mainly on garments and construction which generate modest value-added to GDP and are extremely vulnerable to external shocks. Although the garment industry has largely contributed to manufacturing growth and the development goal of labour-intensive industries, this sub-sector has operated on preferential treatments (Most Favoured Nation and General System of Preference) granted by the US and some European countries. In addition, the sector has been and will be facing strong competition from garment-producing countries such as China, Bangladesh, Vietnam and India. The lack of diversification is also reflected in the fluctuating annual growth of industrial outputs (Figure 3).

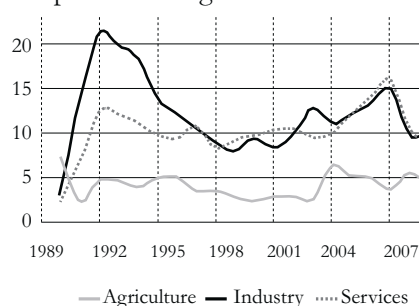
One of the features in China's industry has been sub-sector diversification. Although garments, textiles and food processing have played a significant role in manufacturing growth, sub-sectors such as pharmaceuticals, electronic appliances, and electrical machinery and equipment have grown in size, capacity and competitiveness, allowing China to create a strong and robust foundation for further industrialisation. Although Cambodia sees this as a lesson learnt, moving to heavy industry like machinery and electronics demands long-term and committed effort – in improving infrastructure, technical and managerial capacity of workers and firms, and investment in quality technical/vocational training and education – of all players in the sector. This is precisely what Cambodia has lacked.

Figure 3: Growth of Output in Cambodia, annual percent change 1990-2008



Source: ADB 2010

Figure 4: Growth of Output in China, annual percent change 1990-2009



Industrial Competitiveness

One of the main reasons that China can develop a vibrant industrial structure is its conducive business climate and relatively low production costs resulting from quality and reliable infrastructure such as electricity, roads, bridges, railway, government-related procedures and cheap and capable labour force. Albeit needing further improvements in certain aspects, owing to government efforts to simplify business-related procedures, China ranked 79 out of 183 countries in the World Bank's (2009) ease of doing business study. For instance, it takes 14 days and costs 4.5 percent of per capita income to start a business in China. On the legal side, China ranked 15 in enforcing contracts, and costs are only 11.1 percent of the claim compared to 102.7 percent in Cambodia, 28.5 percent in Vietnam and 27.5 percent in Malaysia. In addition, the development and condition of infrastructure in China are good for trade and commerce (World Bank 2010a).

Doing business in Cambodia is still complicated and costly. Companies are required to go through lengthy and sometimes unnecessary registration and legal processes. Cambodia is ranked 147 out of 183 economies in ease of doing business compared to China (79), Thailand (19), Vietnam (78) and Malaysia (21). Companies in Cambodia must complete nine required documents within 85 days and it costs 128.3 percent of income per capita to start a business. Companies in Vietnam take only half the number of days and it costs 12.1 percent of income per capita to get the same business set up and running (World Bank 2010a).

The legal process in Cambodia is still insufficient when dealing with commercial issues due largely to the difficulty in enforcing business contracts. For instance, companies need 401 days to enforce any contract and pay 102.7 percent of total claims compared to 295 days and 28.5 percent of claims in Vietnam. When it comes to protecting investors, on a scale of 0 to 10 on the strength of investor protection index (0 being worst protected), Cambodia scores 5.3 (World Bank 2010a). There is no specialised court to resolve commercial conflicts.

Informal ways of doing business in Cambodia are still common: 61.2 percent of companies in Cambodia responded that they need to pay informal fees to public

officials to get certain things done compared to Vietnam (52.5 percent) and Laos (40 percent); 60 percent of firms reported giving gifts when meeting tax officials compared to China (39 percent), Vietnam (34 percent) and Laos (26 percent). The issue is more worrisome with regard to securing government contracts given that 77 percent of firms responded that they give gifts while only 27 percent in China reported doing so. This has direct implications for the growth of firms in terms of cost competitiveness, and willingness and motivation in business investment (World Bank 2007).

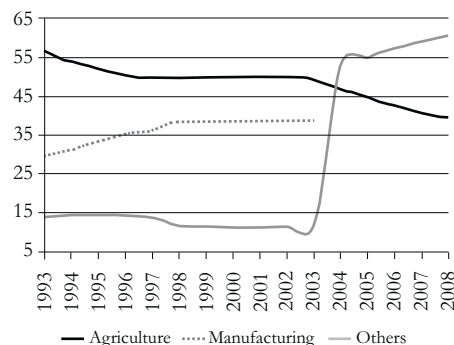
Absorption Capacity

Employment shares by sector—agriculture, industry and services—in both countries looked alike five or six years after reform. However, for the last five years, particularly as reform got into full swing, the similarity started to wane in that industry in China had a bigger employment share compared to Cambodia. As shown in Figure 5, from 1993 to 2002 China's agriculture employed on average 53 percent per year of the total employed labour force compared to only 13 percent in industry and 34.3 percent in services. However, from 2003 to 2009, industrial employment started to rise and finally bypassed agricultural employment in 2004 where industry shared on average 51.3 percent compared to agriculture's 43.1 percent.

China's growth rate of labour employed in agriculture decreased at an annual rate of 1.4 percent whereas that of the industrial labour force increased by 9.5 percent between 1990 and 2009. This is also reflected in the gradual 1.4 percent annual decrease in China's rural population from 73 percent of the total population in 1990 to 56 percent in 2009, compared to the 0.6 percent annual decline in Cambodia from 87 percent to 78 percent (World Bank 2011a). This shows the increasing share of urban population and a pattern where more and more rural workers migrate to take up urban industrial jobs where benefit per worker is relatively higher than in agriculture. Nonetheless, the jump in industrial employment could be a contributing factor in rising income (wage) inequality between urban and rural households. Although per capita annual income of urban and rural households grew at a comparable annual rate between 1990 and 2009, the discrepancy was significant, averaging about 3556.6 yuan from 1993-2003 and 9097.6 yuan from 2004-2009.

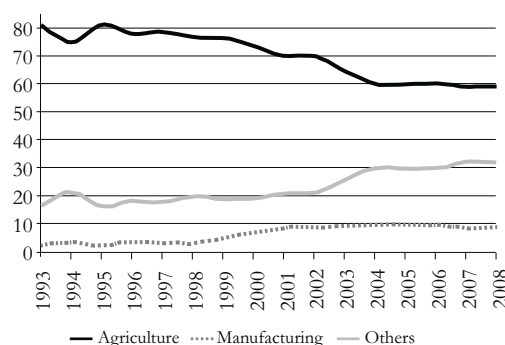
In contrast, one of the fundamental challenges for Cambodia is to increase productivity and ensure that productivity gains create good working conditions and high wages for workers. Overall labour productivity increased from KHR2.4 million (USD631) in 1998 to KHR4.2 million (USD1030) in 2008, growing at 5.7 percent per year for riel value or 4.9 percent for US dollar value. Over the period, highest productivity growth was in mining and quarrying (19.1 percent), followed by finance and other services (8.6 percent), transportation and communication (5.8 percent), and construction (3.7 percent). Average productivity growth in manufacturing was relatively low at 3.1 percent while that in agriculture was 1.7 percent. Cambodia's average value-added per person employed is also low compared to other ASEAN member countries (ILO 2010).

Figure 5: Employment Share by Sector in China 1993-2008



Source: ADB 2010

Figure 6: Employment Share by Sector in Cambodia 1993-2008



The extent to which the industrial sector can absorb rural surplus labour, mainly from agriculture, is largely dependent on how diverse the sector is. Because China's industry is quite diversified, urban and rural labourers have more options to consider. Industry was the fastest growing sector in Cambodia from 1993 to 2009, yet sub-sector diversification is lagging. Manufacturing, from 2003-2007, has been the main driver of industrial as well as economic growth contributing on average 19.5 percent per year to GDP, within which garments contributed the most at 14.3 percent.

From 1995 to 2008, garments employed on average 202,955 persons annually; majority of workers were female, low educated and from rural areas. This sub-sector is vulnerable to external shocks as almost all garment products are exported mainly to US and European markets. Natsuda *et al.* (2009) argue that the garment sector is still uncompetitive and vulnerable due largely to insufficient infrastructure, labour unrest and corruption. The number of internal migrant workers increased slightly to 2.5 million in 2008 from 2.3 million a decade before. Although migrant workers who found work in industry increased to 13.6 percent in 2008 from 7.3 percent in 1998, the majority (51.5 percent) still ended up working in the primary sector (ILO 2010). This reflects the narrow base of the industrial sector and its low capacity in creating new jobs.

2.2.3 Agriculture and Rural Development

From 1990 to 2009, China's GDP grew at an annual rate of 10 percent of which primary industry contributed about 0.7 percentage points per annum compared to 5.8 from secondary industry and 3.4 from tertiary industry. Agriculture's average output growth rate was relatively low at 4.2 percent per year; the figures were 12.1 percent for industry and 10.2 percent for services. This was also evident in the modest growth rate of the total wage of the workforce employed in primary industry, growing at 6.9 percent per year compared to manufacturing (13.8 percent), mining (17.8 percent), construction (16.6 percent), and transport and storage, post and telecommunication (12.0 percent) between 2003 and 2009 (China's NBS 2010). Even with its low value-added to GDP, the agriculture sector remains crucial for poverty reduction in China since most of the poverty reduction targeting efforts have been concentrated in rural

areas where agriculture is the main occupation for majority of the poor and vulnerable households. The benefits of agriculture as an engine for poverty alleviation in general or China in particular have been well documented (Montalvo & Ravallion 2010; Ravallion & Chen 2007; Ravallion 2009; Tiffin & Irz 2006).

The agriculture reform agenda in Cambodia resembles that of China. Cambodia also moved from a collective system of resources and materials to an individualistic system where the family has full control over resources and investment decisions. Agriculture in Cambodia still contributes a large percentage to GDP and is the primary source of rural employment. However, the sector has been underdeveloped with limited fixed capital investment and the use of traditional techniques is common (Guimbert 2010). Three messages are worth considering when viewing Cambodia's agriculture and rural development against China's success in the development of its primary sector (mainly agriculture): continuing government expenditure for agriculture, capital-intensive investment, and linkage between industrial and service sectors through labour absorption and value chain.

Since the reform, China's government expenditure for agriculture has remained relatively high. From 1978 to 1989, agricultural expenditure grew at 5.3 percent a year and made up about 10.7 percent of total government expenditure. The expenditure growth rate was even higher at 14.3 percent a year from 1990 to 2003; however, the percentage share to the total outlay shrunk modestly to 9 percent. Spending was directed towards a wide range of agriculture-related activities such as supporting agriculture production, capital construction, science and technology promotion and rural relief funds. This positive trend of expenditure for agriculture, forestry and water conservation continues, accounting for 8.8 percent of total national expenditure in 2009 compared to 7.3 percent a year earlier. It also ranks fourth after general public services (12.0 percent), education (13.7 percent), and social safety net and employment effort (10.0 percent) (China's NBS 2010).

Attempting to improve productivity in the sector, China is moving from labour-intensive and family-based agriculture with traditional techniques to one that is capital-based and commercially-oriented. This can be seen in the continued increase in agricultural capital formation and output growth since 1978. Agricultural land is about 58 percent of the total land area; agricultural machinery in terms of the number of tractors per 100 square kilometres of arable land grew at 7.8 percent a year between 1993 and 2007, from 66.6 tractors in 1990 to 277.1 tractors in 2008 (Table 1). The movement is also evident by looking at agricultural employment and output growth. Although the number employed in agriculture decreased at an annual rate of 1.4 percent from 1993 to 2009, this did not necessarily translate into low output growth; rather, agricultural production rose by 4.0 percent per year over the same period (China's NBS 2010).

Table 1: Crop Yields, Technology Usage and Infrastructure in Cambodia and the Region

	Cambodia	China	Vietnam	Laos	Thailand	Indonesia	Philippines	Myanmar
Cereal yields (kg/ha)								
1990	1362	4323	3073	2268	2009	3800	2065	2762
2009	2947	5460	5075	3808	2954	4813	3229	3585
Modern technology								
Tractor (per ha)								
1990	3.3	66.6	47.0	...	33.0	2.2	65.2	13.6
2008	11.8	277.1	....	...	...	...	...	10.9
Fertiliser (kg/ha, 2008)	22.7	468.0	286.6	...	130.9	189.1	131.2	3.3
Infrastructure								
Paved roads (% of total road, 2000-08)	6.3	53.5	47.6	13.5	98.5	59.1	9.9	11.9
Mobile phone subscriptions (per 100 people, 2009)	38	56	101	51	123	69	81	1
Electric power consumption (kWh per capita, 2008)	113	2455	799	...	2079	591	588	97

Source: World Bank 2011b

In contrast, Cambodia's government expenditure for economic services such as agriculture, industry and services has been low, constituting on average 8.6 percent of total expenditure from 1994 to 2009; defence had 34.8 percent while general public services were allocated 15.4 percent. Agriculture had the third largest share of economic services expenditure at an average of 22.7 percent, compared to transportation and communication (33.8 percent) and industry (5.2 percent). However, progress in terms of investment, capital formation, agricultural techniques, and research and development within the sector has been slow (ADB 2010).

2.2.4 The Role of State

A body of work on the role of the state has highlighted the economic distortions – mainly insufficient tax revenue collection, thereby reducing incentives of those controlling the state and lowering investment in public goods – resulting from a “weak state” (Acemoglu 2005; Evans 2010; Besley & Persson 2010; Mauro 1995). Evans (2010) contends that two underlying roles that a 21st century government should ensure are (1) capacity to provide basic public goods such as education, health services and infrastructure (road, bridge, school) and (2) strong and able

institutions for facilitation and coordination work. There is little doubt regarding the role of government, but the question here is where the line of responsibility between the state and non-state actors should be drawn.

China's development experiences and reform are ones that Cambodia can further examine as heavy involvement of the Chinese government in the development process has contributed to the country's impressive growth for the last three decades. In other words, the Chinese government has been at the forefront, leading and directing development, putting in place necessary policies and strategies, ensuring that private sector players benefit from their investments, and allocating economic resources where these might not be efficient and equitable in doing so.

The Chinese government has performed quite well in terms of leadership, tax collection, policy and strategy design, provision of public goods (education, health services and infrastructure), and facilitation and coordination of market resources allocation. From 1980 to 2009, the government's tax and non-tax revenue grew on average at a rate of 16.6 percent a year while expenditure growth accounted for 17.0 percent. The growth rate of budget deficits has been about 0.4 percent a year, which is largely favourable for macroeconomic stability (China's NBS 2010). During 1990-2009, government expenditure share to GDP averaged 14.7 percent (current market prices) and was allocated to a wide range of economic services such as economic construction, social, cultural and educational development, national defence and administrative expenses. Since reform, expenses on economic construction and social, cultural and educational development have topped the list accounting for on average 44.7 percent and 24.0 percent per year of total government expenditure, respectively, compared to defence (9.9 percent) and administration (12.7 percent).

In contrast, the size of public expenditure in Cambodia is small accounting on average for about 6.6 percent per annum to GDP (current market prices) compared to 85.5 percent of private consumption. This shows that private consumption has been strong and contributed significantly to economic growth; however, private investment and public consumption have been weak. Low government expenditure partly reflects the lack of both government ability and efficient mechanism to collect and mobilise revenue. There is also a large informal sector that has yet to be formalised (Guimbert 2010: 6).

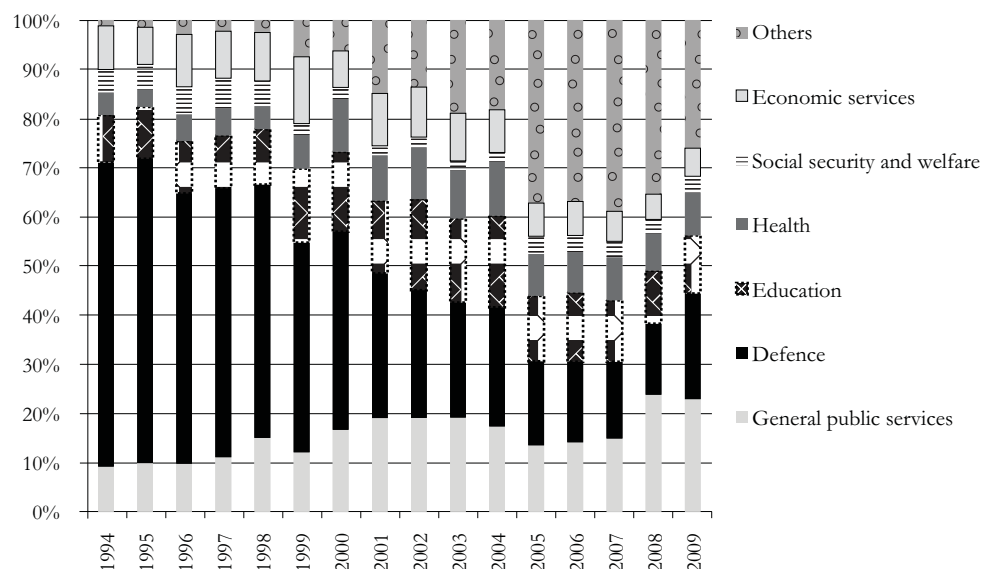
As shown in Figure 7, between 1994 and 2009 a substantial amount of government money was spent on defence (34.8 percent), general public services (15.4 percent) and government agencies and other contingencies (16.5 percent) compared to 13.5 percent on education, 7.7 percent on health, 8.6 percent on economic services and 3.5 percent on social security and welfare. The current border conflict with Thailand will further increase the government's defence budget to cover military expenses which means even less money for social and economic development activities. Corruption remains an important issue demanding immediate and serious solutions. Despite its political practice, socialist with one party, China has made considerable progress on a number of governance indicators such as

control of corruption, rule of law, and regulatory quality compared with Cambodia. For instance, in 2009 control of corruption in China was rated 36.2 whereas in Cambodia it was rated 8.6 (Figure 8).

2.3 LESSONS LEARNT: POVERTY REDUCTION STRATEGIES

Since the onset of reform, China has made serious and committed efforts to alleviate poverty particularly in counties where poor and vulnerable households reside. China's poverty reduction framework comprises four components: structural reforms to promote poverty relief (1978-1985), large-scale development-oriented poverty reduction (1986-1993), 8/7³ poverty reduction plans (1993-2000), and poverty reduction programmes (2000-10) (see, for example, Wu & Cheng 2010; China's government 2006). The first stage is self-explanatory because achieving high and sustained economic growth was prioritised through various structural and institutional reforms that started with a reform on land management and decision-making systems – “household responsibility” and “abolition of communes” – to raise agricultural outputs (Johnson 1990). During this first phase, there were no poverty reduction institutions to coordinate activities.

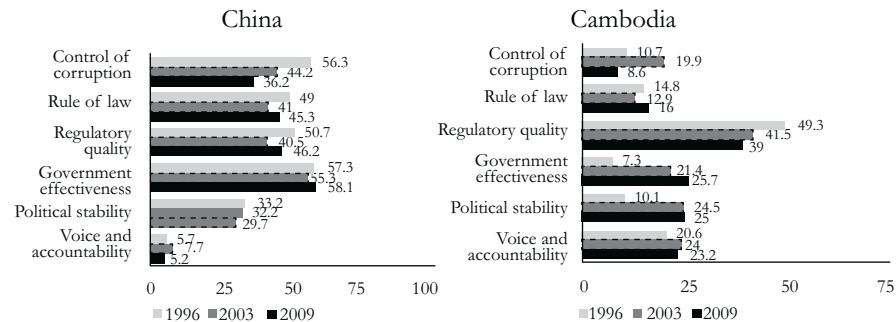
Figure 7: Cambodia's Government Expenditure by Function



Source: ADB 2010

3 The 8/7 Poverty Reduction Plan is a national plan established in 1994 to reduce the high poverty rate in China.: 8 means that 80 million rural people were living below the government-defined poverty line; 7 means the government aimed to help these 80 million move above the poverty line within seven years (1994-2000).

Figure 8: Governance Indicators in China and Cambodia, Percentile Rank (0-100)



Source: World Bank 2010b

Note: Six percentile ranks are used in the classification: 0-10th percentile, 10th-25th percentile, 25th-50th percentile, 50th-75th percentile, 75th-90th percentile, and 90th-100th percentile

Established in 1986, the State Council Economic Development in Poor Areas Leading Group changed its name in 2003 to the State Council Leading Group of Poverty Alleviation and Development, a body under the State Council. The group is responsible for coordinating surveys and research projects; drafting guidelines, policies and plans for economic development in poor areas; coordinating solutions for key issues in poverty-alleviation development; supervising poverty-alleviation work; and organising exchanges of experience.

China also uses the “level-by-level” responsibility system, with the provincial authority as the main player in its administrative leadership of the poverty reduction programmes. The provinces, autonomous regions and municipalities, especially areas with a large concentration of poverty, have put development-oriented poverty relief high on their agenda by formulating concrete local implementation plans in line with the state’s poverty reduction programmes. The principal leaders of the provinces, autonomous regions and municipalities are required to personally supervise and oversee the work and assume overall responsibility. The central government issues the relief funds to local authorities and delegates “the funds, powers, tasks and responsibilities”. All the funds assigned to the provinces are arranged and used by the people’s government at the provincial level (China’s government 2006).

Cambodia’s government can draw lessons from China’s poverty reduction experience by making the existing institution, currently CARD, a specialised national agency responsible for coordinating poverty reduction programmes with all relevant line ministries and donors to ensure there is no overlap and that coverage is expanded nationwide. CARD staff should be trained and re-trained for effective high quality implementation of poverty reduction programmes. Since rural poverty headcount still accounted for 34.7 percent and agriculture still shared 39 percent of GDP and 70.3 percent of total employment over the period 1993-2009 (see World Bank 2006; CDRI 2011), poverty reduction programmes could begin with small-scale rural enterprises (formal and informal) operated by local farmers given the low level of technology and management skills in poor areas. Financial support should be complemented by technical and managerial training (Wu & Cheng 2010).

Another lesson from China's poverty programme is the decentralised involvement of all levels of authorities with the province as the main actor in the planning process and resource allocation. With its decentralised mechanism, Cambodia should consider empowering and entrusting provincial authorities and the respective districts and communes to take on increasing tasks and responsibilities to formulate and implement local plans for poverty reduction with financial support from local and central government. Leaders of those bodies should be put in charge of overseeing and monitoring the progress and effectiveness of poverty reduction programmes.

3. DIFFERENCES AND CONSTRAINTS ON MODEL REPLICATION

Before any applicable lessons can be drawn for Cambodia from China's experiences in either economic growth or poverty reduction programmes, it should be emphasised that there are differences in development context, economic endowments and pre-conditions to reform between the two countries.

Human capital improvement remains an important issue for Cambodia. Government expenditure on education is relatively low, accounting on average for 13.5 percent per year compared to defence (34.8 percent) and general public services (15.4 percent). The level of education remains low with low rate of returns (Guimbert 2010). Although Cambodia has made considerable progress in achieving universal primary education, the net enrolment of which was 95 percent in 2009, the net enrolment rate in secondary schools stood at 34 percent and that in tertiary education was even lower (World Bank 2011b).

Cambodia can take advantage of its growing labour force, at an annual rate of 3.1 percent compared to 1.0 percent in China, particularly young people given that youth represent more than a quarter of the total labour force at 25.8 percent (ILO 2010). However, one of the prevailing issues is the mismatch of required skills (Guimbert 2010). Cambodia also lags behind in the field of research and development with only 0.05 percent of GDP spent on R&D compared to 1.4 percent in China. The number of researchers is very low with only 17 researchers per million people compared to 1071 in China (Table 2). Thus, improving general education should be one of the policy priorities, focusing more on preparing young Cambodians in secondary and tertiary education. Technical and vocational training could also be considered.

Cambodia also faces resource constraints due partly to insufficient revenue collection mechanism and weak institutional arrangement and governance. Resource allocation is still problematic. As pointed out, more financial resources have been spent on defence and general public services, the main item of which is the payroll, than on economic construction, education and health. In terms of poverty targeting, more needs to be done in improving both the institutional arrangement and capacity of staff who work with poverty reduction programmes. Coordination between line ministries and specialised institutions and coverage of programmes are still weak.

Table 2: Science and Technology

	Cambodia	China	Vietnam	Laos	Thailand	Indonesia	Philippines
Researcher in R&D (per million people) 2000-08	17	1071	115	16	311	205	81
Technician in R&D (per million people) 2000-08	13	...	...	...	160	...	10
Scientific and technical journal articles 2007	26	56806	283	12	1728	198	195
Expenditure for R&D (% of GDP) 2000-08	0.05	1.44	0.19	0.04	0.25	0.05	0.12
High technology exports							
USD million 2009	4	348295	1685	...	28655	5940	21531
% of manufactured exports 2009	0	31	5	...	26	13	66

Source: World Bank 2011b

Despite constraints and shortcomings, there are a number of strengths and opportunities Cambodia can utilise to improve the weaknesses. Cambodia has gone through quite aggressive reform from socialist to free market economy where rules and regulations have been enacted to assist the country in its development efforts. Various policy measures are in place to ensure that the country is on a sustainable path to economic growth and that income is redistributed in a more equitable way to reduce poverty and inequality. Cambodia is also well integrated into regional and global markets to take advantage of expanding markets, attracting FDI and learning new knowledge and technology. Cambodia has also achieved a sound macro-economy and political stability.

One of the driving factors for the rapid growth of Cambodia's economy is the exploitation of natural resources (Guimbert 2010). Recently, the discovery of off-shore oil and natural gas and particularly the expected revenue from production is a good opportunity for the country's economy if this revenue is managed effectively. This would provide the government more leverage to address weaknesses and more available resources to invest in infrastructure, education and health.

4. CONCLUSION AND POLICY IMPLICATIONS

China and Cambodia have undergone tremendous policy and institutional reforms in the efforts to gradually and sustainably grow their economies. Prior to its reform in 1978, China shared similar social, political and economic characteristics with other developing countries such as India, Bangladesh, Indonesia and the Philippines – large population, low per capita income, scarce resources, low incentives, and inefficient resource allocation (Dollar 2007; Lin 1994). However, China stood out from the group when it started the reform process, steadily growing faster than those countries.

Despite contextual differences and economic endowments that have to be taken into account, Cambodia can look to China's development experiences in general and poverty reduction in particular in the areas of trade liberalisation and openness, industrialisation, agriculture and rural development, and the role of the state in "marketisation" rather than aggressive privatisation. Government-led institutions which have contributed significantly to poverty reduction efforts in China (i.e., through various projects and programmes to construct rural infrastructure, provide micro credit and build capacity of the poor to improve their income and livelihoods) have immediate implications for Cambodia to further strengthen its poverty reduction agency.

It is important that China and Cambodia continue to strengthen cooperation. With an increase in both official development assistance and foreign direct investment, China should provide more for Cambodia's poverty reduction initiatives and programmes through training staff and civil servants who work for poverty reduction institutions, collaborating in research aimed at providing further strategies and plans for poverty reduction, and exchange programmes for government officials, policy makers and researchers of both countries to mutually learn and share knowledge. The current expenditure of Chinese ODA on transportation and infrastructure should be continued and Chinese investors should expand their interests in agro-business. China should also consider transferring technological and managerial know-how to Cambodian counterparts through employing Cambodians at high and mid-level positions not just as rank and file employees.

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Section 2

NATURAL RESOURCES AND THE ENVIRONMENT

-III-

Trends in Cambodia's Agro-ecological Zones and Climate Change

by Ros Bansok, Nang Phirun and Chhim Chhun¹

1. INTRODUCTION

Cambodia's agricultural sub-sectors, particularly rice, have made remarkable progress in recent years in terms of production, which has significantly contributed to national food security and poverty alleviation. Other major crops (maize, cassava, soybeans, peanuts and rubber) have also become important sources of income and livelihood improvement. Due in part to this, overall poverty incidence had decreased to 30.1 percent in 2007 from 34.8 percent in 2004 (World Bank 2009: 27). Agriculture continues to be an important contributor to economic growth, employing just over 67 percent of the country's total labour force.

The rice cultivated area has expanded, from around 1.5 million ha in 1980 to 2.79 million ha in 2010 (MAFF 2011a). Rice production has increased from less than 2 million tonnes in 1980 to 8.25 million tonnes in 2010. Fertiliser use has gradually increased and modern farming equipment such as tractors, harvesters and threshers has been introduced, though traditional agricultural techniques and seeds are still widely used. Rice is mostly grown to meet domestic consumption and market demand. Annual growth in production is a result of the expansion in the cultivated area rather than improvement in productivity. Largely delineated by access to irrigation, dry season rice farming constitutes only about 14 percent of total rice cultivated area even though dry season yields are higher. Average rice yield in 2010 was 2.76 tonnes per ha in the wet season and 4.2 tonnes per ha in the dry season (MAFF 2011a).

After rice, fish is the second staple food with fish captures providing 75 percent of national dietary protein. However, the current degradation of wetlands and associated habitats compounded by effects of climate change, as well as hydrological changes due to developments such as hydropower dams, will likely challenge the sustainable management of fisheries resources and result in declining fish stocks. Forests are critical for regulating the environment, while forest resources are important for sustaining livelihoods though they no longer provide as many benefits as they used

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to due to deforestation. Expansion of agricultural land has gradually diminished forest areas, thus exacerbating pressure on forest ecosystems and local livelihoods. Climate change can aggravate this situation as deforestation and land use change can cause top-soil erosion, subsequently impacting on agricultural crop production.

Increasingly irregular rainfall, commonly associated with climate change, has adversely affected agricultural production. The rising frequency of drought and flood including flash floods over the last three decades has damaged hundreds of thousands of paddy fields. Water shortages have led to conflicts among farmers which have so far proved difficult to resolve (Nang *et al.* 2011: 37-39). Unpredictable changes in climatic conditions are detrimental to agricultural production, especially rice farming. Deforestation, drought, flood and cyclone damage human lives, assets and production.

This paper focuses on agricultural development and contemporary issues of climate change in Cambodia, drawing on information gathered from literature review, field observations and dialogues as well as two consultation workshops for technical and policy recommendations. It highlights important considerations for integration in national agricultural development efforts, including the potential effects of climate change which are addressed in the government's policy on national climate change adaptation.

2. RESEARCH OBJECTIVES AND APPROACHES

The core objectives of this study are:

- To aggregate information from in-depth literature review to reflect the magnitude of Cambodia's agricultural development efforts and implications for food security and poverty alleviation;
- To explore climate related issues and their potential consequences for the agricultural sector by looking at different agro-ecological zones. Importantly, information captured by this study could inform the choice of appropriate agricultural technology to mitigate the detrimental effects of natural shocks on agricultural activities.

Specifically, the study analyses and reflects on the current scope of agricultural development and its links to climate change. It intends to provide in-depth insights with a view to ensuring food security and poverty alleviation, and to inform policy-oriented adaptation strategies for agricultural development. To gain understanding of the situation in Cambodia's different agro-ecological zones, the study was divided into sub-themes: agriculture (focused on crops); fisheries, forestry and land use; and climate change and natural calamities. These sub-themes were expected to give rise to different sets of data that interact when aggregating information on the impacts of climate change and agricultural development. Fifteen study sites were selected with a view to covering the four main agro-ecological zones, namely the Tonle Sap Plain, Mekong Plain, Plateau/Mountains and the Coastal Area (Table 1).

Table 1: Study Sites by Agro-ecological Zone

Agro-ecological zone		Study site			Research topic/area
Zone	FGDs	Province	District	Commune	
Coastal Area	2	Sihanoukville Koh Kong	Prey Nop Sre Ambel	Samaki Chi Khor Krom	Fisheries, agriculture, saltwater intrusion, land use, rainfall, natural shocks, and livelihood related issues, credit, and infrastructure.
Tonle Sap Plain	6	K.Chhnang Kam. Thom Pursat Pursat Battambang Siem Reap	Teuk Phos Santuk Sampov Meas Bakan Ba-Nan Soth Nikum	Toul Khpus Kra Yea Lolok Sar Svay Daunkeo Takream Kampong Khleang	Agriculture, fisheries, forestry, land use, irrigation, climate related issues, livelihoods, credit and infrastructure forestry.
Mekong Plain	4	Prey Veng Kam.Cham Takeo Kratie	Peam Ror Chhlong Stung Trang Kirivong	Peam Ror O Mlou Phnom Den Kahn Chor	Agriculture, irrigation, fisheries, climate related issues, market, credit, infrastructure and livelihood related issues.
Plateau/ Mountains	3	Stung Treng Ratanakiri Modulkiri	Sesan O'Chum Picheada	Sre Kor O'Chum Bu Chri	Agriculture, forestry, land use, climate related issues, market, credit, livelihoods and infrastructure.

Approaches and methods used entailed the collection of secondary data, field dialogues through 15 FGDs (one at each study site), and two consultation workshops with stakeholders at technical and policy-making level so as to assess the state of practical knowledge and learn from farmers' experiences in relation to climate change and agricultural development.

The research also aimed to provide concrete policy implications on the present state of Cambodia's agricultural technology to improve production and ensure national food security. To understand the state of agriculture and climate change in Cambodia, literature was comprehensively reviewed with a particular focus on policies that impinge on agriculture and climate change.

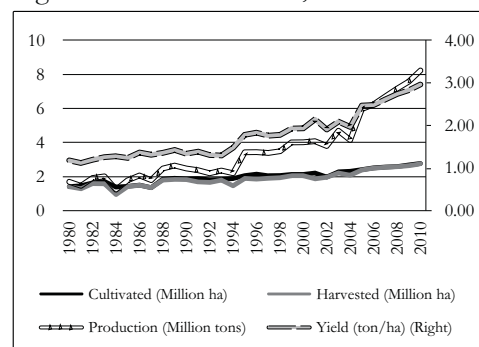
3. CURRENT AGRICULTURAL DEVELOPMENTS

Cambodia is an agrarian country where approximately 80 percent of the population have historically depended on agriculture, especially rice farming. Overall policies for agriculture aim at “assuring food security, increasing household income, generating job opportunities through improving productivity and agricultural diversification and trade, as well as protecting natural resources and environment for sustainable development” (MAFF 2011a: 9). Recognising that irrigation development is a significantly important input to help improve rice productivity, the government has recently renewed its efforts to promote water sector development. The major agricultural activities in the country are wet season rice farming, rubber plantation, cash crop (cassava, maize and soybean) production. The following discussion focuses on rice farming, other major crops including rubber, fertiliser use, fisheries and forest resources. Interaction with climate change is also covered to discuss key consequences for future recommendations and policy implications.

3.1 Rice

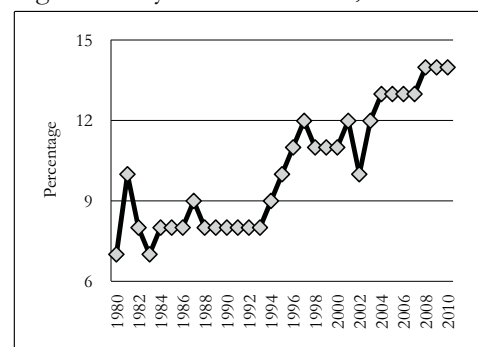
In 2010, approximately 2,795,892 ha were under rice cultivation (Figure 1) (MAFF 2011a). Rice cultivation, i.e. cultivated land, harvested area and production, has increased annually since 1980 (MAFF 2010a, 2011a) despite the series of floods in 1984, 1996, 2000 and 2001² and droughts in 1983, 1991, 1994, 1997, 1998 and 2004 that destroyed hundreds of thousands of hectares of paddy fields. However, the aggregated impacts of flood and drought, unpredictable changes in climatic conditions and other natural shocks could still have posed a significant constraint to annual rice production and adversely affected productivity.

Figure 1: Rice Cultivation, 1980-2010



Source: MAFF 2010a, 2011a; NIS 2008

Figure 2: Dry Rice Cultivation, 1980-2010



Source: MAFF 2010a, 2011a; NIS 2008

Lack of water during dry season rice farming is a significant constraint and has occasionally caused conflict among farmers (CDRI 2010a, 2010b, 2010c). Inadequate irrigation water allocation that coincides with drought has been a severe constraint to intensifying rice productivity (Figure 2). In addition, climate change impacts, for example, lower rainfall, may result in water shortages for farming which could push farmers to adopt seed varieties that consume less water. Presently, dry

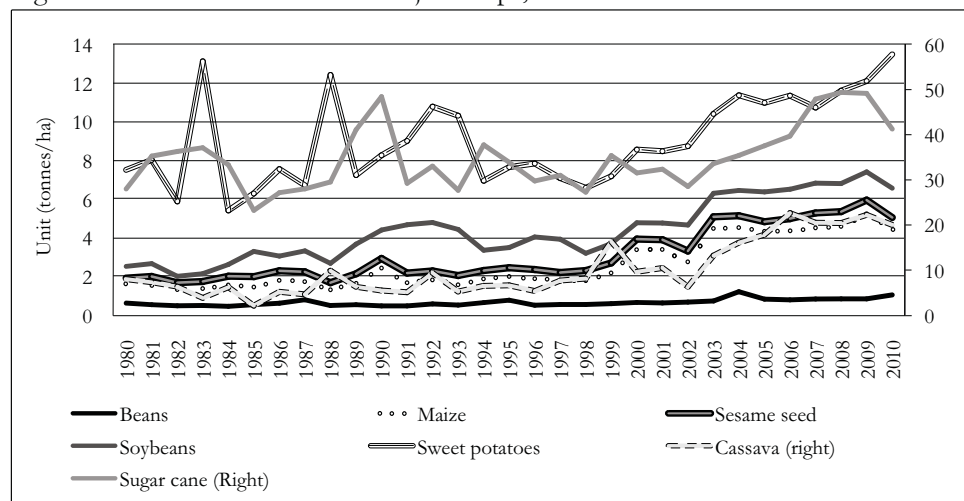
² Please see Figures 8 and 9 for the incidence of flood and drought.

season rice farming constitutes only about 14 percent of total rice cultivation even though the yields per ha are higher. Average rice yield in 2010 was 2.76 tonnes per ha in the wet season and 4.2 tonnes per ha in the dry season (MAFF 2011a). With farming being historically dependent on rainfall, the majority of lowland farmers grow just one crop a year.

3.2 Other Major Crops

The production of cash crops (cassava, maize, soybeans, beans, sweet potato and sugarcane) has overall slightly increased and depended on market demand. Cultivated areas of maize, soybeans and cassava significantly increased during the last decade but those of cassava and soybeans have declined in the last few years because of low market demand (Figure 3). Expansion of the cultivated area has resulted in increased production, but the most important factors that impact on production are market demand and natural shocks. Equally critical to production is weather reliability, particularly adequate rainfall distribution. Increasingly irregular rainfall along with other shocks (drought, flood and cyclone) adversely impact on crops (e.g., the flash flood from Typhoon Ketsana in 2009 severely damaged crops). Drought, flood and cyclone affect agricultural crops at different scales.

Figure 3: Annual Production of Major Crops, 1980-2010



Source: MAFF 2010a, 2011a; NIS 2008

All crops need to be linked to market demand as this is a critical driver of production. The production of a single crop can vary significantly depending on market demand, with prices of individual crops occasionally being volatile. This also means that when production of a particular crop increases, that of other crops may decrease. For example, the current expansion of cassava, i.e. farmers' shift to cassava mono-cropping, has limited the production of other crops. Because production and therefore supply of these crops is limited, prices can be pushed higher than usual. Crop prices are also often manipulated by middlemen during cultivation, though the actual price realised by farmers at harvest is lower. Efforts to promote crop diversification

should consider and prioritise food security above commercial bio-energy crops which can lead to mono-cropping.

3.3 Rubber Plantation

Most rubber plantations are in the northeast Plateau/Highland area, renowned for its fertile red soils. Majority of estates are managed by private companies or are family-scale enterprises. Most farmers intercrop saplings with cash crops (beans, cassava, maize) until the trees have matured for tapping (four years after planting).

The cultivated area has expanded rapidly over the last few years. New rubber plantations in 2010 stood at 143,028 ha, bringing the total cultivated area to 181,433 ha (MAFF 2011a). Cambodia's rubber export in 2010 was 42,000 tonnes, up from 31,184 tonnes in 2006 (MAFF 2011a). Rubber production is expected to double or even triple in the next few years as newly planted rubber trees mature for tapping. Although this is expected to create more employment, the availability and cost of labour are critical constraints.

A concern to also consider is that rubber plantations are mostly established by economic land concession (ELC) companies that are licensed to clear vast tracts of forest to grow agri-industrial crops (Ros *et al.* 2011: 67). Such large-scale land conversion contributes to landslide and top-soil erosion and previously fertile productive areas frequently degrade into barren wasteland. Literature suggests that deforestation or conversion of forest land increases carbon dioxide levels in the atmosphere thus contributing to global warming. In other words, avoiding deforestation could potentially reduce carbon dioxide (CO₂) emission³ (Greenpeace 2012).

3.4 Livestock

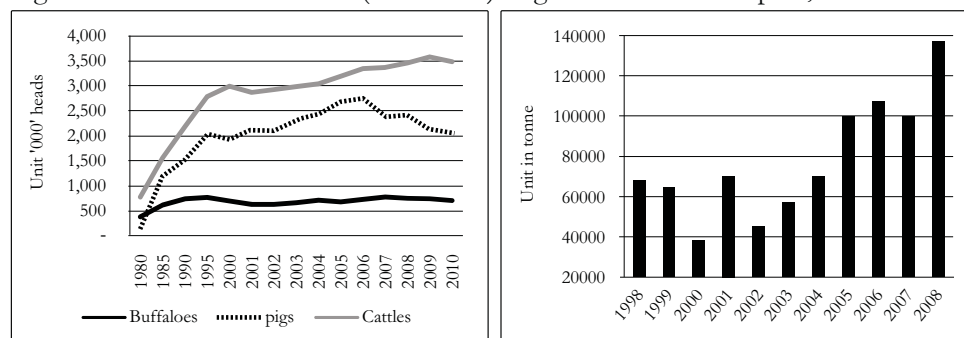
Most households benefit from livestock farming as a source of livelihood or savings. FGD participants said that farmers commonly sell cattle or buffalo to buy a two-wheel (hand) tractor. Cattle can fetch approximately USD250 to USD350 per head. Livestock and poultry (particularly chickens and ducks) are an important source of income. NIS (2008) and MAFF (2010a, 2011a) records indicate that approximately 15 million birds per year were produced from 2000 to 2008 (Figure 4). The outbreak of avian flu in 2004 led to a decline in poultry flocks which subsequently recovered and increased to approximately 29 million heads by 2009 before dropping to 21 million in 2010.

Major issues related to the livestock sub-sector include lack of disease/infection control, high rates of mortality and morbidity, poor nutrition, small animal size due to poor breeding, weak veterinary services and lack of animal vaccines and medicines (ADB 2008). Livestock production has the potential to raise farmers' income more than other on-farm activities, but shortage of animal feed is a binding constraint.

3 Wikipedia (2012), "Climate Change Mitigation", http://en.wikipedia.org/wiki/Climate_change_mitigation#Reforestation_and_avoided_deforestation (accessed 25 January 2012)

Fodder is especially limited in the dry season when farmers feed animals rice straw which has low nutritional value.

Figure 4: Livestock 1980-2010 ('000'heads) Figure 5: Fertiliser Import, 1998-2008



Source: MAFF 2010a, 2011a; NIS 2008

Source: MoE 2010

3.5 Fertiliser

Despite the significant increase in consumption, from 80,000 tonnes in 1995 to 245,854 tonnes in 2010, fertiliser use in Cambodia remains the lowest among its regional neighbours (ADB 2008). The ADB also notes that as of 2008, about 70 percent of fertiliser supply was imported from Vietnam and Thailand (Figure 5). FGDs reported that most farmers apply fertiliser in amounts ranging from one to seven 50 kg sacks per ha for rice farming, depending on what they can afford rather than the quality or type of fertiliser and soil and crop requirements. Poor farmers cannot afford to buy fertiliser. Because there is little technical training or knowledgeable advice on how to correctly use fertiliser, farmers mainly learn through verbal explanation from vendors rather than practical demonstration. Fertiliser is applied at inappropriate times and/or the wrong rates (ADB 2008). Paradoxically, fertiliser is overused during the dry season when the farm gate price of paddy is low, raising the question of the economics of fertiliser use. The Cambodia Agricultural Research and Development Institute has publicised recommendations on fertiliser application by agro-ecological region and soil type, but these are not followed due to lack of information and knowledge (ADB 2008).

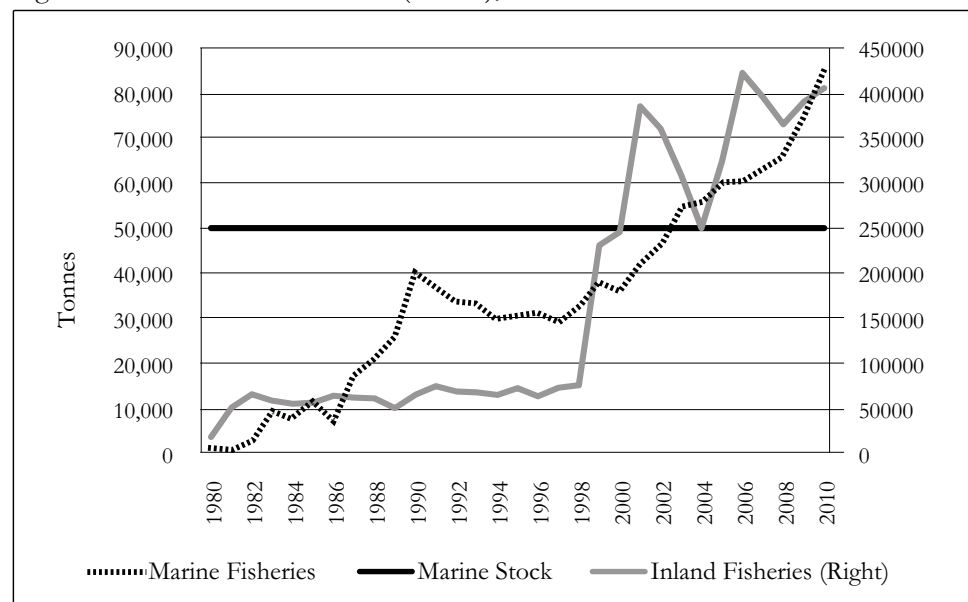
The expansion of agricultural land has led to greater use of fertilisers which if not applied properly cause problems with water quality when they runoff into rivers or percolate into groundwater. The runoff of fertilisers into lakes, streams, rivers and coastal areas is toxic to some aquatic creatures and causes accelerated eutrophication which changes and threatens the entire aquatic ecosystem. Such problems can be minimised by careful, timely and efficient application of fertiliser and by soil conservation strategies, which at the same time would immediately (i.e. within a crop cycle) contribute to improved productivity.

3.6 Fisheries

Fisheries are considered a critically significant concern because fish is the second staple food for Cambodia's population. Human activities along with the impacts of climate change could change the hydrological regime and lead to declining fish stocks. Current degradation of wetlands and associated habitats compounded by effects of climate change, especially irregular rainfall and hydrological changes, will likely impact on and challenge the sustainable management of fisheries resources. Conversion of flooded forest, degradation of wetlands and the destruction of vital coastal habitats, such as mangroves, sea-grass meadows and coral reefs, by irresponsible fishing are critical challenges to sustainable fisheries management. Additionally, the effects of climate change alongside the impacts of development efforts (such as hydropower) could cause changes in hydrological flow and water quality.

Cambodia's inland and coastal waters are rich in fishery resources. In 2006, the estimated catch of 360,000 tonnes totalled around USD252 million, corresponding to about 8.4 percent of GDP⁴ (MoE/Danida 2007: 37); in 2009 the estimated total catch stood at 465,000 tonnes (FiA 2009) (Figure 6).

Figure 6: Annual Fish Production (tonnes), 1980-2010



Source: FiA 2009, 2010

3.6.1 Coastal Fisheries

Annual catch has increased dramatically but catch per unit has declined due to population growth, i.e. the growing number of fishers, which puts pressure on natural resources and ecosystems, economic growth and fishing technology development (MoE/Danida 2005: 187). Marine fisheries stock has not been assessed since the mid-

4 E. Baran *et al.* (2009: 3) report that capture fisheries and aquaculture contribute about 10 percent to GDP.

1980s when Russian scientists estimated the stock in Cambodian waters to be 50,000 tonnes. Present catch, however, is greater than the fish stock's ability to naturally replenish and this might signal resource depletion. Data on catches could be used to assess fish stock and calculate the exact quantity of fish available so as to set quotas for annual captures. Aquaculture is also practised: cockle culture is found along the coastline of Koh Kong, while fish farming, e.g. cage culture of sea-bass and grouper, mainly takes place in Koh Kong and Sihanoukville.

3.6.2 Inland Fisheries

Inland fisheries play a more important role than marine fisheries in terms of livelihood subsistence. Providing about 75 percent of protein in the national diet, freshwater fish is the second staple food after rice. The Mekong River and its tributaries and the Tonle Sap area are considered the “food basket” of the country. The major part of the country forms the watershed of this unique water system which sustains a huge reserve of renewable resources (water, forestry, fisheries), particularly freshwater fisheries, and rice farming on the Tonle Sap Floodplain. As well as contributing extensively to the national economy, food security and livelihoods, the floodplain is acknowledged as being the world's richest wetland and most productive ecosystem (FiA 2009; Noeu 2001).

The Upper Mekong River and its upstream tributaries are restricted fishing grounds where large-scale fishing and commercial fishing lots are prohibited, and several parts of the Tonle Sap Lake are conserved as habitat reserves. The most lucrative fishing lots are located along the Lower Mekong River, Tonle Sap River and around the Tonle Sap Lake where more than 200,000 tonnes of fish are caught annually (Yeam & McKenney 2003). Commercial and large-scale fishing is only allowed from October to May, and is banned during the wet season.

3.7 Forest Resources

Forests⁵ hold vast potential and could offer long term benefits if managed effectively. Although they no longer provide as many benefits as they used to (largely due to deforestation and exclusion from ELC areas), forests remain important for sustaining the livelihoods of local communities, especially indigenous groups that are almost entirely dependent on forest resources and forestland (Schweithelm *et al.* 2006). The expansion of agricultural land – especially that associated with economic land concessions (ELCs) – has diminished forest land thus increasing pressure on ecosystems and livelihoods.

5 The Cambodian Millennium Development Goal (CMDG) of maintaining forest cover over a minimum of 60 percent of the country's total land area is addressed in the National Forest Policy as set in the National Strategic Development Plan (NSDP) 2006-10.

ELC companies are said to have generated income earning opportunities, but livelihoods dependent upon wage labour from an ELC developer are not better than those based on collecting non-timber forest products (NTFP)⁶. Villagers in the FGD in the study site in Kompong Thom province expressed deep concern over denied access to the forest. The forest area they used to rely on for resources has been granted to an ELC for rubber plantation company and they have been banned from entering it since 2010.

Table 2: Changes in Forest Cover, 1965-2010

Year	Area with forest cover		Area without forest cover	
	Ha	Percentage	Ha	Percentage
1965	13227100	73.04	4883400	26.96
1992/93	10859695	59.82	7293290	40.18
1996/97	10638209	58.60	7514776	41.40
2002	11104293	61.15	7056383	38.85
2005/06	10730781	59.09	7429893	40.91
2010	10339826	56.94	7820848	43.91

Source: FA 2010

The absence of forest cover could have many environmental impacts, for instance, top-soil erosion, landslide, lower water levels, higher temperatures, and changing ecological function including the degradation of wildlife habitats and biodiversity. Unless mitigation measures are put in place, combined with the effects of climate change or natural phenomena like drought, flood and cyclone, such adverse impacts could have devastating consequences for human life, crop production and development assets such as road infrastructure.

Expanding agricultural land could provide long term development and contribute to economic growth, and improved agricultural productivity and food security could contribute to protecting forest resources and/or improving forest dwellers' living conditions. Similarly, once ELCs are fully developed, they will be a significant driver of the agricultural sector's contribution to the national economy and create diversified job opportunities within the agricultural sector which could help reduce unemployment and poverty.

4. ACCESS TO CREDIT AND MARKET

4.1 Credit

A World Bank report identifies a gap in the rural credit market where lack of access to formal credit forces many farmers to rely on informal sources of financing at very high interest rates (Guimbert 2010). The crop production credit market is almost entirely controlled by middlemen, accounting for over one half of rural credit

6 Local communities have been vocal in expressing their concerns about forest resources, protesting against rubber plantation companies in Prey Long forest, Tum Ring commune, Sandan district, Kompong Thom province (Radio Free Asia, 3 March 2011).

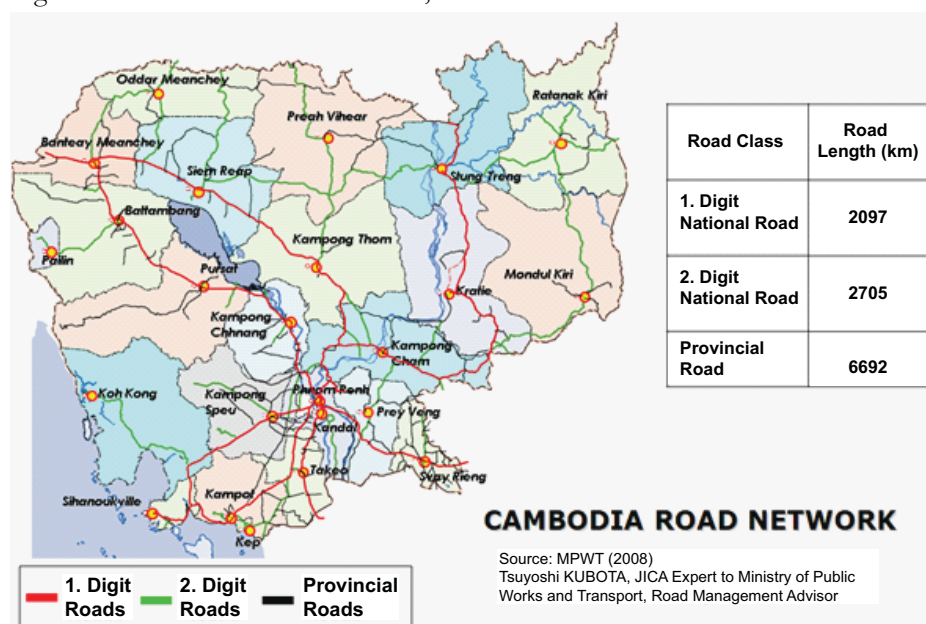
business in Cambodia (ADB 2008). The Association of Cambodian Local Economic Development Agency (ACLEDA) and Amret lend to rural households, but have to compete with informal creditors. Although Microfinance Institutions (MFIs) offer cheaper loans compared to middlemen who charge around 5 to 7 percent interest a month, they demand the deposit of collateral to secure the loan and repayment schedules are less flexible (UNDP 2007). FGDs confirmed that farmers often pay off their debts during harvest time, or as soon as they have sold their rice.

Several factors determine individual farmer's issues around credit and debt. Farmers often borrow inputs (seed, plough, water pump), rental for which is calculated in monetary value. They borrow money from middlemen, neighbours or relatives at interest rates fairly similar to or higher than those charged by MFIs and with flexible repayment terms - debts can be repaid in the short or long term. A low yield or crop damage due to natural shock, however, can quickly push farmers into a critical situation in terms of debt repayment and food shortage.

4.2 Infrastructure

The national highway system has been completed and the paving of secondary roads should be completed by 2011 (World Bank 2009). Field observations confirmed that most districts and villages are served by roads and linked to nearby markets. The better road network has improved villagers' access to markets and enables them to seek jobs elsewhere, particularly in the Highlands where they can sell their labour. Almost all district centres are located on national roads or provincial main roads. Districts located close to roads or border corridors with Thailand, Vietnam and Laos, benefit from import-export trading opportunities, particularly in agricultural goods (Figure 7).

Figure 7: Cambodia's Road Network, 2008



The deep seaport at Sihanoukville, about 226 km from Phnom Penh, gives access to sea lanes, linking Cambodia with international shipping hubs in the region. The railway has been outsourced under a 30 year exclusive government concession to Toll (Cambodia) Co., Ltd (trading as Toll Royal Railway⁷). Funded by ADB and AusAID, the USD140 million upgrading of the existing rail network and infrastructure includes two main routes: the 264 km Southern Line that connects Phnom Penh with the seaport in Sihanoukville via Kep and Kampot provinces, and the 386 km Northern Line from Phnom Penh to Poi Pet, passing through Kompong Speu, Kompong Chhnang, Pursat, Battambang and Banteay Mean Chey provinces before connecting with the railway in Thailand.

5. CLIMATE CONSTRAINTS TO THE AGRICULTURAL SECTOR

Climate change has become a significant global topic and adaptation strategies to cope with its potential impacts are increasingly being integrated into development policy. Understanding the factors that shape climate change and its impacts is critical given that agriculture makes an important contribution to the economies, food security and poverty alleviation of most developing countries. The government of Cambodia has prepared a strategy on climate change adaptation – the National Adaptation Programme of Action (NAPA), endorsed in 2006 – to address the immediate needs and concerns of those affected at grassroots level and guide the implementation of adaptation initiatives. Farmers have also recognised that the damage caused to their farming in recent years is associated with climate related issues (irregular rainfall, drought and flood). Local perception of these changes and market demand have driven farmers to use new early maturing (90-100 days) varieties of rice seed and diversify their farming.

Cambodia has frequently suffered catastrophic damage from natural disasters, notably drought, flood, storm and after-effects such as flash floods (e.g. cyclone Ketsana in 2009). The country has a monsoon climate, typically characterised by a wet season and a dry season. Average temperatures range from 27°C to 35°C, reaching 29°C to 38°C in March to May (Khun 2002). Average annual precipitation varies from 2000 to 3000 mm, with the highest of about 4000 mm in the coastal area (Khun 2002). The Strategy for Agriculture and Water highlights natural disasters as one of nine major factors that pose potential threat to Cambodia's agriculture and water sectors (SAW 2007: 6; TWGWA 2007).

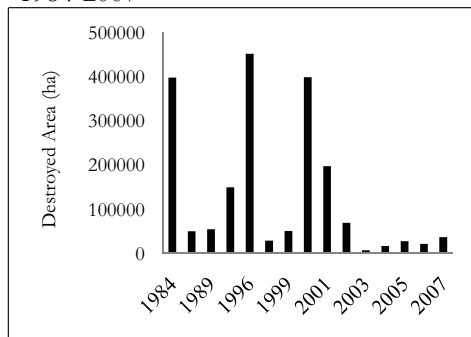
The Mekong River Commission has calculated that the average temperature in Cambodia increased by 0.8°C from 1960 to 2005 (MRC 2010). It is projected that the mean temperature will have risen by a further 0.3°C to 0.6°C by 2025 and another 1.4°C to 4.3°C by 2090. The expected warming will be more severe from December to June.

Flash floods often devastate crops, livestock, infrastructure, human lives and assets, reportedly causing losses of USD100 to 170 million each year (Figure 8) (RGC

7 <http://www.tollroyalrailway.com> (accessed 15 August 2011)

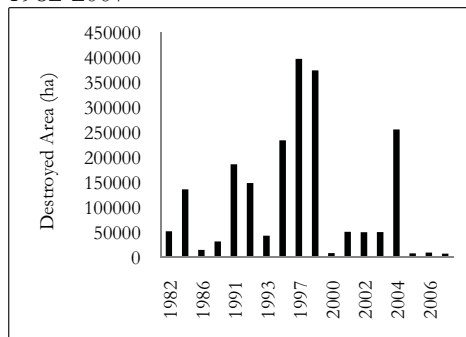
2009). For example, the estimated damage and loss caused by Typhoon Ketsana in 2009 was about USD132 million.

Figure 8: Paddy Damaged by Flood, 1984-2007



Source: MAFF 2010b

Figure 9: Paddy Damaged by Drought, 1982-2007



Source: MAFF 2010b

As illustrated in Figure 9, hundreds of thousands of hectares of paddy rice have been damaged by drought in the last two decades. In 1997, 36 percent of the population was living below the poverty line (RGC 2002b); however, poverty incidence gradually decreased to 34.8 percent in 2004 and 30.1 percent in 2007 (World Bank 2009: 27). The frequency of natural shocks i.e., drought, flood and cyclone, poses additional risk to the low productivity of the present agricultural rice system. This to some extent reflects the relationship between drought and poverty.

6. LEGAL FRAMEWORK AND POLICY ON CLIMATE CHANGE AND AGRICULTURE

Cambodia is a signatory of the UN Framework Convention on Climate Change (UNFCCC). The National Climate Change Committee, established in 2006, serves as a policy-making body and coordinates the development and implementation of policies to promote agricultural development and address climate change issues. Government strategies and legal frameworks include;

- National Adaptation Programme of Action (NAPA) to climate change
- National Forestry Policy, Forest Law and National Forest Programme
- Law on Natural Resources and Environmental Protection
- Socio-economic Development Plan (SEDP) I 1995-2000 and SEDP II 2001-05
- National Poverty Reduction Strategy (NPRS) 2003-05
- Rectangular Strategy (RS) Phase I (2004) and Phase II (2008)
- National Strategic Development Plan (NSDP) 2006-10 and NSDP Update 2010-13
- Agricultural Sector Strategic Development Plan 2006-10
- Strategy for Agriculture and Water (SAW) 2006-10 and SAW Update 2010-13
- Strategic Planning Framework for Fisheries 2009-2018.

7. DISCUSSION AND CONCLUSION

It is clear that climate change will, in many parts of the world, adversely affect socio-economic sectors including water resources, agriculture, forestry, fisheries, ecological systems and human settlements and health. Developing countries are the most vulnerable (Balgis *et al.* 2005⁸). UNDP (2011) has noted that climate change is real and by all accounts already being felt in Cambodia, and that climate change is caused by human activities that emit greenhouse gases such as burning fossil fuels, deforestation, and certain agricultural practices (NASA 2011)⁹.

As previously mentioned, increasingly irregular precipitation and the growing frequency of droughts, floods (including flash floods and cyclones) have affected development efforts in Cambodia over the last decades. The combination of the impacts from these shocks can result in a certain degree of effect to every effort, for example, agricultural crops and infrastructure developments.

- Increased rice production over the last few decades is largely due to expansion of the cultivated area rather than efforts to intensify and improve productivity which remains the lowest in the region. Limited agricultural technology, poor inputs application (seed variety, fertiliser, pesticide) and limited access to irrigation water are the major constraints to increasing productivity, while fertiliser application could be a catalyst to improve productivity within the crop cycle. It is widely acknowledged that better agricultural technology and irrigation infrastructure are essential not only for increased productivity but also to help mitigate increasingly unreliable rainfall distribution. These could push the majority of Cambodian farmers into a critical situation and erode efforts to alleviate poverty and ensure national food security.
- Climate change could affect every single sector. Agro-industrial crop production, particularly rubber, is expected to increase over the next few years. Signs of recovery in the fluctuating market price of cassava in the first half of 2011 led to increased land use change as the area of cassava plantation expanded, yet the amount of cassava cultivated remains dependent on market demand.
- Fisheries, both marine and freshwater, are vitally important to livelihoods and agricultural sector growth. However, the combined effects of over-fishing, climate change (precipitation) and hydrological change, including the depletion of nutrients in the Mekong River and the Tonle Sap Lake, will likely lead to declined fishery stocks and species extinction. This situation needs to be urgently addressed in order to secure the sustainability of fishery resources. That coastal and marine fishery stocks are being exploited beyond their regenerative capacity is another emerging concern. It is imperative to assess and monitor available fish stock and current fishing quotas. Employing modern offshore fishing technology and responsible fishing practices might help ease the current pressure on inshore fisheries.

8 Intergovernmental Panel on Climate Change

9 www.mongbay.com (accessed 24 January 2012)

- Forest resources are important for local livelihoods and the environment even though they no longer provide as many benefits as they used to. It may take a long time for depleted forests to recover, but remaining forest resources are still important for forest dwellers' subsistence. Inappropriate land use will not only exacerbate depletion of forest resources but will also adversely impact on the environment and local livelihoods, particularly those of indigenous people.
- Natural shocks such as flood, drought and cyclone occur more frequently and can have devastating consequences for agriculture, particularly rice farming. These events tend to hit the most vulnerable rural poor the hardest. Farmers should be encouraged to adapt their farming to better cope with the impacts of natural phenomena. Irregular rainfall is a significant constraint to improving rice productivity; supplementary water from irrigation schemes is essential to overcoming this obstacle.

In a general sense, every effort towards increasing agricultural production is significantly important for poverty alleviation and food security. However, development efforts must integrate environmentally sound practices in maximising productivity through intensifying farming rather than by extending the cultivated area. Fluctuating market prices push farmers to shift their cultivation. Irregular rainfall and associated shocks are increasingly damaging to agriculture, assets and human life. The combination of low rice productivity and price fluctuations may be a critical constraint to improving farmers' livelihoods. It is also expected that the development of more physical irrigation infrastructure will create more opportunities for intensive farming, for instance double- or triple rice-cropping.

8. RECOMMENDATIONS

The above discussion has highlighted certain considerations in terms of immediate or long term responses to climate change adaptations. The following recommendations can be drawn from the study findings;

- Proper land-use/cover management and conservation should be taken into account to ensure that agricultural development is environmentally friendly, conserves forest ecosystem services, and supports the value chain of the whole agriculture system in that region.
- Mechanisms to regularly monitor, evaluate and control agro-industrial development so as to maximise adaptation to climate change should be devised and implemented.
- Education and training on system of rice intensification and pest management should be provided to farmers so as to increase and diversify agricultural productivity and minimise harm to human health and ecosystems.
- Farmers' capacity should be improved. Appropriate technology i.e. mechanisation, new seed varieties, and necessary inputs to diversify crop farming and increase crop productivity should be available to farmers.
- Measures to ensure effective and efficient implementation of initiatives so as to meet the aims of national policies, particularly forest management policy

and long term adaptation strategy for agricultural development, should be put in place.

- Physical irrigation infrastructure development is urgently needed to cope with uncertainties due to climate change (irregular rainfall and fluctuating water levels) and the growing frequency of natural calamities (drought, flood, cyclone) and to extend the cultivation area so as to intensify agricultural production and ensure national food security.

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-IV-

The Experiences and Lessons From the Water Resources Management Research Capacity Development Programme

by Kim Sour¹

SUMMARY

This article shares the experiences and lessons of the five-year Water Resources Management Research Capacity Development Programme (WRMRCDP) implemented in 10 irrigation schemes in three provinces surrounding the Tonle Sap Lake. It had three core objectives: to conduct high quality research, to enhance research and management capacity, and to disseminate knowledge and information. The programme not only achieved significant outputs, long-term outcomes and sustainable benefits, it also highlighted a number of challenges which could be transformed to insights and lessons learnt and used to inform water sector policy. Recommendations for future and further actions towards sustainable, equitable water resource management and allocation in the country and an effective policy influencing programme are: continuous longitudinal socio-economic assessment and hydrological modelling; replication of the Participatory Learning Action approach in similar catchments; further support to Farmer Water User Communities, in particular irrigation development and capacity building; establishment of a Catchment Management Organisation; and a comprehensive communication strategy.

1. ACTIVITY IMPLEMENTATION

1.1 Introduction

About 85 percent of the Cambodian population live and work in rural areas as farmers, most of whom are solely dependent on rice production as the primary source of livelihood (Chem *et al.* 2011: 1). Majority of farm households, however, are entirely dependent on rainfall for food production. In increasing agricultural productivity and improving rural livelihoods, one of the main challenges facing farmers is access to adequate water for irrigation and other household uses. As such, sound water management underpins the advancement of rural development in Cambodia.

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The Water Resources Management Research Capacity Development Programme (WRMRCDP), funded by the Australian Agency for International Development (AusAID), was implemented from 2006 to 2011 in close collaboration with three partners, namely the Cambodia Development Resource Institute (CDRI), the Royal University of Phnom Penh (RUPP) and the University of Sydney (UoS), as well as the Ministry of Water Resources and Meteorology (MOWRAM), Provincial Department of Water Resources and Meteorology (PDOWRAM), Ministry of Agriculture, Forestry and Fisheries (MAFF), Provincial Department of Agriculture (PDA) and other sub-national and local authorities including commune councils and Farmer Water User Communities (FWUCs). It was supervised and guided by a Consultative Committee (CC), co-chaired by the Executive Director of CDRI and the Deputy Director General and Director of the Department of FWUC of MOWRAM.

The WRMRCDP was designed to align with the water vision and the policy direction of the Royal Government of Cambodia. It contributes to the national water vision in terms of (i) improving equitable access to water by different user sectors, (ii) minimising human impacts on water resources, and (iii) managing water resources in a sustainable manner.

This article aims to share the experiences of the WRMRCDP's implementation. It focuses on the successful outputs and outcomes of its research activities, as well as the bitter-sweet challenges and lessons learnt for any such activity implementation, both in the immediate future and in the long-term.

1.2 Goal, Purpose and Objectives

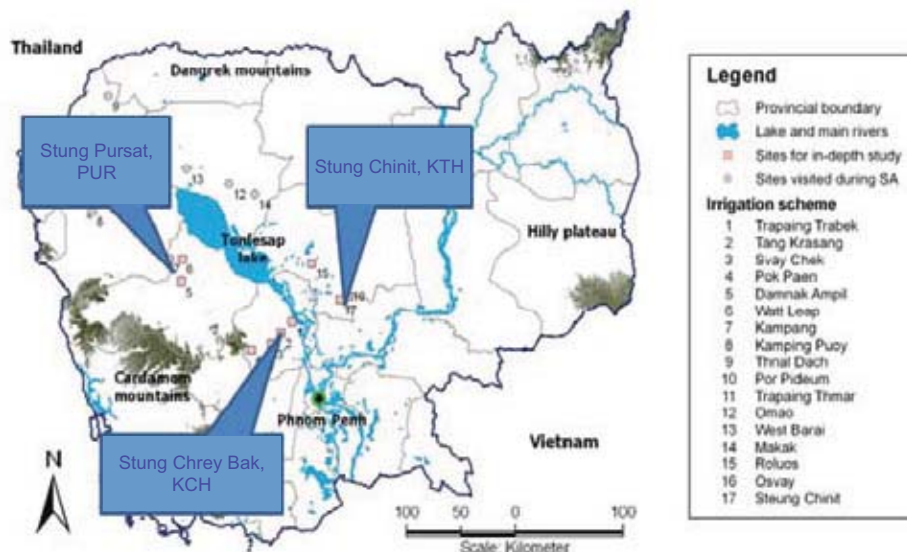
The ultimate goal of the WRMRCDP was to “improve the use and governance of water resources to increase agricultural production and sustainable use of natural resources in Cambodia”. Its purpose was to support capacity development in water resources research and management and water resources policy by involving farmers, researchers, managers and policymakers at national and grassroots levels. Towards these, the programme had three main objectives to develop high quality data and knowledge on water resources research and management in Cambodia: to improve water resources research and management capacity in Cambodia; and to make available and distribute reliable high quality knowledge and information on water resources management.

1.3 Approaches, Activities and Study Sites

In accordance with its specific objectives, a range of approaches and activities were used during the programme's five-year implementation. These can be categorised into three main areas: research, capacity building and information/findings dissemination.

All programme activities were implemented as designed from 1 July 2006 to 30 September 2011 in 10 irrigation schemes in three provinces – Kompong Thom, Pursat and Kompong Chhnang. Specifically, in-depth research was conducted in three sub-catchments of the Tonle Sap Lake: Stung Chrey Bak, Stung Pursat and Stung Chinith and Rolous (Stung Sen). The study locations are shown in Figure 1.

Figure 1: Study Sites of the WRMRCDP



Source: Chem *et al.* (2010: 17).

Research, the programme's core activity under the first objective, had three components. The *Governance Component* identified the wide range of problems regarding water governance at policy and practical level; the *Economic Component* assessed the systematic quantity and value of water used at the farm level, and the *Physical Component* measured water availability, spatial and temporal patterns of water distribution, and estimated the impact of land use and forest cover changes in the catchment.

Programme activities under the three components involved a range of research approaches including literature review, social/institutional assessment, participatory rural appraisal (PRA)/participatory learning and action (PLA) techniques such as participatory resource mapping, cross-transect ground truthing, key informant interviews (KII), and focus group discussions (FGD). Ethnographic tools, hydrological modelling, and a household survey for economic assessment were also employed. Detailed research methods and data analyses for each component are elaborated in several research working papers, including Chea *et al.* (2011), Nang *et al.* (2011), Ros *et al.* (2011), Chann *et al.* (2011), Chem *et al.* (2010, 2011), Tong *et al.* (2011a,b), Wokker *et al.* (2011)

As its second objective, the programme enhanced the capacity of researchers, government counterparts and provincial and local authorities. Capacity building involved formal post-graduate education, formal short-term training courses, a field study tour and several field visits. Researchers from CDRI and RUPP undertook post-graduate studies at the University of Sydney on water resource governance, hydrological modelling and irrigation and GIS remote sensing at master's degree and doctorate levels. Short-term training courses focused on a broader range of participants, including researchers, government counterparts from MOWRAM and

MAFF, and PDOWRAM staff. The courses focussed on practical fieldwork such as ethnographic survey techniques, field interviews and group discussion, econometrics and data analysis, basic GIS and ground truthing. There were also short-term fieldwork training courses for local FWUC members and farmers on measuring and recording water levels and evaporation using a water gauge and lycimeter. Study tours and field visits targeted a wider range of stakeholders including local farmers, FWUC members, local and provincial authorities and even national government staff in order to raise awareness and understanding regarding water management and water use in other local areas and other countries.

The last main activity, corresponding with the programme's third objective, was the dissemination of information and findings so as to raise awareness and influence government policy decision-makers on water resources and irrigation management in Cambodia. To this end, three main streams of dissemination were carried out through CDRI platforms, WRMRCDP specific products, and event platforms. Dissemination through CDRI was conducted via the publication and distribution of the Annual Development Review (ADR), the quarterly Cambodia Development Review (CDR) and annual Outlook Briefs in Khmer and English languages, as well as the Development Research Forum (DRF) and its annual symposia, the annual Outlook Conference, website, library services and other *ad hoc* CDRI events. Further, Khmer and English language versions of all WRMRCDP's products were distributed directly to its stakeholders at workshops, meetings, during field work and by courier.

2. OVERALL RESULTS AND IMPACTS

2.1 Key Outputs

Throughout its implementation, the programme produced significant outputs as summarised below.

For research capacity and human resources building, two CDRI researchers from the Natural Resources and Environment Programme (NRE) attended post-graduate programmes at the University of Sydney – one graduated with a master's degree and the other with a doctorate. Another researcher from the RUPP graduated from the University of Sydney as a Master Fellow on GIS and remote sensing. Short-term and on-the-job training involved the conduct of five courses, namely: Econometrics and STATA Data Analysis, Ethnographic Tools and Techniques, Basic GIS and Remote Sensing, Participatory Action Research, and Household Survey Techniques (FGD, PRA and KII). At the same time, in order to help local farmers and FWUCs understand the concept of community-based water resources management and intensive rice cultivation, a study tour was organised for them to visit FWUCs in Takeo province so they could see water allocation and rice intensification in practice. Another field study tour was organised for a senior representative of MOWRAM to visit Australia, which has a highly developed water sector, so he could better understand and witness the practical application of the ideals of high level water management and distribution.

The NRE Programme also hosted five internships from the UoS in order to share the WRMRCDP experience with young Australian researchers. Workshops and meetings played a very important part in capacity development and awareness raising, particularly the provincial workshops which provided useful forums for information sharing and dissemination of research findings to local and provincial stakeholders. A broad range of stakeholders from local farmers to senior officers from MOWRAM and MAFF took part in a total of seven Consultative Committee (CC) meetings, three national workshops and 15 provincial workshops (three of which were convened in the field).

The main tangible output of the programme is the publication of its research findings, the results of which are considered to be of paramount importance for water resources governance and allocation in the country. A total of 25 working papers and policy briefs relating to water resources management and water use in Cambodia have been published in both Khmer and English languages. Further, three postgraduate theses (two masters and one doctorate) were published under the programme and a 30-minute video clip illustrating the programme's implementation and achievements was developed.

Research findings were disseminated through various events, namely WRMRCDP specific publications, CDRI's CDR and ADR, workshops and meetings, but particularly via direct interactive communication with local communities and visual illustration and demonstration of key concepts.

Finally, researchers and lecturers of the RUPP, one of the programme's partners, developed five undergraduate modules on: Water Governance, Water Resources System and Management, Fundamental GIS and Remote Sensing, and Water and Livelihoods. These courses form part of the undergraduate lecturing programme at the RUPP's Faculty of Environmental Science where they will be continuously updated and used as a teaching resource for undergraduates.

The programme's significant outcomes and long-term sustainable benefits are described in the next section.

2.2 Key Outcomes

Key outcomes and sustainable benefits were not only realised throughout the duration of WRMRCDP's implementation, but will continue to be realised in the long term.

The academic and practical research capacity of Cambodian researchers was improved substantially along a very steep learning curve shaped by the implementation of the programmes' activities. All aspects of research, including conceptualisation, data collection and analysis, and report writing were led and carried out by Cambodian researchers with minimal support from external partners and advisors. Short-term and on-the-job training courses were held for participants directly involved in fieldwork. Training in econometrics enabled researchers to carry out three Economic Component

analyses (Wokker *et al.* 2011; Tong *et al.* 2011a, 2011b). Ethnographic research training equipped researchers with the knowledge and skills to conduct Participatory Learning and Action (PLA) research successfully. Most of the researchers for the Governance Component, namely Khiev (2010), Nang *et al.* (2011), Chea *et al.* (2011) and Ros *et al.* (2011) used ethnographic methodology for their field survey. Furthermore, researchers', FWUC members' and MOWRAM, PDOWRAM and MAFF counterparts' knowledge about water resources management has been remarkably enhanced. The WRMRCDP used ethnographic and PLA approaches when undertaking research for the Governance and Physical Components. Participant observation and community participation in action research allowed researchers to gain local knowledge and learn from grassroots experiences, while at the same time allowing FWUC members, local authorities and PDOWRAM officials to learn new information, techniques and technologies regarding hydrology, irrigation and water governance from the researchers.

Research findings and recommendations to advance farmer-oriented water resources management, including river basin management, have helped bridge knowledge gaps and to some extent, been accepted by policy makers and already influenced water sector policy. Over the five years, the WRMRCDP held many events including consultative committee meetings and national and provincial workshops as well as policy dialogues with MOWRAM senior officials and the Technical Working Group on Agriculture and Water (TWGAW) to disseminate and discuss policy relevant findings. To date, some findings have been cited in the Food and Agricultural Organisation's (FAO) and Cambodia National Mekong Committee's (CNMC) publications and it is anticipated that much more WRMRCDP material will be discussed and cited in the future. For instance, at the final national workshop on Sustainable Water Resources Management and Allocation in Cambodia, WRMRCDP research results drew high praise from MOWRAM officials, who said "...it is now time to consider upstream-downstream linkages of catchment water usage and governance."

There is better understanding of the value and significance of water resources in the wider economic and livelihood contexts of stakeholders. Most local people used to think that water comes from the sky in the form of rain (i.e. that it is god given), and should be free. Farmers in Tang Krasang scheme would waste a lot of water in the dry season by letting it flow through idle rice plots instead of directing it to other cultivated rice fields. Meanwhile, farmers in areas downstream from Tang Krasang did not have enough water to irrigate their rice crops. Through WRMRCDP activities, they have started to acknowledge and understand the value and advantage of water resources and appreciate the efforts that national and local governments have made to help them build irrigation schemes to have adequate water for domestic use and rice farming, particularly in the dry season.

Through a range of workshops and meetings, recognition of the value of coordinated management has led to more active participation in optimising spatial integration of water use between upstream and downstream users. This includes networking, partnership and cooperation of key players and users, particularly FWUC

members and farmers. Given the critical importance of equitable access to water between upstream and downstream areas and environmental in-stream flow (e-flow), a coordinated water management mechanism through a catchment management committee was proposed by stakeholders at provincial workshops held in 2010 and 2011 (Chem *et al.* 2010).

Figure 2: A sketch representing frequent and intense conflicts over water demands between upstream and down-stream areas



Provincial and local stakeholders' active participation in programme activities has remarkably increased the understanding and appreciation of the value and importance of hydrological knowledge in water resources management. Data and information on stream water level and flow were handed over to PDOWRAM in Kompong Chhnang province. PDOWRAM's meteorological office highly appreciated this data-sharing. PDOWRAM has shared this information with other development sectors, i.e. transport and agricultural development, which also need such information for designing bridges and roads, and especially for planning agricultural cropping.

The programme has brought together hydrological and social knowledge and integrated this into the concept of water resources management and allocation. For instance, in 2005 about 300 ha of dry season rice was damaged in Stung Chrey Bak catchment due to a combination of physical water shortage and lack of water allocation mechanism. Since many local communities face water shortages in the dry season, farmers and local authorities realised that irrigation engineering is not the only solution and that social interaction between users in water allocation and planning

is crucial. Thus, the studies on water and irrigation governance provided a range of recommendations on the integration and synergy of physical-hydrological and socio-economic knowledge concepts.

Participation of water users in the generation and use of knowledge in water resources management has similarly improved. FWUC members were actively involved in data collection under the WRMRCDP, including regular measurements of water level and evaporation from water gauges and lysimeters. Stream water level data are crucial for planning crop farming and irrigation. Farmers can predict water availability (water supply) based on water level data in their reservoir. Thus, farmers in Trapeang Trabek irrigation scheme notify FWUC members as soon as the water level in the reservoir falls unusually below the operational level for a particular time of the year. With this connection, FWUC members in upstream areas have enough time to readjust water distribution to ensure that water is allocated fairly in terms of quantity and efficiency.

Water users were not the only group actively involved in generating knowledge. Other stakeholders such as the FWUCs, local authorities, provincial and national government institutions involved in water resources management also took part. FWUC members and PDOWRAM officials from these provinces have shared experiences and challenges in water management at provincial workshops and on the field visit to irrigation management sites in Takeo province, which was brought into the framework for collaborative discussion. Experiences from these activities have helped these stakeholders improve irrigation management and planning, especially with regard to the introduction, implementation and collection of Irrigation Service Fees (ISF) and management for sustainable use and operation of irrigation schemes, which could be referred to as adaptive management.

2.3 Long-term Benefits and Sustainability

Throughout its five-year implementation, the WRMRCDP accomplished long-term benefits and sustainable capacity development, partnership and network building, the application of its data and information, and policy influence.

One of the most significant long-term benefits is the improved multidisciplinary capacity and expertise gained by Cambodian water and irrigation experts at CDRI and RUPP which could provide a pool of human resources for future research and development of water resources. Graduates from the UoS will continue to work as highly qualified researchers and advisors for the CDRI, the RUPP and even with other governmental and non-governmental organisations as long as they continue to work in Cambodia's water sector. This not only contributes to water sector development within the country but also to CDRI's capacity development agenda consistent with its Strategic Plan.

The programme has strengthened the existing culture of partnership and networking among FWUCs and between upstream and downstream areas with local authorities (district authorities and commune councils) and technical institutions

in the study locations for solving conflicts over water demand and competing water uses. These networks and partnerships benefit not only researchers, but also local communities and not just in the present but well into the future as interested development partners tap into this network.

The data and results of hydrological analysis and modelling for optimal water supply and demand in Stung Chrey Bak catchment will be adopted and applied either across the whole catchment or in every irrigation scheme in the interest of equitable and fair water sharing. Moreover, the findings from all three components of the WRMRCDP have been and will continue to be cited and used by institutions and individuals working directly or indirectly in Cambodia's water development sector.

Based on recommendations from the WRMRCDP findings, particularly those on catchment governance, a River Basin (catchment) Organisation is to be established in Stung Chrey Bak of Kompong Chhnang province, Stung Pursat of Pursat province and other similar catchments nationwide. Representatives of all concerned FWUCs could be included and invited to participate as important permanent members of the organisation, and MOWRAM's draft sub-decree on River Basin Management will be amended accordingly.

The mainstreaming of the five undergraduate academic modules, designed by WRMRCDP's partner at RUPP, in the curriculum of the university's School of Environmental Studies provides sustainable and continuous benefits to Cambodian students who are interested in natural resources management, particularly water resources. These courses will be regularly updated and fine-tuned by RUPP lecturers who directly participated in and have themselves been trained by the programme in developing these water-related management courses.

3. CHALLENGES

Establishing partnerships with and among key stakeholders including the three research institute partners (CDRI, RUPP and UoS) and particularly with government agencies (MOWRAM, MAFF, PDOWRAM, and PDA) posed more than a few challenges. One such important challenge was how to make the partnership work smoothly when the role and responsibility of the commune council in irrigation and water management at local level, particularly in relation to supporting FWUCs, remains unclear. The role and responsibility of local authority in local natural resource management should be further studied. Poor participation from high level policy decision-makers also meant that some key players were not as aware of the findings that could influence policy development. In other cases, communication with these government staff, especially at national level, was complicated and time consuming.

It may be too early to see the policy impact of the research findings particularly at national level because most of the results were published at the end of programme implementation. This fell short of donors' expectations, though policy influencing was not a priority in the original programme proposal.

Regarding the programme's management, finding replacements for staff (including the team leader) who changed jobs in the early stages was time consuming and labour intensive, and critically affected the initial phase of programme implementation and operation.

4. INSIGHTS AND LESSONS LEARNT

The lessons summarised below have been drawn from the outcomes, long-term benefits and even the challenges faced by the programme.

- Successful capacity building in a complex water sector management structure requires long-term investment, particularly when multi-stakeholders from different institutions and organisations are involved. Analysis of stakeholders and synthesis of perspectives provided useful guidance for building stakeholders' capacity at the beginning of the programme.
- The WRMRCDP could be defined as "adaptive management". This is because the need to apply research and learn by doing, and to reflect critically on what does and does not work so as to adapt and improve practice and policy are core aspects of what the programme set out to do and achieve.
- Participatory Learning Action Research approach, i.e. the encouragement of stakeholders' participation especially local farmers and communities, significantly contributed to the programme's achievements. Participatory Rural Appraisal (PRA), ethnographic study and hydrological modelling in all three components, particularly in Stung Chrey Bak catchment of Kompong Chhnang province, provide a useful lesson of local farmers' and communities' participation in research activities which could be replicated and applied in other catchments that have similar geographical, hydrological, social and economic conditions, especially and urgently in Stung Pursat.
- Policy influencing, particularly communicating with government policy decision-makers at national level, is especially difficult and takes time to make discernable headway. Yet building close and trusting relationships with government decision makers and keeping them well informed were indispensable to achieving the objective of having research findings influence policy. Other means of communication such as public media and using simple Khmer language when communicating with the public and stakeholders are effective and worthwhile.
- Social issues and concerns of farmers and local institutions directly and indirectly involved in water resources management at the project sites, as both a part (programme stakeholders) and a target (institutional and social assessments) of the programme, must be taken into account in order to understand their needs and concerns, but especially for resolving conflict over water demand and supply between upstream and downstream areas, and for equitable sharing of water resources. For instance, researchers invited FWUCs and local authorities to participate in provincial workshops to share experiences and discuss problems related to water allocation within

their area. At the same time, researchers identified water use conflicts between farmers, between farmers and other water users and managers in the same schemes and catchments, and between different schemes and catchments (downstream and upstream areas). Data and information on the social context within the study sites were analysed and incorporated in the discussion of results, mostly in the Governance Component's working papers.

- Gender mainstreaming in water use and agricultural farming is crucial given that the majority of farmers who cultivate rice and use water for other domestic purposes are women. Albeit women actively participated and voiced their thoughts and concerns during consultation events at the end of the programme, gender aspects should have been integrated in research studies at the start of implementation. For deeper holistic understanding and insight, the perspectives of women, youth and other vulnerable groups should be included in all stages of future water-related programmes and projects, from conception, design and planning, throughout programme implementation to the dissemination of results and findings, and policy influencing.

5. RECOMMENDATIONS

Some vital recommendations from the five-year WRMPCDP can be drawn for consideration and integration in future long-term programmes.

- Socio-economic assessment and hydrological modelling in Stung Chrey Bak catchment should be continued as a longitudinal study in order to gain more data and detailed information. Doing so would deepen understanding of hydrology, irrigation and socio-economic context on a temporal scale, reflecting the reality of sustainable water resources management and allocation. At the same time, other aquatic resources and ecosystems, which provide substantive daily livelihood support to local people, should be factored into the study for a holistic understanding of the value of all ecosystem services.
- The Participatory Learning Action approach to multidisciplinary research and hydrological modelling employed by all three components, particularly in Stung Chrey Bak catchment, is extremely useful and could be replicated and applied in any catchment context across the country, but especially and most urgently in Stung Pursat catchment. The latter has similar geographical, hydrological and social characteristics, notably high and growing water demand and increasingly limited supply for dry season rice cultivation, a situation likely to lead to heightened tension between upstream and downstream irrigation schemes and farmer water-users in the near future.
- Still in the early phase of establishment, FWUCs are fragile in terms of both capacity and commitment and require further support as well as building. While formal training is taking place, research should be continued by

involving PDOWRAM staff and FWUCs in all irrigation schemes within the catchment as part of on-the-job capacity building and for a stronger sense of ownership. At the same time, the provision of technical and financial support to these FWUCs should continue so as they can sustain operation and management without external assistance.

- The so-called “Stung Chrey Bak Catchment Organisation or Committee”, in which FWUCs within the catchment should be permanently represented, should be established as soon as possible so it can take up critical roles in coordinating water supply and demand, resolving conflicts, particularly between upstream and downstream schemes, and planning and developing strategies to assist individual FWUCs as well as building the capacity of FWUC committees and members.
- In order to sustain activity outcomes, government partners must seriously consider integrating the findings and recommendations put forward in WRMRCDP’s working papers and policy briefs in the draft sub-decrees and any new developments in water-related policy.

A decade could pass before efforts to influence policy are realised and for policy decision-makers to be fully aware and appreciate the gravity of the policy recommendations from the research findings. In this case, a comprehensive long-term communication strategy that straddles all communication priorities and channels, particularly building up close and good relationships with as many government policy decision-makers and influencers and at the highest level as possible, should be established. Alongside this but being careful not to undermine networking efforts, dissemination via public media and the art of communication, which is considered a powerfully influential mechanism, should be strongly supported and integrated into such a communication strategy.

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Section 3

HEALTH

-V-

Country Situation Analysis: Health Financing and Human Resources for Health

by Net Neath and Huon Chantrea¹

1. INTRODUCTION

Since the end of civil unrest in the early 1990s, when all conflict parties agreed to ceasefire and hold a national election (sponsored by UNTAC), all public sectors including the health sector have been gradually rebuilt. Due to the efforts of the Royal Government of Cambodia (RGC), the health system infrastructure has been vastly improved, especially in recent years. Health service delivery and quality of care are much better. The Cambodia Demographic and Health Surveys in 2000 and 2005 note that maternal mortality, infant mortality and under-5 mortality rates have been reduced: infant mortality has declined from 66 to 45 per 1000 live births and under-five mortality has dropped from 83 to 54 per 1000 live births. Nonetheless, the under-five mortality rate remains above the Cambodia Millennium Development Goal (CMDG) for child mortality, and health care costs are still a major issue for poor households. The government, especially the Ministry of Health, has undertaken a number of reforms aimed at accelerating the improvement of the health system. These reforms require changing and advancing various dimensions of the health system, which include but are not limited to, stakeholders, health policy making and interventions. Policy reform needs to be well informed through robust, evidence-based research and quality analysis of research findings. To this end, it is paramount that research not only examines the stakeholders, networks, policies, strategies and plans, but also identifies gaps and opportunities so as to build knowledge and complement understanding.

2. OBJECTIVES

This country situation analysis seeks to make a contribution to efforts to prioritise research areas in health financing and human resources.² At the same time, it aims to help streamline CDRI's health-related research questions by mapping the current actors, agendas and gaps in Cambodia's health systems so that we may effectively position our research, and track our research impact over time and ultimately contribute to the development of health sector in Cambodia.

1 Net Neath is research fellow and Huon Chantrea is research assistant, at CDRI.

2 The study is part of the REBUILD project being undertaken in collaboration with the Liverpool School of Tropical Medicine, UK.

3. METHODS

This analysis draws upon primary and secondary sources of information. The latter involved desk review, centered mainly on human resources in the health sector and health financing with a post-conflict perspective, of various documents such as legal frameworks, regulations, plans, strategies, policies, reports, research papers and articles. The primary information sources involved key informant interviews conducted after the document review. The key informants are representatives of the Ministry of Health, donors, NGOs and researchers. Data from both sources were synthesised and analysed in order to grasp the current situation of human resources and financing in Cambodia's health sector.

4. FINDINGS

4.1. Stakeholders

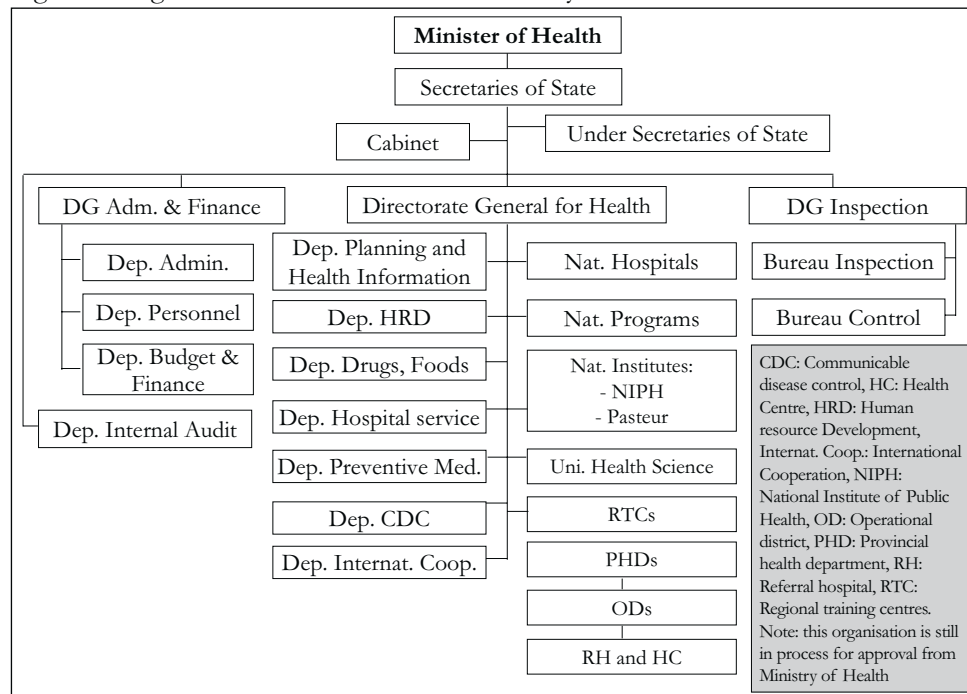
4.1.1 Key Stakeholders

This analysis of Cambodia's health system development focuses only on the organisations that operate in the public sector as the private sector (i.e private healthcare facilities and providers) does not directly influence health policy. The key stakeholders are the Ministry of Health (MoH), the Ministry of Economy and Finance (MoEF) and external development partners.

The Ministry of Health is responsible for all areas of public health service in Cambodia including developing, implementing and evaluating policies, plans, regulations, guidelines and interventions in order to ensure effective and efficient delivery of health services to the population. The MoH has an organisational chart outlining the structure of the health system at central, provincial and district levels and clarifying the roles and responsibilities of the various departments (MoH 2007). There are three Directorates-General (DG), for Health, Administration and Finance, and Inspection (Figure 1).

The functions, roles and responsibilities of the MoH, its line departments, Provincial Health Departments (PHDs), Operational Health Districts (OD), Referral Hospitals and Health Centres are as follows. The PHDs interpret policy, plans and strategies and in collaboration with relevant authorities enforce regulations and advise its subordinates on guidelines. They also support the ODs, which execute government policy, in monitoring and evaluating their programmes and activities. A health centre is defined as the health facility closest to the community, while a referral hospital provides more comprehensive services (Song *et al.* 2003).

Figure 1: Organisational Structure of the Ministry of Health



Source: MoH 2007

The Ministry of Economy and Finance "...is delegated by the government to perform the mission of guidance and administration of the economy and finance of the Kingdom of Cambodia in order to support economic development and to improve the living standards of Cambodian people based on the principles of a free market economy and social equality" (MoEF 2011).

The key role of the MoEF is to allocate budget to the MoH, not just to cover current expenditure but also to plan future budget expenditure, consistent with the MoH's strategic framework. The International Health Partnership (2008) recognises that the MoH and MoEF have made a great effort to improve financial planning and implementation so as to be more effective and efficient in allocating available resources towards achieving the Cambodian Millennium Development Goals (CMDGs) for health care. This is reflected in the increase in the government budget for health.

External Development Partners: In 1991 Cambodia began reforming the health sector in order to provide good quality, efficient and accessible basic health care services to the whole population. However, studies have shown that the reform has been hampered by several factors. These include limited capacity to develop health policies, plans and strategies, to mobilise resources to collect sufficient information to monitor, evaluate and report activities, and to manage and deliver basic health care services through different levels of government (Eldon & Gunby 2009). Technical and financial assistance has been provided by external

development partners, the key donors being the World Health Organisation (WHO), United Nations Children's Fund (UNICEF), World Bank, German Society for International Cooperation (GIZ), United Nations Population Fund (UNFPA), the UK's Department for International Development (DFID), the Australian Agency for International Development (AusAID) and Asian Development Bank (ADB). Other agencies, including the United States Agency for International Development (USAID) and Japan International Cooperation Agency (JICA), are more passive in their support (Sida 2003). All of these donors have extended financial and technical support in order to improve human resources and health care provision. To this end, they have focused on activities to achieve Cambodian Millennium Development Goal (CMDG) 4 to Reduce Child Mortality, CMDG 5 to Improve Maternal Health and CMDG 6 to Combat HIV/AIDS, Malaria and other diseases.

4.1.2 Other Stakeholders

The local authority's role is to facilitate the delivery of health services to the community through its mandate of community development. The local authority or village chief assists health facilities and scheme operators to identify the poorest households. In the recent health sector reform, the government, with support from international and national donors and NGOs, has introduced Social Health Insurance (SHI) and the Health Equity Fund (HEF) to ensure universal access to quality health care services, with particular protection for the poorest and most vulnerable members of the population. These schemes have been implemented in selected areas across the country. In order to ensure that these schemes enable the poorest households to access health care, village chiefs are required to identify the poor in their communities and issue health care cards. In addition, Village Health Support Groups (VHSG) work with health centre staff to improve service delivery. In each village, two representatives are elected to the VHSG. The VHSG helps the health centre to monitor health issues such as immunisation, birth spacing and disease prevention.

Civil Society/NGOs: After the 1991 Paris Peace Agreement, the number of NGOs increased dramatically, with around 300 international and national NGOs involved in more than 500 projects in 1998. Ten years later, the number of national NGOs had increased substantially with over 1500 NGOs registered with the Ministry of Interior, though only 340 international NGOs were registered with the Ministry of Foreign Affairs (Ek & Sok 2008). Eldon and Gunby (2009) also note that the NGO sector in Cambodia plays a very active role in health. NGOs operate a wide range of activities such as providing services at health facilities through contracting health service providers, building the capacity of health care staff, providing technical support through training in health education, advocating the policy/programme and networking. The Reproductive Health Association of Cambodia (RHAC) and Marie Stopes International have provided sexual reproductive health and maternal health care services, while Population Service International (PSI) and Khmer HIV/AIDS NGO Alliance (KHANA) focus on advocacy and education to raise awareness of sexual reproductive health.

MEDiCAM is the NGO Health Sector Committee. It is recognised that the financial status of Cambodian NGOs is generally poor and highly dependent on foreign sources of funding. Most NGOs receive a grant from donors to implement activities in different areas.

4.2 Policy, Plans and Programmes

4.2.1 Human Resources

Cambodia's health workforce is characterised by a low density of clinical staff³ (1 per 1,000 people) and an inequitable distribution between rural and urban areas (Ortendahl *et al.* 2007). Since the end of conflict, the MoH has put a lot of effort into tackling this issue by developing and initiating a number of plans, policies and schemes. The First National Health Workforce Development Plan (1996-2005) was created to systematically monitor the health workforce situation and to identify the need for changes in health workforce policy, workforce planning and management, and staffing and training targets. The first National Health Strategic Plan (2003-2007) was developed to provide a road map for the overall direction of health sector development. It involved three major strategies, namely: increase the number of midwives through basic training; strengthen the capacity and skills of midwives already trained through continuing education; and recruit and train new staff from remote areas. To structure the size and composition of the future workforce, and to address the major challenges of recruitment, employment and deployment, productivity and staff remuneration raised in the first National Health Strategic Plan, the Second National Health Workforce Development Plan (2006-2015) was created. The second National Health Strategic Plan (2008-2015) includes a component that addresses i) achieving and maintaining sufficient staffing levels with adequate professional profiles and competencies, ii) revising training curricula, iii) increasing student enrolment at schools and universities, and iv) strengthening measures to safeguard the quality of training and trainers.

The government has established a number of national schemes such as Merit Based Performance Incentive, Priority Mission Group, Priority Operating Costs and Special Operating Agencies. These schemes appear to run in parallel to support the implementation of policies. The Merit Based Performance Incentive scheme, supported by the World Bank, was created in April 2008 to provide bonus payments to staff that perform to a high standard. Within the health sector, its aim was to encourage all health partners to implement the priority areas in the Health Strategic Plan 2008-2015. The Priority Mission Group scheme, created one year later, aimed to strengthen priority operations and responsibilities by financially rewarding good performance. However, both of these schemes were phased out in November 2009 having been implemented for less than one year due to concerns about equity which could create conflict among staff. Special Operating Agencies were formed by Royal Decree in March 2008 aiming to improve the effectiveness of public services, particularly the quality of services delivery at public health facilities such as hospitals and health centres. Priority Operating Costs were established in July 2010 to provide monetary incentive to staff

3 Medical doctor, medical assistant, midwife and nurse

selected to work on strengthening cooperation with external development partners in priority areas of the health Strategic Plan. Besides these national schemes, there are a number of health sector initiatives that aim to motivate health workers, namely user fees, contracting (in and out), and performance-based incentives. The 1996 National Health Financing Charter permits public health facilities to redistribute 49 percent of the revenue from user fees to supplement staff salary in order to motivate staff to improve their performance (MoH 2006). In 1998, the government initiated the contracting out of health service delivery management to international NGOs in order to improve the quality of health care and reduce the negative effects of high out-of-pocket expenditures for the poor. This scheme also provided performance related incentive payments to health care staff in public facilities.

4.2.2 Health Financing

Since the beginning of Cambodia's post-conflict era, a number of policies, plans and schemes have been put in place. Established in 1996, the National Health Financing Charter aimed to formalise the situation regarding informal health care fees charged at public health facilities. Towards this, different options were carefully tested, their impact evaluated and an appropriate health financing policy was developed so as to regulate both public and private sectors, generate revenues to supplement health worker salaries and ensure adequate funding from national budget. The Strategic Framework for Health Financing (2008-2015) was created to capture, analyse and streamline all sources of funds and their use in the health sector. It seeks to improve access to health services and guides the development and implementation of a social health protection mechanism. The Master Plan for Social Health Protection established in 2009 evolved from the Social Health Insurance Master Plan in 2005 and is based on the Strategic Framework for Health Financing. Marking a milestone in the coordinated development of social health protection in Cambodia, it provides a blue print for achieving effective and equitable access to quality health services for all Cambodians by 2015 and serves as a guide for integrated planning and harmonised implementation of parallel financing schemes under the different ministries.

A number of schemes have been established. User fees were first implemented in a few public health facilities in some provinces and cities in 1997 and later expanded to hospitals and health centres in other provinces. Social health insurance in a form of community-based health insurance (CBHI) was initially piloted by GRET, a French NGO, in four locations in Kandal province in 1998. As of 2009, the CBHI scheme had been implemented by international and local NGOs in 11 ODs nationwide. In 2000, health equity funds (HEFs), funded by the World Health Organisation and DFID were first piloted in Phnom Penh and two urban squatter areas (Annear *et al.* 2008). By 2010 HEFs had been implemented in 47 ODs, covering 1,879,213 people⁴ and six national hospitals nationwide (Bureau of Health Economics and Financing 2008). HEFs were designed to pay user fees to the hospitals and reimburse patients' transport costs, food and other expenditures incurred during hospital stay. Alongside NGOs, the MoH has recently piloted a voucher scheme to pay user fees as well as

4 According to University of Research Co., LLC (URC) database 2010

transport costs for poor women patients attending three ante-natal care centres and delivery and post-natal services at health centres in five ODs. A government scheme to subsidise the health care costs of those living below the national poverty line has been initiated and implemented in six national hospitals, 10 referral hospitals and 89 health centres.

4.3 Health Systems Research

Health systems research is generally in the form of programme evaluation or assessment and is used to monitor policy development progress. Most health systems research has been carried out through government and donor funding to inform policy development, though a UNDP (1997) study identified a limited amount of operational research undertaken in the areas of health care demand and household expenditure in Phase 2 of the Health Sector Reform. The MoH plays a critical role in defining and developing an operational research agenda for better health policy and planning and contracts this research work out to local research institutions or international consultancy firms. The National Institute of Public Health (NIPH) is a research and teaching institute affiliated with the MoH. Given capacity limitations, the Institute mainly focuses on training in public health. A number of local and international private research institutes and non-profit agencies are conducting health systems research in the areas of reproductive health, maternal and child health care and health care financing to inform the development of pro-poor policies. The Cambodia Development Resource Institute (CDRI) is currently conducting research on health financing and human resources for health aiming to generate robust, high quality evidence that responds to the challenges facing policy makers.

4.4 Networks to Support Health Systems Strengthening

A National Coordinating Committee (CoCom) for Health was established in 1991 to monitor and evaluate the activities of international aid agencies working in the health sector, and to provide advice and make recommendations to the MoH so as to support the planning, coordination and implementation of health sector activities in Cambodia. Moreover, it addresses issues within the health system including policy development and capacity building, undertakes studies and reviews (through sub-committees and working groups) and provides the Ministry with technical advice on policy debate and formulation. It also provides information on current and planned activities of all international, multilateral, bilateral and non-governmental organisations working in the health and health-related sectors and reviews all externally funded health proposals to ensure they are consistent with national health policy. This committee consists of high-level representatives from the MoH and international and national non-governmental agencies. Provincial Coordination Committees were also established to coordinate international aid efforts at provincial and district levels. CoCom was later renamed the Technical Working Group for Health (TWGH). It is a key coordinating network designed to help strengthen health systems (Vaux & Visman 2005; IHP 2008).

The TWGH has 74 official members, is led by the MoH and has broad participation from multiple MoH departments, national programmes and institutions, line ministries, the Council for the Development of Cambodia (CDC) and bilateral and multilateral development partners including NGOs and civil society organisations working in the health sector. The TWGH Secretariat, comprising representatives from the MoH and health partners, facilitates the functioning of the TWGH, including the formulation of joint monitoring indicators, setting of annual work plans and developing the monthly meeting agenda. Under this broad coordination committee, ten sub-TWGHs are responsible for coordinating and assisting the TWGH and MoH with specific technical advice on health services and implementation.

4.5 Research Opportunities

4.5.1 Recent Contextual Changes Creating Unmet Demand for Research

About one third of the population is too poor to pay for health care, whether in the public or the private sector. In 2005 annual household health expenditure per capita was USD25 (MoH 2008). Sickness and poverty appear to be closely related in Cambodia. In many cases poor households simply cannot afford professional health care and decide to seek treatment from a range of traditional healers and other unqualified (and often dangerous) private service providers. Messsen *et al.* (2010) indicate that there is an urgent need for research to develop an effective strategy to further improve the public health sector in rural areas, particularly with regard to performance-based financing, HEF and areas of health care provision that are poorly managed.

Despite the MoH's effort to tackle human resources management and deployment, the health workforce is unequally distributed between urban and rural areas. A number of policies, plans and schemes have been developed, but the issues and challenges should be looked into, particularly with a view to designing an optimal policy that would help balance the distribution of health workers and complementing the role of the private sector in delivering health services as this sector is growing and attracting health workers.

4.5.2 Issues of Poverty, Gender and Governance in Research

Concerning health governance, a number of issues and challenges have been raised, namely establishing effective mechanisms to promote public and private partnerships in service provision, encouraging community participation in health services delivery and quality improvement, and strengthening institutions systematically at all levels. In addition, studies by WHO and MoH (2007) and the World Bank (2007) indicate that there is a need to understand how to reduce the growing health inequities between different population groups, particularly women and children. Soa (2010) raises equity issues in terms of financial barriers and service availability and quality across the range of public health care providers. San *et al.* (2006) emphasise the need to address how decentralisation affects the long term financial sustainability of health programmes, including immunisation. The National Strategic Development Plan (2009-2013) recognises the importance of both managerial and clinical competencies and identifies

the need for significant improvements in the systems for managing budgets and staff. There is also a general agreement that without the right incentive arrangements, the organisational changes required by Decentralisation and Deconcentration reforms will be difficult to implement.

The MoH recognises the importance of strengthening its cooperation with external partners which is reflected in the success of the TWGH as a consultative body for the sector, as well as through its strengthening and expansion of Sector-Wide Management in the National Health Sector Support Programme Phase 2 and its Joint Partnership Agreement aligning partner investments behind MoH's strategic and operational planning. ODs and provincial referral hospitals have been established as Special Operating Agencies (SOA), thereby re-integrating formerly contracted districts into the public health system and strengthening the responsiveness of the system as a whole. Health outcomes and health service utilisation rates in different socio-economic groups point to equity issues that need more attention. There are grave concerns about the uneven distribution of Emergency Obstetric and Neonatal Care services across the country and the need for increasing the quality of the continuum of care in reproductive, maternal, neonatal and child health. Maternal mortality remains unacceptably high and substantial investments in delivery services and fast track interventions are required. However, it is recognised that maternal mortality is a cross-sectoral problem, influenced by infrastructure development, women's education and literacy levels, women's participation and gender equity. Demand side interventions, such as the provision of clearly defined Continuum of Care, are important to increase the utilisation of services which are of better quality. There are large disparities in maternal and child health outcomes and inequities in access and utilisation of health care services between the richest and poorest quintiles. Jacobs *et al.* (2007) identified key reasons for low referral rates from health centres and factors hindering women's uptake of health care. These include health centre staff's low technical skills and over-confidence in their capacity which means cases are not necessarily referred for higher levels of care, and the HEF fee-per-service payment scheme which acts as a disincentive to the staff making timely referrals.

4.5.3 Demand for Health Systems Research

The demand for health systems research is largely donor driven. Most demand for health systems research is in the form of assessments or evaluations of programmes or policies. However, there is some discussion in the Health Strategic Plan (2008-2015) about the demand for research in health systems. The plan calls for research to develop a package of evidence-based, comprehensive, implementable policies which conform to the government's laws and regulations. The key areas include but are not limited to:

- Contracting for service delivery (covering Special Operating Agencies, internal and external contracting);
- Decentralisation and deconcentration in the health sector;
- Public autonomous institutions: hospital laboratories and support institutions;

- Social health protection, including Health Equity Funds and Social Health Insurance;
- Staff management and staff remuneration, including performance-based incentives, merit-based pay, facilities-based salary supplements, per diem payments, and contract work;
- Procurement and management of medical supplies; and
- Health management information systems and disease surveillance.

In addition, a number of papers have called for further research. Barber *et al.* (2004) propose more studies to better understand the factors that hinder the poor's access to hospital services and shape the private sector's response to changes in public health management and fee systems.

5. CONCLUSIONS

Cambodia's health system, particularly infrastructure, organisation and human resources, was decimated by decades of conflict. The health system has since been rehabilitated under the auspices of the MoH which has established provincial departments of health, operational districts, and national health programmes. The MoH is the leading agency in implementing health system reform, while donors provide technical and financial support.

Constant evolution of health care financing through innovations and changes to plans and policy necessitates research into the short- and long-run effects of health sector initiatives in terms of reducing household (particularly poor households) health expenditure. That health sector strategies, interventions, policies and plans are constantly changing as the health care system evolves and as objectives are met means that we need to identify the drivers and understand the process of change in various contexts over time. Devising an optimal policy to achieve a balanced distribution of health workers between urban centres and rural areas, and complement the role of the private sector in health services delivery as it continues to grow and attract health workers is paramount as so far there have been few studies on human resources related to health issues in Cambodia. About 80 percent of the country's populace reside in rural areas where they are mainly employed in the informal sector, an engine of the country's economic growth. If their health is poor, the country's efforts and trajectory towards inclusive growth is in jeopardy. So far, little is known about how policy and interventions to attract or retain health workers in rural health facilities have evolved over time or the effectiveness of the Ministry of Health's efforts to tackle the imbalanced distribution of health workers. It is therefore essential to analyse both the challenges and successes of any attempts to attract or retain health workers, particularly the effects of financial and non-financial incentives as these may be closely linked to health workers' motivation.

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-VI-

Health Workforce Development and Policies in Cambodia: An Overview

by Sok Sethea¹

1. INTRODUCTION

This paper reviews the developments in Cambodia's health sector, current health service system, and policy on human resources for health over the period of its post-conflict recovery. In doing so, it attempts to respond to the lack of information and studies on human resources in the health sector, seeks to add to knowledge and contribute to more effective policy responses, especially where gaps exist.

Cambodia has one of the lowest per capita incomes among South East Asian countries. As of 2008, its population totaled 13.4 million (NIS 2008), with around 80 percent living in rural areas and relying on agriculture as the main source of household income. In the Human Development Index, Cambodia is ranked 139 out of 187 countries (UNDP 2011).

The legacy of the Khmer Rouge regime has had a huge effect on human resources and social infrastructure throughout the country. An estimated 2 million people, especially the educated and skilled including doctors, nurses and midwives were innocently killed during this period. Since the end of civil war in the late 1990s, all public sector agencies have been rebuilt with particular emphasis on the health sector.

2. HEALTH SECTOR DEVELOPMENT

Up to 1975, the government of Cambodia had trained about 1,000 doctors; less than 50, survived the Khmer Rouge regime (1975-1979) (MoH 2001). The development of the country's health sector subsequently took place in several phases:

1980 to 1989 (reconstruction and rehabilitation): The Ministry of Health (MoH) began the renovation of the previous government health system in 1980; many health workers had to be trained in accelerated training courses. The health service delivery

1 Sok Sethea is research associate at CDRI. This work is a product of the ReBUILD research consortium, led by the Liverpool School of Tropical Medicine and Queen Margaret University Edinburgh, UK, and funded by DFID. The author acknowledges the contributions of Dr Sophie Witter and Jo Raven, and the comments of Ms Ann Robins, WHO, on an earlier draft.

system was designed as a publicly financed, staffed and managed service with five levels and considerable local autonomy: (i) national programmes centrally-managed by the MoH, (ii) eight national hospitals, (iii) 22 provincial hospitals (under provincial health directors), (iv) 174 district hospitals, and (v) *kehum* (commune) clinics providing primary care and preventive services (under district health directors) (MoH 2001).

1989 to 1995 (strengthening and development): There was significant government and donor investment in the health sector during this period. After Cambodia's first National Election in 1993, the government passed legislation covering the management of pharmaceuticals between 1995 and 1998 which meant that only qualified pharmacists could own pharmacy shops. Phase I of the health service reform was implemented and focused largely on improving rural primary healthcare. At the same time, international financial institutions (IFIs) started to invest in rural health sector infrastructure and, along with other international donors and largely by way of NGO-implemented projects, to contribute to the recurrent costs of health service delivery. The only active national health intervention during this period was the tuberculosis programme which was implemented in 10 provinces and private healthcare practice, largely set up by clinicians augmenting their low government pay, started to appear (MoH 2001).

1996 to 2000 (innovations in health service management): The Health Coverage Plan was designed and implemented to provide health services throughout the country based on population density, with Operational Districts as opposed to Administrative districts. The implication of this is that fewer health facilities were needed to provide health services and therefore health staff could be used more efficiently. The Minimum Package of Activity (MPA) and Complementary Package of Activity (CPA) also provided a framework for staff development. Finance reforms arising from the Health Financing Charter (1996) provided a legal basis for piloting the introduction of formal user fees for public health services from which the healthcare workforce also received a percentage, sometimes greater than their basic pay. Budget reforms have resulted in more precise budget allocation rules, increased delegation of responsibility to decentralised centres to improve access to the budget including the Accelerated Development Districts initiative and, in 2000, the Priority Action Plan (PAP) and proposals for "boosting" the level of resources available for services delivery (MoH 2001). Organisational and management reforms in this period included the work of the Public Administrative Reforms Committee and the development of the Civil Service Law in 1997. In addition, about 70 local and international NGOs were operating in Cambodia, providing a wide range of clinical, managerial and financial services (MoH 2001). The private health sector (pharmacies and health facilities) began to evolve without regulation, partly as a coping strategy for low salaries. This had important consequences for staffing facilities in rural and disadvantaged areas where opportunities for private practice were limited by financial and social barriers (MoH 2001).

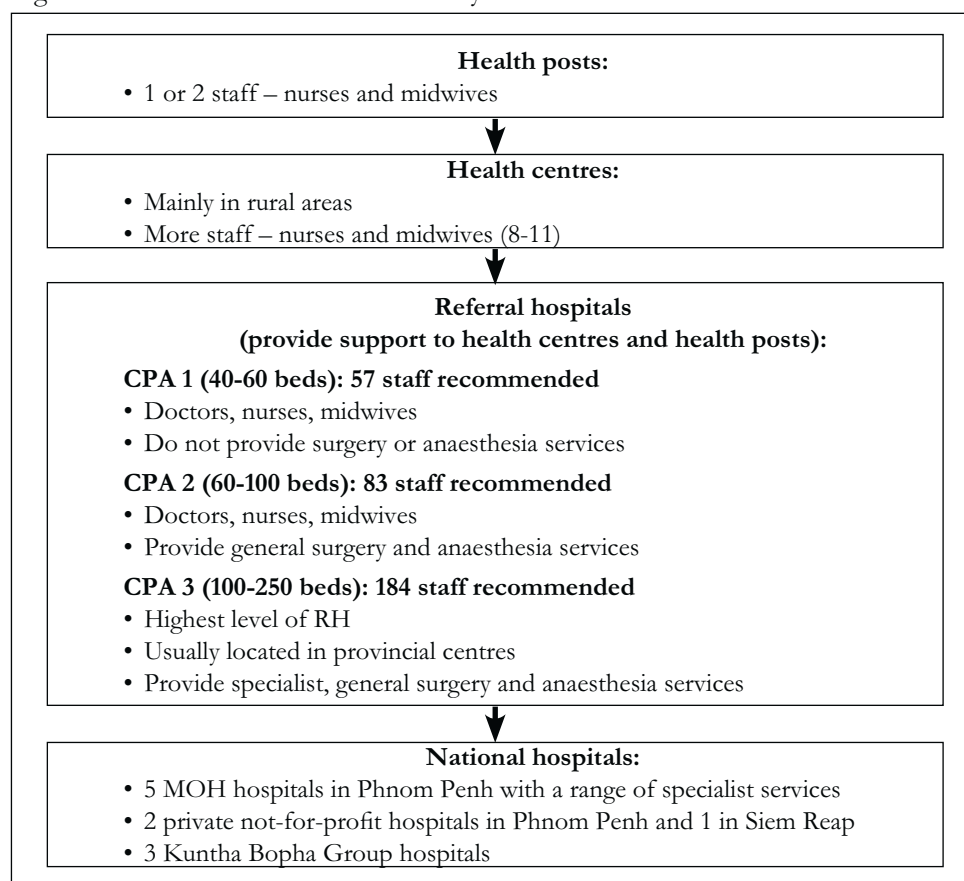
2002 to the present: The MoH has established a framework for sector-wide management with a focus on poverty reduction for the next five years as outlined

in the National Poverty Reduction Strategy (NPRS) 2003-05 (RGC 2002). The year 2003 was the first year of implementation of the MoH's Health Sector Strategic Plan (HSSP) 2003-07; the health centres constructed under this initiative met 87 percent of the health coverage plan target, though not all were adequately staffed (MoH 2004). The second Health Strategic Plan 2008-15 for Accountability, Efficiency, Quality and Equity, named Human Resources for Health, was implemented in 2008 as a cornerstone of the health system.

3. OVERVIEW OF CURRENT HEALTH SERVICES SYSTEM

Health centres and health posts in Cambodia, mainly located in rural areas, are designed to be the first point of patient contact. These facilities are staffed by nurses and midwives and do not normally, except in the case of former district hospitals, include doctors. Pharmacy shops must have pharmacists involved in the ownership but are often staffed by non-medical personnel as observed by Beitz (2004:1) – “a variety of drug shops and kiosks are usually staffed by non-pharmacists”. The public sector is considered to be the first line of care, as illustrated in Figure 1.

Figure 1: Government Health Services System



The private-for-profit health sector has grown considerably since 1993. The sector has 2,457 clinics without beds and 274 clinics with beds throughout the country, covering only 9.5 percent of the population (MoH 2006a). Phnom Penh houses the majority of these private facilities including two private hospitals (MoH 2006a). In addition, other organisations such as the Centre for Hope Hospital and NGOs like the Reproductive Health Association of Cambodia (RHAC) provide healthcare outside the government health system.

4. DEVELOPMENT OF HUMAN RESOURCES FOR HEALTH

Following the demise of the Khmer Rouge regime, the government recognised the urgent need to train large numbers of health workers within a relatively short timeframe. As a result, the former training office within the MoH was upgraded to the Human Resources Development Department (HRDD) in 1994 and separated from the Personnel Department. However, training was done rapidly by different actors without much coordination, was not based on an overall training needs assessment, and was mostly oriented at curative rather than primary healthcare (PHC) (Schonhals 2004). In 1996, there was a total of 18,233 public health staff of whom 1,247 were medical doctors (Schonhals 2004).

The secondary nurse and midwife programme was ceased in the early nineties and replaced with a nurse programme which resulted in no new midwives being trained for almost six years during the nineties. In early 2000, the 3+1 programme was established which consisted of an additional year of midwifery following the three year secondary nurse programme. The secondary nurse programme was then replaced with an Associate Degree Nurse programme, offered at the Regional Training Centres. The 3+1 programme failed to produce sufficient quantity of midwives and so a direct entry Associate Degree Midwifery programme was initiated in 2009.

The majority of Cambodian health workers are employed in the public sector. In the government's third mandate, after the National Election in 2003, "the public health workforce increased by 9 percent between 2004 and 2008, whilst the population increased by only 6.5 percent... growth rates vary between cadres of staff, with the highest growth in primary midwives (39 percent) and secondary nurses (15 percent) and negative growth in medical assistants (-6 percent)" (Seng *et al.* 2011:204).

The MoH is now aiming to improve the number and quality of health professionals. There are two medical schools in Phnom Penh. The University of Health Sciences (government) graduates approximately 150 doctors and 100 diploma nurses each year, while the International University (private) expected to graduate about 170 doctors in 2009 (Seng *et al.* 2011). Medical school fees are USD1500 per year at the International University and USD850 per year at the University of Health Sciences (Seng *et al.* 2011). The International University provides training in nursing, midwifery, pharmacy, dentistry, general medical practice and other medical specialisations. A small number of privately trained doctors have been recently recruited into the government system (Kanchanachitra 2011). Five other private universities are also starting to produce healthcare professionals, though only one is training medical doctors.

In addition, there are five Regional Training Centres (RTCs) which offer the Associate Degree in Nursing and Midwifery. All students at RTCs receive government scholarships. After they graduate, students can apply to take the civil service examination (specific to their cadre) and work for the government. From 2002 to 2007, all the nurses and midwives that graduated from the RTCs were recruited to work for the government; from 2007 to 2010 the government took on fewer nurses, but continued to recruit 100 percent of midwives (interview with MoH official, 25 May 2011).

5. CHALLENGES TO HEALTH WORKER RECRUITMENT, RETENTION, DISTRIBUTION AND PERFORMANCE

Despite the increase in overall numbers of health workers, there are issues with regard to their distribution. It is estimated that around 54 percent of doctors are concentrated in Phnom Penh which has only 9.3 percent of the population (Oum *et al.* 2005). Table 1 suggests that the geographical distribution of health workers has remained unchanged for the last five years.

Table 1: Population to Doctor, Nurse and Midwife Ratio in Phnom Penh and the rest of Cambodia, 2003 and 2008

Category	2003			2008		
	Phnom Penh	Rest of Cambodia	Factor difference	Phnom Penh	Rest of Cambodia	Factor difference
Doctors	1,200	12,300	10.2	1,155	11,511	10.0
Nurses	850	2,000	2.3	787	1,714	2.2
Midwives	3,200	5,200	1.6	3,339	4,124	1.2

Source: National Health Statistics 2004, 2008a cited in Seng *et al.* 2011

Cambodia has difficulties in posting and retaining doctors, nurses and midwives in disadvantaged rural areas. This is mainly because of the poor financial and non-financial attributes associated with rural jobs, such as low public sector pay, limited opportunities for private practice, poor education, lack of housing and other amenities for health workers' families, weak managerial regimes, limited professional support, and having to work far from the family (Viviretto & White 2010).

Furthermore, public health workers' salaries do not meet their expectations of a decent wage. Currently over 18,000 staff take home an average monthly salary of USD61: USD90 for doctors and USD60 for nurses and midwives (Darapheak *et al.* 2009). This results in poor staff motivation, supervision difficulties and unofficial patient charges, effectively undermining the overall efficiency and equity of the system and hindering the progress of health sector reform implementation as a whole (Bun Theth 2005).

Many health staff seek additional income from other sources such as private practice, while many more lack motivation and are frequently absent from the work place (i.e. public health facilities) in the afternoon, restricting access to public healthcare (Viviretto & White 2010; Darapheak *et al.* 2009).

There is a severe shortage of midwives, partly due to the years when none were trained; “the training of secondary midwives, a three year training course for secondary school graduates was suspended for six years between 1996 and 2002 because of delays in revising curriculum” (Kanchanachitra *et al.* 2011: 773). The MoH has a commitment to achieve one primary and one secondary midwife in each health centre; in 2010 it had achieved the target for primary midwives. Low investment in pre-service education and high investment in in-service education has resulted in the development of an inadequate skill base and an uncoordinated, fragmented, inefficient in-service training system which cannot compensate for the lack of initial training (MoH 2006b).

6. HEALTH WORKERS’ INCENTIVE ENVIRONMENT

One of the key challenges facing the government is the low rate of births attended by skilled practitioners. To try to reach the target of 80 percent of births supervised by Skilled Birth Attendants, the government has implemented an incentive scheme for midwives in the form of additional salary of 60,000 riels (USD15) per month for those working in health centres and 40,000 riels (USD10) per month for those in referral hospitals. Although this may have resulted in an increase in facility-based deliveries from 38 percent in 2008 to 44 percent in 2009, it may also have caused delayed referral in some cases (MoH 2010a). Other cadres of staff such as nurses, doctors and paramedics who also provide essential primary and secondary health services did not receive this financial incentive which caused de-motivation and led to the practice of sharing the midwife incentive among the team (Ortendahl *et al.* 2007).

The MoH budget for 2010 made provision for an average monthly salary of USD65 for all health staff, and the government is increasing salaries by 20 percent every year to address the issue of low pay. However, its expenditure on human resources for health (HRH) is low by international standards, with only about 15 percent of government expenditure allocated to the health workforce in 2008, reflecting both the low wages and the low level of staffing (Buchan 2011).

Two-thirds of the health centres in the country were unable to deliver the full Minimum Package of Activity (MPA) because of the shortage of midwives and nurses (Chhea *et al.* 2010). In response to the shortage of midwives and maldistribution, the government established a one year primary midwifery training programme in 2003, recruiting local grade 7 students, which was scaled-up nationally in 2005 but instead recruited grade 10 students to improve quality (Kanchanachitra *et al.* 2011). The programme was successful in deploying midwives to rural areas but was criticised in the Midwifery Review 2006 because the low education level of the students made it difficult for them to meet the required standard during the training (MoH 2010b; MoH, 2006c).

In 1998, the government contracted international NGOs to deliver health services in order to improve the quality of healthcare and reduce the negative effects of high out-of-pocket expenditure for the poor. Through this scheme, health workers received performance related payments as salary supplements. These were

paid at different rates and often not through the health management line, causing fragmentation of the health service.

The Health Equity Fund (HEF) was introduced in 2000 to improve access to health services for the poor. Income from subsidised user fees is redistributed with 40 percent used for recurrent costs and 60 percent for staff incentives (MoH 2008).

In addition, the Merit Based Performance Incentives (MBPI) scheme was implemented by Sub-decree 29 in April 2008. Intended as a means of providing cash bonuses to staff for high quality work and outstanding performance, it replaces the system of ad hoc supplements (MoH 2008d; RGC 2009b). However, the scheme was terminated in December 2009 due to national budget cuts.

Prior to MBPI, the Council of Ministers had initiated the government funded Priorities Mission Group (PMG) incentive, which was designed to motivate teams of civil servants. The MoH used it to motivate health workers to improve maternal and child health outcomes. PMG was suspended at the same time as MBPI.

Special Operating Agencies (SOAs), evolved from the contracting process and established by government Sub-decree 69 in April 2009 (RGC 2009a), aim to improve the quality and delivery of public services, including health services. They operate semi-autonomously with control over human resources including hiring and firing of contracted staff, financial management and distribution of staff incentives (Keovathanak 2010). The scheme functions in 20 percent of operational districts and is funded by development partners through service delivery grants.

In July 2010, the Council of Ministers launched the Priority Operating Cost (POC) scheme (Sub-decree 66) as the government framework for all development partner incentives. Implemented by the MoH in 2011, it is designed to motivate health workers to improve outcomes and to replace the terminated PMG and MBPI (RGC 2010). The objectives of the POC scheme are to ensure continuity in the delivery of public services in the National Strategic Development Plan's (NSDP) priority sectors within the framework of Cambodian ownership and leadership, meet implementation conditions of the government, facilitate the harmonisation and alignment of practices by development partners, and facilitate the implementation of reforms, including those concerning human resource management, human resources development and compensation (RGC 2010). POC monthly payments are given to civil servants or teams within ministries and institutions who implement programmes in the government's priority areas; so far there are about 1000 funded POC positions.

Both the SOAs and the POC use the Performance Management and Accountability System (PMAS) to manage staff performance by results.

7. GOVERNMENTAL PLAYERS

The Cambodian Public Administration had to be completely rebuilt after the fall of the Khmer Rouge Regime in 1979. Reconstruction during the 1980s

took place under Vietnamese supervision implementing an administration based on socialist ideology. After the Paris Peace Accords in 1991, international donors with more liberal and pluralistic backgrounds became the main development partners. Few resources were available, including educated and experienced staff. Furthermore, internal conflict continued to be a critical issue until the late 1990s, making party affiliation and loyalty key qualifications in the public administration. Systems of patronage and informal networks developed as mechanisms to gain and stay in control, where in return for loyalty civil servants were provided access to rent seeking from a range of sources while formal salaries and allowances were minimal (Hughes & Conway 2004).

Soon after its formation in 1993, the first government launched a reform programme to improve governance and public administration. A key objective was to integrate the various administrations into a unified civil service by identifying a core group of civil servants to be given sufficient remuneration and qualifications. The civil service was established with the Civil Service Law in 1997 and given responsibility for the priority task of maintaining peace, equity and stability.

The Council for Administrative Reform (CAR), a high ranking, cross-sectoral inter-ministerial body with decision-making power and the mandate to coordinate and facilitate reform processes and initiatives, was established in 1999 to oversee the public administration reforms. CAR has been a pivotal player and is probably a key to understanding the slow progress in the health sector to date. With limited number of staff, capacity and resources, CAR has engaged in a wide range of areas and activities in an attempt to gain control over the public administrative reforms (Danida 2004).

The National Public Administration Reform (NPAR) or the Civil Service Reform can be divided into two main areas: pay, and employment and management. In the pay reform, civil servants are categorised by education and examination results and this is used to calculate their basic salaries. In the employment and management reform, capacity building in the public administration sector has been targeted by several projects and programmes funded by international donors such as the European Commission (EC), United Nations Development Programme (UNDP), Australian Government Overseas Aid Programme (AusAID), Canadian International Development Agency (CIDA), Danish International Development Agency (Danida) and the World Bank.

The policy on public service delivery (2006) “Serving People Better” set out by CAR, outlines the government’s vision of the Civil Service’s transition from an administrative to a service delivery body. It also outlines the functions of public administrative enterprises and SOAs.

The Ministry of Economy and Finance, as a partner in the Finance Management Reform, implemented the SOAs to enhance performance and accountability within the administration (MoH 2009).

8. IMPORTANT GAPS IN UNDERSTANDING HEALTH WORKER INCENTIVES

The Cambodia Demographic and Health Survey 2010 estimated the maternal mortality rate at 206 per 100,000 births (RGC 2011; CDHS 2010) which means that the MoH has met CMDG 5a of reducing maternal mortality by three quarters by 2015 (MoH 2011). However the shortage of midwives, especially in rural areas, and the need to develop their skills so as to further reduce the maternal mortality rate means that the MoH's focus is still on midwife training and development. Senior midwives need managerial skills to manage midwifery services in their facilities or communities (MoH 2007). Investment in pre-service as well as in-service education is needed (MoH 2006b). Students from rural and remote areas need to be supported in finalising their secondary education and training as health professionals. In addition, referral and supervision systems need strengthening and the MoH should continue to strive for one primary and one secondary midwife per health centre.

There are gaps in understanding about the government incentive schemes, including a lack of identification of lessons learned. With regard to MPBIs, PMG, SOAs and contract management, little is known about how and at what levels the incentives are distributed, and how health workers struggle with institutional and “financial challenges to remain in rural public health services” (Chhea *et al.* 2010:3). Some schemes, such as the MBPI and PMG, were discontinued after only a short period of implementation because of negative effects such as inequitable distribution of incentives resulting in conflict between healthcare providers (RGC 2009b). However, there have been no rigorous studies or assessments evaluating the MBPI and PMG schemes. The SOA scheme has not been assessed since its initiation in 2009 and the POC scheme is just about to start. Both schemes would benefit from evaluations of their effectiveness in improving staff performance or contributing to health worker retention in public health centres.

There have been a number of studies about the effects of user fees to improve health workers performance, but conclusions are mixed. In two studies, the introduction of user fees at public health facilities appeared to improve performance and staff attitudes such as improved staff attendance and internal and external communication (Bigdeli & Ir 2010; Akashi *et al.* 2004). However, Barber *et al.* (2004) did not find a strong linkage between salary supplements and staff performance.

9. CONCLUSION

The government has implemented a number of action reforms, policy interventions and many kinds of incentive schemes for improving performance and attracting health workers to work in rural disadvantaged areas. However, little is known about how incentives are distributed, or how health workers struggle with institutional and financial challenges to remain in rural public health services – areas that are worth studying. Other related concerns needing systematic analyses are:

- Human resources for health, with special attention to policies to attract and retain health workers in rural areas;
- Health financing and the impact of health financing policy on human resources in the health sector; and
- Health governance, with particular focus on women and leadership on health sector.

The Health Strategy Plan 2008-2015 calls for health systems research in order to develop a package of evidence-based, comprehensive, implementable policies which conform to national laws and regulations. Included in the key areas for research are:

- Contracting for services delivery (covering SOAs, internal and external contracting);
- Decentralisation and de-concentration in the health sector;
- Social health protection, including Health Equity Funds and Social Health Insurance;
- Staff management and staff remuneration, including performance-based incentives, merit-based pay, facilities-based salary supplementation, per diem allowances and contract work (MoH 2008c: 44).

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Section 4

GENDER

-VII-

Gender in Local Politics: The Case of Decentralisation Reform in Cambodia

by Kim Sedara and Joakim Öjendal with the assistance of Chhoun Nareth¹

1. INTRODUCTION

With the introduction of a liberal constitution in Cambodia in 1993, the procedures of a democratic order were established, including the universal right to vote or stand as a candidate for office. However, democratisation is a process requiring time, legal and institutional development, and not least, popular habituation (cf. Diamond 2000). Given Cambodia's recent and violent history, substantiating the credos of a democratic order beyond the procedural level is a challenge (Öjendal & Lilja 2009) and in many fields distinct headway remains to be made. Gendered equality among politicians is definitely one of these fields (Lilja 2006), constituting an issue deeply rooted in historical and cultural structures (Ledgerwood 1992). Interestingly, the emerging decentralisation reform harbours democratic traits as well as localised features, both conducive to a higher and more meaningful involvement of women in politics. This article sets out to scrutinise to what extent and how this has (or has not) become an empirical reality.

Cambodia's process of democratic decentralisation is framed by the Law on Administration and Management of Communes/*Sangkats* (LAMC) and the Law on Commune Elections declared in 2001. These laws established the communes as a pivotal nexus for sub-national governance and development. The country has since held commune/*sangkat* elections in 2002 and 2007, commonly regarded as the most deep-cutting public sector reform and politically the most significant democratic development in Cambodia since the introduction of public sector reform under the title "Decentralisation and Deconcentration" (D&D). This was systematically implemented through the Strategic Framework for Decentralisation and the 1993 Constitution (Kim & Öjendal 2009). Building on the initial success of this local government reform at commune level, in 2005 the Royal Government put forward its vision for wider Deconcentration reform (RGC 2005).

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With the adoption of the Organic Law in April 2008, Cambodia is now embarked on the second phase of reform with the first indirect elections of district/*khan* councils and provincial/municipal councils held in May 2009. This reform is expected to bring about a significant delegation of functions and authority from the central to the provincial and district levels with the aim of deepening the development of democratic governance at sub-national level, improving basic service delivery under a unified administrative management system and creating a comprehensive local governance programme through functional assignments. Overall, the “big-bang” democratisation of Cambodia attempted through the UN-intervention in 1992/93 is gradually being deepened, localised and consolidated.

These reforms are inherently political, driven by various interests such as the need to acquire political legitimacy, safeguard money flow and generate status in society (Hughes & Un 2007; Blunt & Turner 2005; Öjendal & Lilja 2009). As such, the reforms rearrange power structures, create space for a more pluralistic political representation, trigger articulation of new opinions and address gender equality in local politics as well as accountability, service delivery and overall responsiveness (Kim 2012; Öjendal & Kim 2011). Hence, from a normative point of view, these reforms harbour high development potential (cf. Manor 2008) in terms of, for instance, deepened democracy, heightened gender equality, better service delivery and improved infrastructure. Unsurprisingly, however, the reforms face significant challenges where change is partly resisted and historical social structures prevail; the gender aspect of inclusion, participation and democracy is possibly one of the more difficult changes to achieve (Öjendal & Kim 2006; cf. Lilja 2010; cf. Kent & Chandler 2008; Derks 2008; Hughes & Öjendal 2006). Although there are signs of deepened gender equality, female representation in political decision-making bodies remains inadequate, gendered articulation of ideas and priorities has a limited resonance, and established (gendered) power structures are entrenched and not easily altered and even less easily removed. As Kent and Chandler put it: “The problem of sharing ‘real’ power and responsibility remains trapped in the nexus of old and new norms, in a ‘deep anxiety about the loss of tradition and the dissolution of moral order’” (Kent & Chandler 2008:128). Hence, processes of change are set in motion, but resistance is thick.

Not only are structures of political system changing, but agency is also being triggered on a broad base. Cambodian women do have strategies to form political identities to reinforce their lobbying of government and party campaigning (Lilja 2009; Derks 2008), but women’s engagement in formal decision-making remains obstructed and efforts to increase their share of political positions, voice and influence is an uphill battle (Thon *et al.* 2009; COMFREL 2007; cf. Öjendal & Kim 2006; cf. Lilja 2006). From a micro-perspective, despite the fact that Cambodian women are active – indeed dominant – in small-scale economic affairs and household chores, it is still somehow considered inappropriate for them to be so in politics (Ledgerwood 1992; Frieson 2001; cf. Ebihara 1968). This represents a conservative view of Cambodian politics; however, many new influences and patterns can be observed: the process of post-conflict reconstruction influenced by the imposition of Western principles of democracy and liberal market economy, and the inflow of international assistance

have initiated a transformation of the old norms of society (Ovesen *et al.* 1996; Öjendal & Kim 2006; Lilja 2010; Hughes & Öjendal 2006).

Hence we related to Sen and Stivens's claim that modernisation (in Asia) is, by its very nature, a gendered process (Sen & Stivens 1998). Therefore, this study scrutinises to what extent the D&D reform has served to extend the space for gender equality in local politics and aims to explore the space for women in Cambodia's emerging local governance system. But before we delve into theory, let us elaborate how we arrived at this research question.

2. RESEARCH OBJECTIVES AND METHODOLOGICAL APPROACHES

It is a fact that female numerical representation in political fora is increasing. But we also know that this only addresses a part of the problem, which goes beyond "representation". Therefore, in line with recent international research on politicised gender issues (Kayumba 2010; Sylvester 1994; Rydström 2010), we only briefly touch upon numbers and figures. Although not unimportant, there is a distinct limit to what can be achieved on this "head count" level. To reach anywhere close to gender equality in Cambodian local politics, the more subtle processes emanating from gender-based power structures, both explicit and implicit in nature, need to be investigated. That said, a full gendered "power-analysis" of local politics is beyond the scope of this report (cf. Lilja 2006; cf. Frieson 2001; Ledgerwood 1992), nevertheless we attempt to complement the analysis of figures and numbers – *representation* – with analyses of *articulation* – are women using their increased representation and are their voices being aired and heard? Thus we cover two levels, gradually taking us to the core of the nature of gendered local politics in Cambodia.

Hence, the critical fields of representation and articulation are systematically examined in separate sections; the explanations regarding these issues provide a deeper understanding of the D&D reforms and their functioning enhancing gender equity, in particular the formalisation of the gendered role in local politics. The critical issues are defined as:

- *How is the gendering of political representation in the commune councils proceeding? In numerical terms, how has female representation been improved, and what does that imply?*

And, given that there is increased female representation in commune councils:

- *How have the women in the commune councils been able/allowed to articulate and maintain their political views/role, and their constituencies' preferences?*

These two fields constitute the empirical base of this paper. The contextual understanding derives mainly from previous studies and research experience of the Democratic Governance and Public Sector Reform Programme (DGPSR) of CDRI since 2002 (see for example, Thon *et al.* 2009; Öjendal & Kim 2006, 2011; Kim 2012).

This study is based on in-depth interviews, seeking qualitative data, with different key informants: four commune chiefs (all are women), commune councillors (both men and women), heads of political parties in each commune, village chiefs (most are men), village committee members (most are women) and villagers. Given limited time and resources, we did not conduct a quantitative survey.

Although four commune councils were selected for in-depth interview, this study is not by design a comparative study of the four communes. Rather, the gendered politics in the commune councils is used as the unit of analysis to gain insights towards understanding the power permeated gender dimensions within the process of D&D reform. This study does not claim to represent a full picture of gender in local politics in Cambodia – due to its limited number of sites and interviews (only four communes covered in this study out of 1621 communes/*sangkats* in the country) – but rather seeks to highlight some key issues and processes. Finally, that we have deliberately chosen communes with female chiefs may bias the sample and findings towards “pro-female” communes. However, it gives us richer material and experience to build on than would otherwise have been the case.

3. THEORETICAL UNDERPINNINGS

Decentralisation is no longer a new phenomenon; with a long history (cf. Rondinelli & Cheema 1983), it became a global trend in the 1990s and has now been labelled the “quiet revolution” (Campbell 2003; cf. Grindle 2009; cf. World Bank 2008; cf. Öjendal 2002; cf. Manor 1999; cf. Crook & Manor 1998). The main motive behind various governments’ embracing decentralisation, particularly in transitional and developing countries, is to enhance democracy and participation, and to bring government closer to where people live and work (Litvack *et al.* 1998; Manor 1999). However, when it comes to country specific implementation, decentralisation is an elusive term, in design as well as outcome depending on social, political, historical, cultural and economic contexts (Crook & Manor 1998; cf. Treisman 2006; cf. Manor 2011). This is especially true when we focus on gender aspects (Ahikire 2007).

The IULA’s *Worldwide Declaration on Women in Local Government* stated more than ten years ago:

Local government is in a unique position to contribute to the global struggle for gender equality and can have a great impact on the status of women and the status of gender equality around the world in its capacity as the level of governance closest to the citizens... (IULA 1998 cited in Byrne & Schnyder 2005:6).

Institutional reforms are meant to create space for women to participate and articulate their rights, and governments need to let these fully come into practice (World Bank 2001). A study by Kazuki Iwanaga on women’s political participation and representation in Asia observes that women as a group have consolidated enormous voting power, but women’s political representation in most Asian countries continues to lag behind (Iwanaga 2008). In a democracy, where the issue of equal rights is a

cornerstone, there is of course no legitimate reason why women would not be equally represented in political fora. Some claim that until the interests of women have been represented at all levels, especially the local level, democratic decentralisation cannot be said to have succeeded (IULA 1998: 1).

This leads us to inquire where and how women are, or are not, fully represented. Local government is possibly the most accessible level for enhanced female representation in politics. Or as Byrne and Schnyder state: “with decentralisation the local level of governance is taking on increasing importance as a service provider and point of access to the political system and is thus a key arena in the struggle for women’s political empowerment.” (2005:6). And they continue:

Local government has the possibility to be an important point of access to the political system for women....Women may find it easier to become involved politically at the local level because of family and domestic commitments, and through support from local NGOs and community groups which make it a more accessible starting point for action (2005:7).

Along the same lines, a previous study by UNDP indicates that supporting local government through decentralisation with greater levels of transparency, accountability and responsiveness to citizens’ demands, constitutes the most appropriate mechanism for boosting gender-equal representation (UNDP 2000; cf. World Bank 2001). Moreover, relaying experiences from Africa, Beall (2005) shows that decentralisation has frequently served as an important vehicle for increasing women’s representation and political participation. This gives a good justification for studying *representation* along gendered lines.

However, it cannot be taken for granted that women representation in state institutions will sustainably enhance influence. Ahikire, for one, cautions that though numbers increase, real influence does not necessarily follow (2007); in her study on Uganda she finds that inclusion of women has taken place on a grand scale (even on quota-basis), but women’s power has not been permeating local politics. Hence, it is possible that the establishment of participatory local government through democratic decentralisation would enhance women’s equality in the form of increased representation, but it is also likely that surrounding discourses impede a deeper political voice. This is a good justification for studying the ability of women in the decentralisation reform to *articulate* their preferences.

Following on from the two levels described above, the paper empirically discusses first the general gender issue in the Cambodian context by way of providing some background, second, the changing situation of female representation in local political institutions, and third, the gendered articulation (and the implications of that) the reform has triggered.

4. GENDER IN THE CAMBODIAN CONTEXT

Gender roles in Cambodia have been described as rather complex, intermingling modern ideals with embedded traditional/cultural, social and behavioural norms which are in a state of flux (cf. Kent & Chandler 2008). This constitutes a complicated *problematique* that requires a fuller background.

Khmer kinship is basically bilateral (cognatic), meaning a mixture of matrilineal and patrilineal. Although either the paternal or maternal line may be emphasised in certain respects, there is some emphasis on the female line in resident's patterns and parts of the kin terminological system which are remnants of matrilineal descent among ancient Khmer (Ebihara 1968; cf Kim 2011). As May Ebihara put it:

In general, there is no significant weighting of either the male or female lines with respect to property ownership and inheritance...Any skewing toward one side or another is usually due to certain circumstances rather than to absolute rules, for in this as in many bilateral systems there is considerable flexibility (Ebihara 1968: 95).

The study conducted in the pre-civil war years of the 1960s by May Ebihara on the role of women in rural society of Cambodia – the only comprehensive academic study of its kind from pre-war Cambodia – indicates that Cambodian villagers traditionally do not have a rigid gender division of labour and behaviour patterns as in some other rural societies. Many tasks are performed by either or both sexes, and in many cases, a man occasionally does what is normally a woman's task or vice-versa without incurring derision or embarrassment (Ebihara 1968: 190-191). Also, in contemporary Cambodia, women have multiple roles in society; within the household, they typically have control over resources and are responsible for bringing up children. In rural areas, they commonly assist in agricultural work and in urban areas, women often work in informal sectors and enterprises, especially in the garment sector, as well as within the public administration and as market vendors (cf. Derks 2008).

Historically, public decision-making and politics have been strongly associated with male characteristics, and crude display of strength has been central and pervasive for amassing political power (Ebihara 1968; Ledgerwood 1990; Ovesen *et al.* 1996; Luco 2002; Frieson 2001; Öjendal & Kim 2006; Lilja 2006, 2009). Hence, women have been politically repressed and/or marginalised, though this has been slowly changing for some time. For instance, in line with the communist tradition in the 1980s, the women's movement was established under the Front (the core group consists of the Women's Association and the Youth Association). This would – it was assumed – enhance political education, act as a bridge between the party and the masses, and serve as a training ground for future party members and state cadres (Gottesman 2003: 59). Rural women were highly involved in the physical reconstruction of Cambodia in the 1980s, but only a few women had high-ranking political positions in the People's Republic of Kampuchea (PRK) government (Iwanaga 2008). Remnants of this system of mobilising women (as a social category) to serve the political party are still present.

Cambodia's post-conflict nation building since 1993 has in contrast been heavily influenced by Western principles of democracy and market economy via aid inflow and various international interventions, which run counter to a number of traditional elements in the Khmer world view and its view on gender (Ovesen *et al.* 1996; Lilja 2009). Political representation, decision-making and gender equality, which generally contradict the essence of Cambodian culture, are currently being promoted with the support of international agencies.² Also, the political status of women is enhanced by the influence of globalisation including the introduction of new norms through policy and practice of NGOs and donor agencies, especially concerning the political identities of rural areas in Cambodia (Lilja 2008, 2009). This creates a dual image of women caught in a double bind between traditional norms and modern expectations, yet expected to claim a seat at the political table. If they remain passive no political power will be available; if they bid for power, they are questioned by a thick conservative discourse protecting established positions.

A recent study on local leadership has revealed that women leaders face major constraints of culture and tradition, family pressure (implying a double workload), and other more subtle barriers (Thon *et al.* 2009). These constraints have typically left female leaders without support and cooperation from their family members and colleagues. Some women leaders have faced divorce as a result of participating in politics. The study also found that for related reasons – not because women are deemed “unsuitable” – women leaders lack the self-confidence and capacity to serve as top local leaders. This sentiment is typically shared among the male (and some female) leaders and villagers constructing a self-fulfilling prophecy. In a vicious circle, this lack of trust in their capability makes women leaders feel inferior, reifying the initial suspicion (Thon *et al.* 2009).

In the post-1993 period, gender awareness has been growing in tandem with different governance reforms, especially, as many would maintain, within the decentralisation and deconcentration reform (and its forerunner CARERE/Seila)³. The emerging political space for women within the on-going D&D reform is marked by a slow but tangible shift of power positions between the sexes (Öjendal & Kim 2006). The increase of women's representation in political leadership results primarily from the inception of “developmentalism” and the overall transition towards a more flexible political climate. In the post-conflict situation, where development is becoming more important than security, there may be more demand as well as space for female leaders.

In sum, the mainstreaming of the gender perspective is now integrated as a crosscutting theme in most legal frameworks, policy documents and programmes. Statistics show increasing female representation at various levels in legislative and executive bodies through direct and indirect elections since 1993, and in the local

2 See Hughes *et al.* 2006 for reflection on Cambodian culture(s) and its ability to “adapt” to modernisation.

3 The CARERE/Seila is a policy initiative to decentralize the planning, financing and management of integrated local development in Cambodia.

context, since 2002. Historically, women started to become represented in the political sphere in the 1980s, but not always in a way that has allowed fair and full access to power. In spite of a push for enhanced gender equality, somewhat predictably women still face a lot of constraints; they are not fully recognised in the social, political and economic arenas of Cambodian society, creating a complex mix of “old” and “new” gender politics and gender norms. In order to expose the complexities – progress and reactions – of the increasing formal space for women in local governance, the two empirical sections investigate the two chosen degrees of political engagement: the *representation* and *articulation* of female commune leaders in the four selected commune councils.

5. FINDINGS FROM THE EMPIRICAL REVIEWS

Decentralisation has changed the old norms and practices of women and it has offered women like me the opportunity to participate in leadership activities at commune level through local elections. As an elected commune council chief, I have to deal with various issues of security and the overall responsibilities in the commune. From time to time, my work means I have to travel far from home to different provinces for many days at a time. In the past, this kind of travelling was not acceptable because it was considered improper for a woman, but now I can do it without any repercussions from my relatives or husband. Many young girls travel and work far from home in the cities for many months in order to make a living. This makes them more confident and independent (Female commune chief, Battambang province, 12 July 2010).

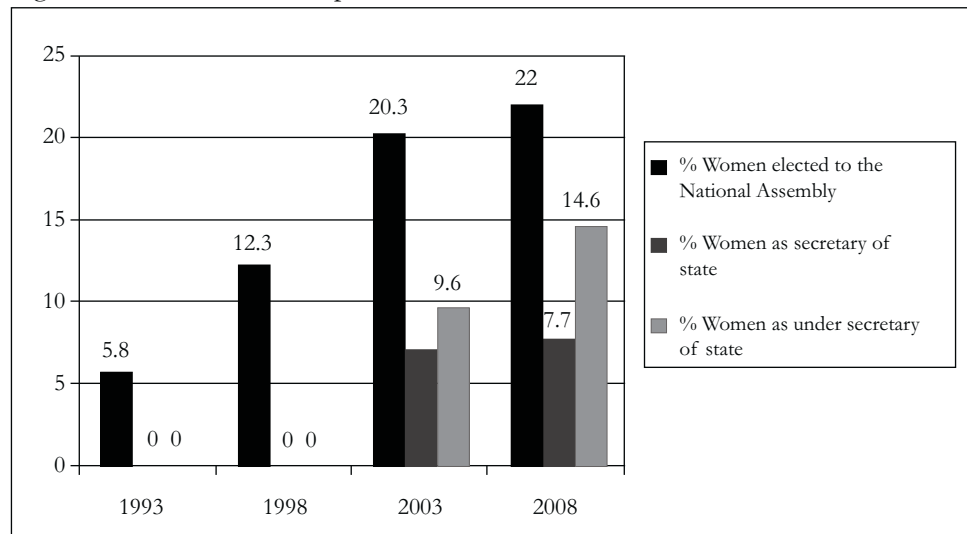
5.1 Gendered Representation in the Decentralisation Reform

This section starts by reviewing the government’s policies and data on female political leaders in the legislative and executive branches and national and local levels of government, and then presents the qualitative field interviews and observations.

Gender issues have become a part of mainstream politics in Cambodia over the last five years. Already in the Decentralisation Law (2001), gender issues were brought into the government’s reform process (though in a slightly conservative way), and again in a more sophisticated way in the D&D strategy from 2005 (RGC 2005), and perhaps most explicitly in the recent Rectangular Strategy (RGC 2010).

The recent progress of women’s representation has been gained mainly (and found an outlet) through the processes of direct and indirect elections. The proportion of women elected to the National Assembly increased significantly from 5.8 percent in the 1993 national election to 12.3 percent in 1998, to 20.3 percent in 2003, then to 22 percent in the 2008 elections (Figure 1) (Statistical Yearbook 2008). The proportion of women appointed to secretary of state and under-secretary of state has also increased from 7 percent and 9.6 percent in 2003 to 7.7 percent and 14.6 percent in 2008, respectively.

Figure 1: Female Political Representation



Within the institutions reformed through the Organic Law initiated in 2008, women make up 10.1 percent of municipal and provincial councillors and 12.6 percent of district, town and *khan* councillors (Lilja 2010). The proportion of women elected to commune councils increased from 8 percent in the 2002 commune elections to 14.6 percent in the 2007 elections. The senate was first appointed in 1999 and reappointed in 2004 with an increase in the proportion of senate seats assigned to women from 13 percent in 1999 to 21 percent in 2004. With the shift to indirect election of the senate by commune councillors in 2006, the proportion of women in the senate declined to 15 percent.⁴

The figures above indicate two things. First, representation of women in the executive as well as the law-making branch of government remains low at all levels. At no time and in no political body has there been anything close to numerically equal gender representation. Instead, women's representation has been 20 percent at best, and there is a wide gap between that and anything resembling gender equity. Second, *all* trends are sharply heading towards increased gender-equal representation.⁵ If these trends continue for another two to three elections, gender equality, understood as representation, would be within reach.

Information from the field interviews and observations indicates that decentralisation initially introduced various avenues for women to attain leadership in their communities. However, some measures are shallow and therefore must be critically questioned and empirically scrutinised.

4 This seeming reversal of the trend is widely believed to be because instead of being appointed by the political parties, since 2002 the senate has been indirectly elected by commune councillors (constituting a more conservative political grouping) (MoWA 2008).

5 The only exception is the Senate indirect election in 2006 as described in footnote 4.

A female commune chief in Takeo expressed her view on the roles of gender since the implementation of decentralisation as: “[We can] talk about the role of women in politics and development in the commune level, though there is some [empty] rhetoric....”

Interestingly, she continued:

.....but since the decentralisation in 2002, some women have been considered and promoted by their political party and government to take part in local leadership; for example, having opportunity to access capacity building and knowing their rights, women start to demand equality and become more actively engaged in community social affairs ... (Female CC chief, Takeo, 25 June 2010).

A commune chief in Battambang offered her view on decentralisation and gender:

Gender awareness is getting better because of decentralisation reform, opening up [opportunities] for women to participate in elections and engage with many activities in the community. The [main] enhancement of awareness of gender comes from the efforts by NGOs and the media (Female CC chief, Battambang, 12 July 2010).

As noted above, the constraints to achieving gender equality in Cambodia are substantial. However, many informants said that the constraint from traditional norms is no longer a major problem as both men and women have changed their perceptions since the implementation of decentralisation.⁶ While this could be jumping to conclusions too fast, the point needs to be investigated. A group of male commune councillors stated:

I think the constraint of traditional norms is not a major problem for women anymore; it has gradually changed. All institutions seem to work hard to disseminate the values of gender [equality]; people are well aware of their rights, including equality of women in all sectors in society. Women are under less pressure from traditional norms compared to how it was in the past. (Group of male CC councillors, Kratie, 16 June 2010).

While imperfect, the progress of the gender debate is clearly being propelled by recent reforms. Many people interviewed said that they have no doubt that women’s representation is, or should be, increasing at all levels of local government, especially at the commune and village levels. A group of male councillors said:

6 The shift of the traditional norms is also caused by, for instance, economic and social factors and migration of people.

This commune is headed by a female council chief and clerk, and we have 13 villages. In all the villages, women are working hard for their communities. They are very committed to serving the villagers. This is a real progress in our commune.... (Group of male CCs, Kompong Cham, 28, July 2010)

From all quarters, it is believed that women's representation will increase further. A male councillor opined:

I think the constraint of traditional norms is not the problem anymore for women because women are well aware of their rights, more engaged in both community development and political issues. Currently, women are bolder and more intellectual than before. I am confident that the number of female CCs will increase because of growing public awareness, advocacy by many agencies, and commitment from various political parties to encourage women to engage in society. (Male CC member, Kratie, 16 June 2010)

Besides commitment to the political party, a precondition of utmost importance to women's (or indeed anyone's) representation in commune councils, female leaders are commonly ascribed some critical qualities that men do not, or so it is assumed in the essentialised local discourse, possess in similar quantities. These are patience, the ability to be empathic, being easily approachable, and remaining humble and generous with deep attachment to the community, particularly towards poor single women-headed households, and children. As a male deputy commune council chief in Battambang puts it:

In this commune female leaders work patiently and understand the local situation well, especially social welfare issues. Being approachable by everyone, our female CC chief is gaining more insights and interacting with people. She is a well-respected person in this commune because she is soft, patient, and generous with everyone without discrimination on political issues, rich or poor. To be a good leader, not only education or capacity is important, one also needs these kinds of good personality traits. (Male deputy CC, Battambang, 12 July 2010)

There is also a common perception that women are more capable of managing economic and social affairs in the community than men. A male CC member stated:

Regarding the role of women in the commune authority, women are able to mobilise more women in the community, for example at the village level. Women leaders are good at raising money, mobilising local contributions, and understanding the household economy of the villagers because they speak the language other women in the community wish to hear. (CC member, Kratie, 16 June 2010)

A female CC member in the same commune expressed similar views:

With decentralisation, we now have a female commune council chief and generally in our society women are more approachable. That is what people feel. In terms of addressing and advocating social issues such as health, education and conflict resolution, women are more effective than men in the community.

Despite many positive outcomes, primarily emanating from the decentralisation process, perceptions of the actual implementation of the associated gender policy are mixed. A group of male commune councillors in Takeo offered their views:

Despite the strong support and policy from government and development agencies to promote women, it is still more or less rhetorical because when it comes to actual implementation, women still lack self-confidence, have low education, and are more dependent on men. It is very difficult to convince them to exercise their own rights. (Group of male councillors, Takeo, 24 June 2010)

The obstacle to gender equity is the lack of commitment to implement agreed policies at all levels. A female commune chief in Kratie stated that:

Interventions to address gender issues do not match the legal and policy frameworks of the national government. In terms of the day-to-day management of the commune council they are going well, but there is still not a clear role and line of communication between the commune, the political party, and individual influence. There is still an attitude of not fully recognising women as leaders and there is a lack of full cooperation from the men. (Female CC chief, Kratie, 19 June 2010)

A female village focal person in Kratie expressed her opinion:

[The degree to which we] have women working in the commune or village is determined by the political will and hierarchies of each political party. For this commune, many people do not like the CPP, not because they dislike the party but because people do not like the party's candidate. As an individual, he is not popular. This is why the head of the commune council in this commune is from another party and is female. (Female village focal person, Kratie, 16 June 2010)

Many of the people interviewed also connected the representation of women with the degree and nature of the delegation of power. A commune chief said:

Gender representation at the commune level is still rhetorical.... Many policies and regulatory frameworks have not been implemented well. Most of the local leaders at the commune level work is based on the policy from their own political party rather than from the government. For example, as a CC chief I know exactly the situation in this commune especially domestic violence and poverty, but I do not have the resources to help them. (Female CC chief, Kratie, 19 June 2010)

As we have seen, the deepening of equal gender representation at commune level is hampered by (perceptions of) the lack of qualified women and the contextual requirements (i.e., political patronage) to deal with sensitive issues such as land conflict and domestic violence. As a group of commune councillors argued on this matter:

When we talk about gender representation we should focus on the real output of work; increasing the number of women in the commune is not enough. For example there are still many social problems in the commune such as domestic violence and land conflicts that have not been resolved. (Group of male CC members, Kompong Cham, 28 July 2010)

Clearly, most CC members share our view that representation is not enough to alter power structures. Interestingly, the qualities and weaknesses that tend to be routinely ascribed to women leaders are no longer immutable. A female commune chief in Takeo explained:

There are still a lot of doubts about women's capacity – that women are weak, cannot work as well as men, cannot deal with the issue of security and other tasks that are considered men's work. These kinds of misconceptions must be changed to improve the role of gender [-ed politics] in the future. (Female CC chief, Takeo, 25 June 2010)

Overall, the initial outcomes of decentralisation on enhanced gender equal representation are rather encouraging, especially given the relatively short time it has been in operation. As relayed above, many informants at the commune level reported that a number of new conditions have been emerging locally since the implementation of decentralisation in 2002. These new conditions have created space for women to participate in local politics, increasing the number of female representatives (leaders) at commune and village levels. Moreover, women are increasingly and widely appreciated as well within the political parties. The reforms have influenced and somewhat changed the old/traditional norms and perceptions of women's role in local politics. Public awareness of gender issues is growing, and women have played a critical role in combining responsibility for the household economy and social affairs with the work of the commune councils.

In terms of women's wider participation in politics, it would seem that a fair range of progressive changes is tangible, though this does not mean that obstacles have been removed. Predictably, female politicians have to fight to be taken seriously and be seen as “real” politicians capable of taking on the full task of local leadership. This resistance is primarily constructed in conservative discourses on “who can do what”, in contradistinction to more rational assessments of capacities and competencies.

Having described the empirical findings on local perceptions of women's representation at commune level, the situation can be summarised as follows:

- The increase in women's representation at commune and village levels is through elected commune councils, commune and village focal persons. We find that female leaders are widely regarded as fully committed and engaged in assisting and representing their constituencies.
- The attitude and perceptions among men and women in the community are changing in that they increasingly trust women to be their leaders, though counter-discourses remain. The main reason for this gradual change of attitude is that many have seen that women are as (or more) effective as men in local leadership.
- Women's representation in local politics emerges as primarily depending on political party priorities. Dependency on the political party is due to the party list system dictated by the electoral system. There is a tendency for female commune chiefs to assist people regardless of party loyalty which may not go down well with party hierarchies.

Despite much progress in women's representation in local political parties, several constraints of a more elusive nature persist. For instance, there is still a mismatch between the regulatory framework/policy and actual implementation, and female leaders are not fully supported by the government, political parties or their male counterparts, which together create a thick discursive barrier to equality in political representation.

In brief, women's numerical representation has been heightened and there is real progress in terms of perceptions of female representation in political fora. Let us move to the more subtle field of articulation and influence and see how the deepened representation is reflected in pro-active politics.

5.2 Political Articulation and Legitimacy of Women in Local Politics

Women's political articulation here is defined as female commune councillors having relative autonomy, knowledge and ability to pursue formal and informal political preferences. The question is, what are the factors that enable women to articulate and maintain their legitimate power? As in many other aspects of Khmer political culture, issues are multi-dimensional: there is a discourse claiming the natural and historical ability of female leaders to do their job. A group of male commune councillors described their views on this issue:

The current CC chief of this commune is very committed to the people in the commune and is very popular among the people because she does not use her power to exploit others. She pays serious attention to women's, children's and social welfare issues. She does not politically discriminate between people from different political parties and she is also transparent—not corrupt. She is trusted by her political party because she has been working for the local authority since 1979. (Group of male councillors, Kampong Cham, 28 July 2010)

The passage above highlights some critical aspects that would enable female commune councillors to articulate their responsibilities: local popularity, transparent working practices, and commitment to the community. Women leaders possessing all of the above characteristics might also be favoured by their own political party because in return, the party would get the popular vote. This is the *raison d'être* for a gendered local democracy and a heightened role for women, *also* for the political parties (which otherwise are seen as a restricting factor).

Hence, women's *de facto* ability to effectively articulate their responsibilities is through the trust and cooperation they get from other male dominated fora (i.e. the police and district authorities, but also from within the commune/*sangkat* and the local economic elite) which collectively and possibly unknowingly control/dominate the discourse (cf. Ahikire 2007 for a parallel argument). However, the thick discourse on men's superior ability to handle politics could be destabilised. A male deputy commune council in Battambang envisaged:

There is no difference between the ability of men and women in [articulating priorities and] doing their tasks. During the time of fighting the Khmer Rouge, many women were even in the army. Women can do the job as well as men can. (Male deputy CC, Battambang, 12 July 2010)

In contrast to the above statements many informants said that female leaders at commune level require different (i.e. more favourable) circumstances than men in order to articulate their role effectively, including: i) sufficient financial resources and decision-making power as stipulated in law; ii) a certain (i.e. higher than men) level of education/capacity, work experience, good understanding of the community and self-confidence; iii) full support, authority and trust from the political party; and iv) extraordinarily good personality and popularity in the community. The latter is clear from the above discussion, and let us now address the other three factors critical for women to exercise political power.

It is commonly claimed that lack of financial resources render women leaders' articulation of priorities to mere rhetoric (as mentioned above) and to dependence on financial and material support from political parties, NGOs, and central government via the Commune/*Sangkat* Fund (CSF).⁷ A group of commune councillors in Takeo expressed their views:

7 Dependency on the central government and political parties/elites is the main issue hindering female leaders from being able to articulate their role and make decisions effectively. The fact that they tend to have local support does not necessarily change that. As long as the decentralised authorities are dependent on central funds, local popularity/legitimacy is not a factor for revenue-raising, hence barely impacting on what can be achieved (since financial restraints are the major impediment to progress in the short run).

Decentralisation is really good for women because they can access the political system in the commune, [but their active involvement] is not yet as extended in terms of ability to do things as the commune authority wishes. The lack of resources is the chief problem, hindering [women's] ability to articulate (*chbloenytorb*)⁸ [opinions and demands] and make decisions independently. (Group of male CC members, Takeo, 24 June 2010)

However, ordinarily the commune councils cannot realise (all the) popular demands. In order for people to understand the difficulties that prevent them from being fully responsive, the commune chiefs (as well as all the councillors) need to be flexible, patient and transparent vis-à-vis their dealings with people. The commune chief in Battambang explained:

People always ask for many things from the commune and we are not able to realise their demands. The best way to deal with this issue is to explain [the situation] to them clearly and to disclose the exact amount of money that the CC has every year. (Female CC chief, Battambang, 12 July 2010)

Likewise, a commune chief in Battambang said:

As I understand it, commune councillors have more opportunities than ever before, particularly a woman like me, of engaging in commune leadership. However, the major constraint in terms of implementing responsibilities is [that] we have no revenues, only the annual CSF; the only extra [financial] support to assist us to do our job for the people is some support from NGOs. (Commune chief, Battambang, 12 July 2010)

Another constraint to attracting women capable of fulfilling the role of a local leader as well as their constituents' preferences is the (claim of a) lack of qualified, bold and interested women willing to join the local authorities, as most rural women (and men) are reluctant to make controversial decisions.⁹ A group of CC members in Kompong Cham shared their views:

The issue of gender is really good on paper. We have seen that many agencies are working to promote gender awareness, but in practice it is not yet realistic. The chief problems of gender [equality] are the qualifications and confidence of the female candidates. There are few qualified women in the political parties and the young and qualified people do not want to work with the local authorities. (Group of CC members, Kampong Cham, 28 July 2010)

8 In the vernacular, the word articulation (*chbloenytorb*) means the ability to do things more independently in a responsible way.

9 This is partly a result of previous reluctance to allow women to participate in political decision-making (creating a vicious circle of exclusion), and partly a more general reluctance to air opinions which may not be possible to substantiate, typically held by the rural population. If mistakes are made, popular ridicule (including concrete long-term consequences) can be cruel. This goes for women and men, but the practice is such that it punishes hubris and norm-breakers harder than others. Hence women daring enough to venture into politics are particularly vulnerable to this kind of public humiliation.

While these could be regarded as stereotypical and/or discursive constructions, the depth with which they are internalised (and applied) by men and women alike make them real nevertheless:

For the political aspect, some parties, for example CPP, were unable to promote female commune council chiefs because of the internal priorities and or political will of the party. The first candidate on the party list for the commune election must be smart, popular, educated, and most importantly, he or she must understand the local context and be able to deal with local situations well. (Female CC member, Kratie, 16 June 2010)

This then raises the questions of how representation actually generates influence and how political power can be exercised.

Turning to the next critical impediment to legitimate female political articulation, we note that in a Cambodian context it is difficult for a leader (man or woman) to be independent (Kim 2012). Patronage through extended vertical networks is perceived as natural and even obligatory (Chandler 2000; Marston 1997; Pak *et al.* 2007; Kim 2011/2012). The informal patronage power structure(s) has always competed with institutionalised hierarchies of the state (Roberts 2006; Ledgerwood & Vijghen 2002), and the dominant historical pattern is that power is personalised and rests with individuals or groups and much less with the formal state institutions (Mabbett & Chandler 1995; Thion 1993). What exists at the grassroots level is a great deal of personal dependency, and in particular cases, affiliation to a political party (Pak & Craig 2008).

A group of commune councillors in Kampong Cham described their feelings:

In the current situation, as a commune council member, we cannot be independent –*we* have to be committed to a political party because the system works through a party list. The preferences of a political party are the most influential ones, and ones we cannot change. (Group of male CCs, Kompong Cham, 28 July 2010)

To possess legitimate power, leaders should have a clear understanding of the three core elements of power. A female commune chief in Kratie echoed her view of legitimate power:

I would like to share with you that power at commune level is now associated with individuals or personality, the state authority and the political party. Of these three elements, the state or the commune is the most important because they are responsible for executing the legal framework of the government. The second most important is the individual capacity of leaders and their popularity, and the last one is the political party since we have a party list electoral system. (Commune chief, Kratie, 19 June 2010)

A female commune chief in Battambang expressed her thoughts on the most important political factors:

Currently our electoral system is based on proportional party base. Political party [affiliation] is the most vital factor for the exercise of power. The second most important factor is individual capacity and commitment, and the last one is the state or the commune. However, to be supported by people in the community and to work successfully, we need all three elements. You can compare this to the triangulation of the charcoal stove; it needs three pillars to hold the rice pot steady. (Female commune chief, Battambang, 12 July 2010)

As evidenced by the above observations, women's representation is *gradually* increasing and people *broadly* recognise that women perform well in socioeconomic and political leadership in the communities. However, proper female articulation is still hampered by a number of factors such as: lack of political will within the political party to support women, vague law enforcement, limited self-confidence, men not fully supporting women's political endeavours, and lack of resources to respond to people's needs. Or as a male chief of a political party at commune level put it:

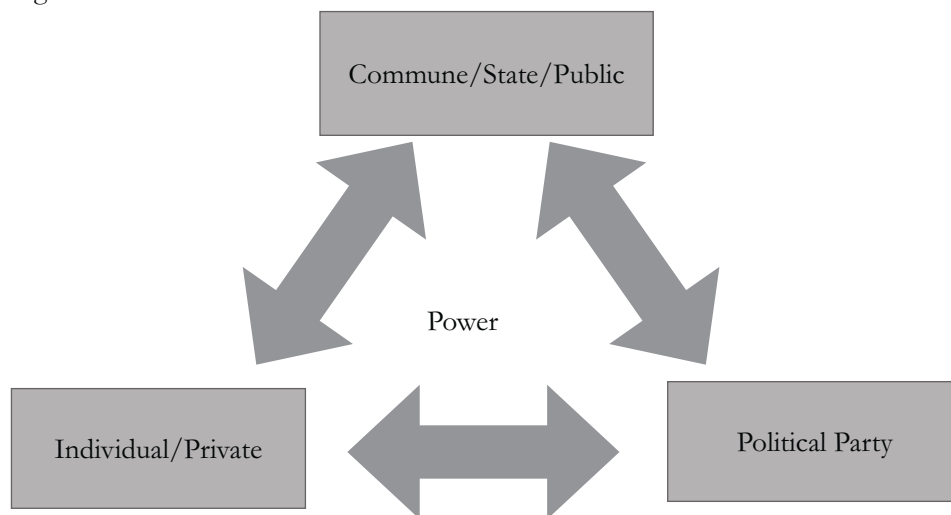
The reason that CPP does not have a female commune council chief is because the party did not put a woman as the first candidate on the party list - as you know the electoral system in Cambodia is on party basis. There are three reasons: first, it's difficult to find a competent female candidate and, second, it's not yet time for women to work as the commune council chief since we mostly deal with security issues at night time and I doubt that women would dare to go out. Third, having women in local politics depends on the party; within the current system there is not much room for female candidates. The party does not yet strongly prioritise the placement of women candidates at the top of the list. This is only my personal view. It does not apply to all the commune councils in the country, but in remote rural areas like this, women face difficulties. (Chief of a political party, Kratie, 17 June 2010)

However, the separation between the state and political party remains ambiguous. Many local politicians are still projecting the system of the PRK from the 1980s, implying that the party leads and the state executes (*pakdoeuknourm* and *rot aknuvat*) or party first and state second (*pak neung rot*). While effectively still at work, this practice appears to have become obsolete in the emerging governance system. However, arguments on its relative obsolescence do not prevent it from being efficient, albeit in a crude way. A commune councillor in Takeo further explains:

With the current party-based electoral system, the most important [strategy] for individuals to secure power or position in the government must be from a [strong position within a] political party because we still believe that the party leads (*pakdoeuknourm*) and the state implements (*rot aknuvat*). Other factors for generating power are individuals' capacity, networking, and popularity within the party and community. These are the factors through which the commune council operates. (CC member, Takeo, 24 June 2010)

From the above excerpts, we can discern a pattern for exercising political power in Cambodia. The three dominant structures in society that reflect how power is projected (of general relevance but extra sensitive for gendered politics) are illustrated in Figure 2. The most important political sphere – from a gendered perspective – is that women have to be trusted by and actively engaged in a political party (because of the party-list system). The second is individual/private capacity where one needs to be seen as humble, popular, committed and patient in the community. The third is the state institution such as the commune council which has the legal authority to rule. Of the three, women are apparently most successful in generating popular support in their private capacity, and are partly aided by public policies and laws. Support for women from within the party is thinner, being squeezed between historical patriarchy and emerging money politics, both favouring men.

Figure 2: Power Structure in Local Politics



Summarising the most important political processes that would project women's power, we find that:

- Women's capacity to articulate political opinions in formal bodies has increased through the process of decentralisation. Women are seen as being good at and interested in articulating political views, particularly children's, women's and social welfare issues.
- Female leaders face additional obstacles¹⁰ such as (higher) dependency on financial resources from central government, political parties and NGOs. Cooperation from men and political parties is often necessary for women to properly articulate and execute their priorities.
- Many discussions on gender issues in Cambodia refer to the assumed lack of self-confidence and competence among women putting them in an awkward

10 This is a dilemma for male councilors as well, but the problem is reportedly enhanced for women.

situation. In order for women to be further empowered, as indicated in the empirical discussion above, they need a certain degree of autonomy, trust and support from the public, the party and the state.

- Women's empowerment in politics is highly dependent on the networks they command (which may be weaker than the men's due to the historical pattern of local politics), especially within their political party, and whether their party prioritises women by placing them at the top of the voting list and giving them authority and support.

6. DISCUSSION AND CONCLUSION

This study aimed to scrutinise the extent to which democratic decentralisation has opened space for women to engage in (local) politics. In unpacking local politics from a critical stance vis-à-vis the headcount approach, we applied a level approach where two different depths of female engagement in local governance were empirically investigated: *extent of female political representation in the commune councils*, asking such questions as if/how female representation has been enhanced, why, and what that implies. The second degree is *articulation and the exercising of power in their role as local politicians*: How has women's articulation of views and preferences in the commune councils been pursued? What are the mechanisms for women in commune councils to pursue power, and what are the obstacles? Let us respond to these issues on a thematic basis.

D&D reform: As indicated in Figure 2, the overall views of decentralisation from government as well as those expressed in the in-depth interviews are that reforms have opened up different opportunities for women's participation in local governance (at least in the selected rural communities). Decentralisation reform and socioeconomic factors have enhanced the political space and improved awareness of gender issues by providing fora where women are allowed to engage politically and at least access a budget for local development work.

Popular discourse: Awareness of gender issues and acceptance of female leaders have increased sharply since the inception of decentralisation reform in 2002. At least four fundamental forces have contributed to this improved awareness: i) strong support from government institutions (to a limited extent by political parties via the party list electoral system); ii) training and advocacy by NGOs and civil society organisations; iii) economic and social dynamics, (introducing modernity); and iv) the changing popular discourse (partly driven by the presence of mass media). This set of inputs has proved to be especially vibrant through the local commune elections, creating opportunities for women to engage in democratic governance and development activities, and providing a distinct shift from the old norms.

Policy: In its recent policies, the government has integrated gender aspects as a crosscutting issue embedded in many sectors and different levels. Most of our female informants at the commune and village levels expressed their clear understanding of their rights and have at times demanded increased equality. Many of the interviewees

said that without the electoral decentralisation at commune level and strong support in terms of policy, it would be difficult for women to have such opportunities to engage in politics.

Social norms: Much progress (which has sources beyond the reform as such) has been made in the 10 years of decentralisation. Many informants, especially men, acknowledged that women are good at managing local committees because they perceive women as being more patient and attached to children's, social and household affairs. This is a dual progress: on the one hand it has opened space for women to achieve a higher presence in local political fora; on the other women are often put into gender-stereotyped positions, dealing with women's affairs. Their performance is also judged from a gender-stereotyped perspective. Many constraints persist, blocking progress towards achieving a more gender equal situation. Female leaders are not fully appreciated by their male counterparts, neither in the commune council nor within the political parties. This is often attributed to the notion that women are weak in terms of dealing with security affairs, and because their leadership is constrained by social and traditional norms.¹¹ Many policies do not go beyond mere rhetoric, remaining shallow and difficult to implement locally due to the need for major efforts to break social norms, as well as the lack of financial support (which women need more than men due to the higher expectations on them to deliver tangible results). Most importantly, political will from the top leaders to alter social norms is, at best, half-hearted.

The political reform of decentralisation has overall opened political space and started to re-arrange social norms that used to effectively prevent women from entering politics. While politically very interesting, the process must be kept dynamic if anywhere close to gender-equal local governance is to be reached in Cambodia. The major impediment to deeper gender equality rests primarily on the gradual shift in social norms upheld by both men and women, including within the conservative and politicised party system. We could well be witnessing the start of this historical process, but just the start.

The findings and observations of this study indicated that the influence and effectiveness of gendered politics centres on the decision and political will of the political parties involved in local politics. Future research is now needed to analyse the gendered power structure within the political parties.

11 It should be noted that there also is a considerable number of men who voluntarily express the opposite opinion.

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-VIII-

Gender in Climate Change Adaptation: The Case along the Mekong River and Tonle Sap Basin

by Koy Ra and Em Sorany¹

1. INTRODUCTION

It is predicted that climate change will reduce crop yields and food production in some parts of the world. The threats posed to human society and ecosystems have been elevated to top priority since the release of the fourth Assessment Report of the Intergovernmental Panel on Climate Change in 2007 (FAO 2009), which defines climate change as any alteration in climate over time, whether due to natural variability or as a result of human activity (IPCC 2007). The impacts of climate change can be classified into catastrophic and chronic effects (CARE 2009).

Cambodia is one of the most disaster-prone countries in East Asia, and is particularly vulnerable to annual floods and drought (Nguyen 2007). This is because the majority of people's livelihoods are highly dependent on natural resources such as forests, fisheries, water and common property resources as well as crop (mainly rice) farming and animal husbandry. Recent weather variability has proved very challenging for rural livelihoods. In particular, women are affected differently than men, and often more severely by climate change and associated natural disasters such as floods, droughts, cyclones and storms (UNDP 2009a). This is to some extent because women's conventional roles and primary livelihood activities accentuate their vulnerability, making them more susceptible to shock and undermining their ability to cope with climate change impacts (UNDP 2009a). The Royal Government of Cambodia has made some progress towards mainstreaming gender perspectives in its policies and programmes and achieving gender² equality.

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- 1 Koy Ra, programme coordinator, Natural Resources and Environment; and Em Sorany, manager, Development Knowledge Management, respectively, at CDRI.
 - 2 Gender refers to the differences in socially constructed roles and opportunities associated with being a man or a woman and the interactions and social relations between men and women. Gender determines what is expected, permitted and valued in a woman or a man in a determined context (UNDP 2009b).

2. OBJECTIVES

The main objectives of this study are to:

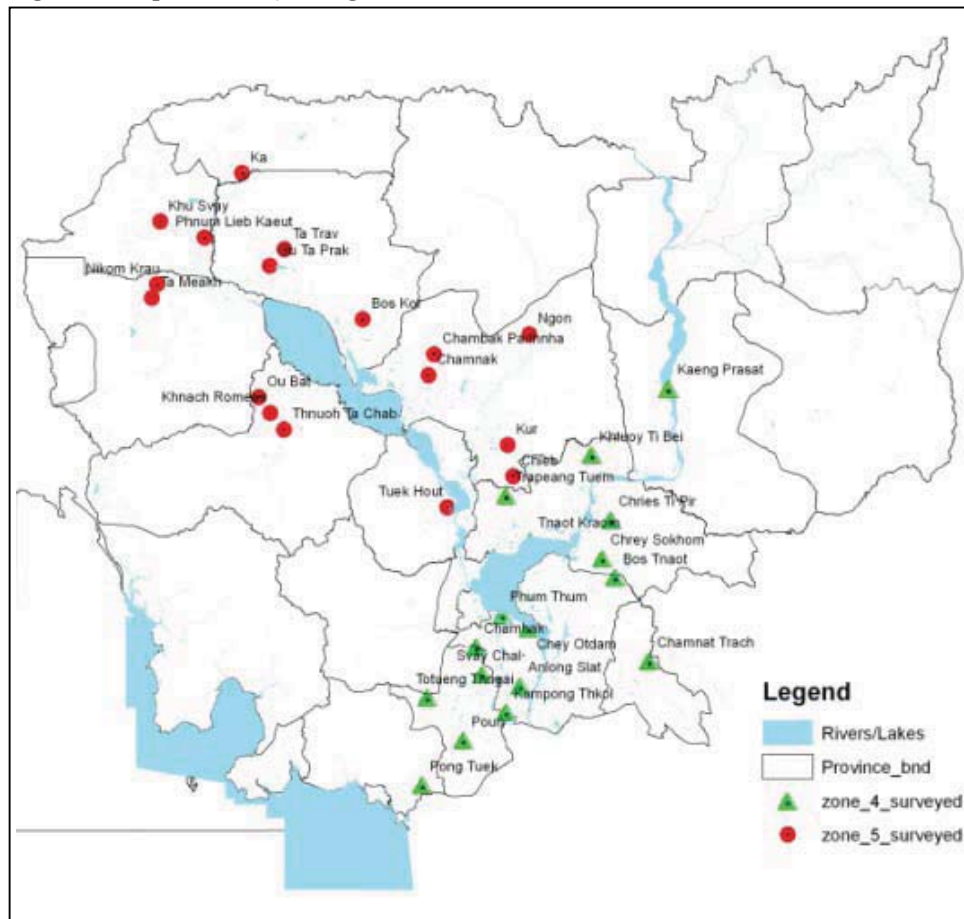
- Understand local people's perception of climate change and its impacts, and the coping strategies of male- and female-headed households;
- Better understand the adaptation strategy between male and female-headed households in climate change adaptation along the Mekong River and Tonle Sap Basin.

3. METHODOLOGY

3.1 Sampling Procedures

The study was conducted in February 2011 in 34 villages located within a 30 km wide corridor along the Mekong river and the Tonle Sap river (a 15 km strip each side of the river banks), and within a 15 km radius of the bank of the Tonle Sap lake. The selected villages are located in Kompong Cham, Kratie, Kompong Thom, Siem Reap,

Figure 1: Map of Survey Villages



Battambang, Pursat, Kompong Chhnang, Kandal, Takeo, Prey Veng and Kampot provinces (Figure 1). The villages were selected based on Probability Proportional to Size Sampling Technique which means that villages with large and small population density were likely to have a fair chance of being chosen. It should be noted that villages located in urban areas were excluded from the site selection.

Only 20 households from each selected village were interviewed for this study. Selection of the sample households per village was based on a household list obtained from the village chief. However, in some instances the household list was not accessible at the time of survey because the person responsible for its safekeeping was unavailable. In such cases the enumerator tried to list the households in the village by going from door to door.

The survey team calculated the selection interval and used random sampling to select sample households from the village list. Where a selected household was not available for interview, the household next to it on the list was chosen instead.

3.2 Field Work

Prior to the fieldwork, the questionnaire was field tested in Kompong Chhnang province and then revised.

The enumerators were divided into three groups of four people during the field work. The team leaders were responsible for managing data collection activities. These included communicating with the village chief, selecting households, conducting interviews, checking and safe-guarding completed questionnaires.

4. RESULTS

4.1 Household Characteristics

Of the 680 households interviewed, 525 (77 percent) were male-headed and 155 (23 percent) were female-headed households (Table 1). The number of household members totalled 2,699 (40.5 percent male and 59.5 percent female). The average size of the survey households was 4.97 members, similar to the average household size of 4.6 in the study villages which was the average for rural households recorded in the General Population Census of Cambodia 2008 (NIS 2009).

The age of household heads ranged from 20 to 82 years; the household heads of working age (15-65 years) constituted 88 percent of the sample (Figure 2). While the working age household heads are more likely the decision-makers and key persons in farming, fishing and other livelihood activities, older household heads likely represent figure heads and make some economic decisions.

Table 1: Population Characteristics

Household Characteristics	N	%
<i>Sex of Household head</i>		
Male	525	77.21
Female	155	22.79
Total	680	100.00
<i>Total male and female population in the surveyed household</i>		
Male	1617	47.85
Female	1762	52.15
Total	3379	100.00
<i>Education of Household Head</i>		
None	479	70.44
Primary	135	19.85
Lower Secondary	48	7.06
Upper Secondary	7	1.03
Tertiary	4	0.59
Don't know	7	1.03
Total	680	100.00
Mean years of education	4.97	
Maximum years of education	12	
Minimum years of education	1	

4.1.1 Household Occupation

Occupations ranged from farming, business and trading, casual or seasonal work, permanent employment, fishing, fish processing and marketing to selling labour for farming (Table 2). The importance of each occupation was rated by the respondents for typical households and individual members. Some occupations could be grouped based on natural resources and cultivation, such as farming, fishing, collecting other aquatic animals (OAAs), and aquaculture, while others were classified into wage-based groups such as trading, employment, farm work and fish processing.

In the 12 months before the survey, farming was the most common primary occupation followed by small business and trading. The most common secondary occupations were housework and irregular work. Overall, household occupations revolved around farming, fishing, irregular work, trading and housework.³

3 This includes daily unpaid household chores like washing clothes, cooking, cleaning the house, feeding the hens, and looking after children.

Figure 2: Age Pyramid of Household Population (3379 people)

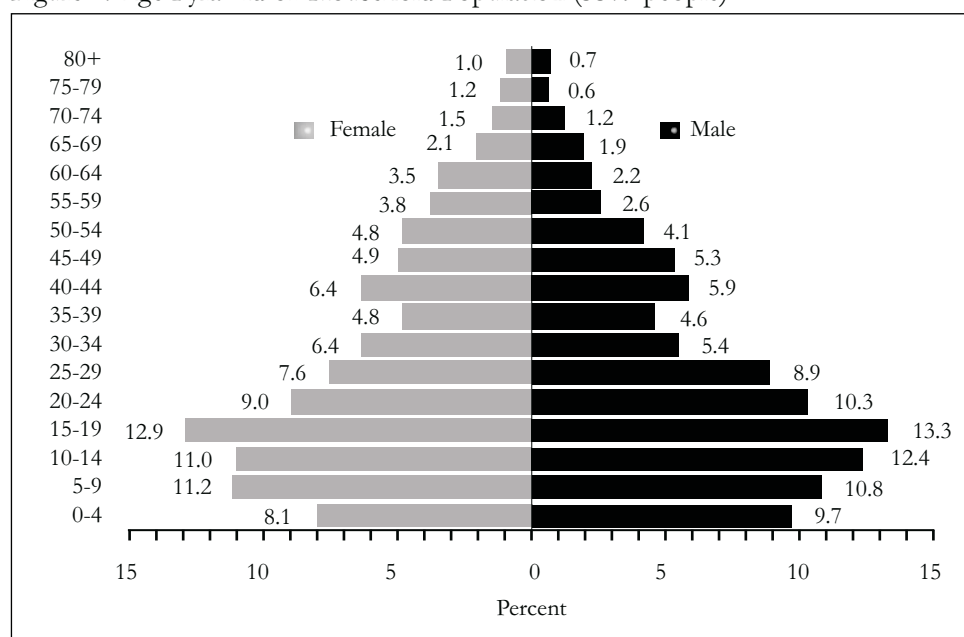


Table 2: Occupations of Households

	Primary Occupation		Secondary Occupation	
	n	%	n	%
Farming	414	60.88	71	10.44
Business/trading	82	12.06	64	9.41
Irregular work	60	8.82	128	18.82
Permanent employment	44	6.47	49	7.21
Fishing	21	3.09	68	10.00
Farm labour	10	1.47	33	4.85
Housework	5	0.74	139	20.44
Fish processing/ marketing	4	0.59	5	0.74
Collecting OAAs	1	0.15	3	0.44
Aquaculture	0	0.00	1	0.15
Others	39	5.74	75	11.03
No occupation	0	0.00	44	6.47
Total	680	100.00	680	100.00

4.1.2 Household income and expenditure

Farming outputs, food stocks and supply sources for rice and other food items shape vulnerability for specific periods of the year. Observing expenditure and income from livelihood activities provides additional knowledge about household challenges in relation to farming.

Household expenditure on food in the seven days prior to the survey, and on non-food items (agricultural inputs, household supplies, healthcare and house repairs) for the last three months was recorded. The total income from all sources for the last 12 months was estimated.

The basic monthly balance sheet in Table 3 shows that an average household could earn only USD139 per month to meet total expenditure of USD224, a shortfall of USD85 per month. However, the situation looks better when the balance sheet is based on the median expenses and incomes.

Table 3: Basic Balance Sheet (USD)

Item	Formula	n	Sum	Mean	Median	Max	Min	Std. Dev
Food expenses for 7 days	A	680	7332	11	9	61	-	8
Non-food expenses for 3 months	B	680	363073	534	209	15,250	1	1110
Total income for 12 months	C	680	1132639	1,666	1,000	62,750	24	3078
Food expenses per month	$D=A*30/7$			46	38			
Non-food expenses per month	$E=B/3$			178	70			
Total monthly expense	$F=D+E$			224	107			
Monthly income	$G=C/12$			139	83			
Balance	$H=G-F$			(85)	(24)			

Exchange rate: USD1 = 4000 riels

4.2 Climate change

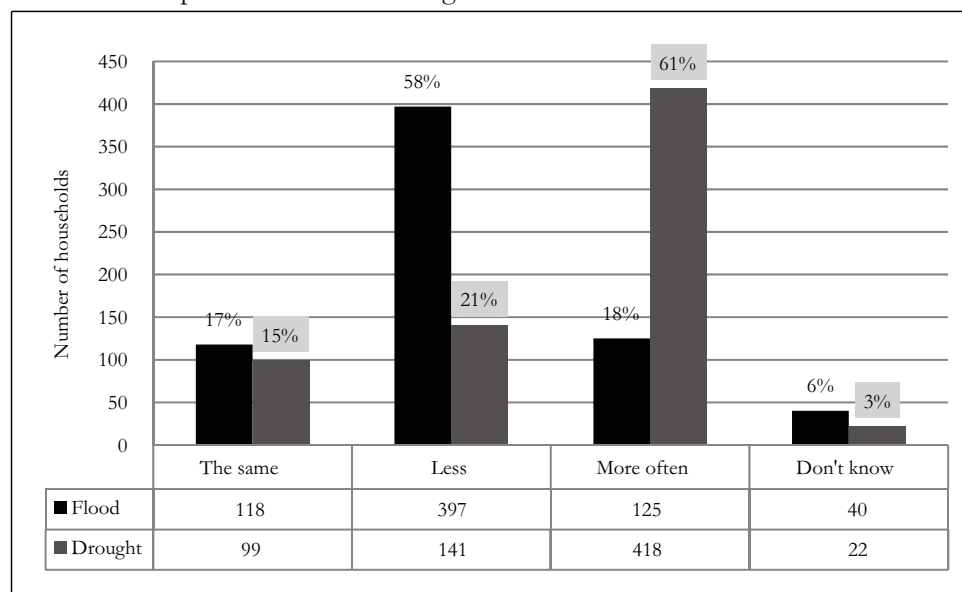
Climate change is defined by the Inter-governmental Panel on Climate Change (IPCC 2007) as any change in climate over time, whether due to natural variability or as a result of human activity. CARE (2009) classifies the impacts of climate change as catastrophic or chronic, where catastrophic is the effect of natural disasters or extreme weather events such as typhoons, hailstorms, droughts and sudden floods, and chronic refers to new conditions such as higher temperatures, rising sea level, saline intrusion, lower water tables, changing rainfall distribution, and less predictable seasons.

4.2.1 Flood and drought

Flood and drought, which are considered to be impacts of climate change, put agrarian economies, especially developing countries, at high risk. Cambodia is one such country, where more than 80 percent of its population depend on farming and other agricultural activities, that has suffered from flood and drought.

Survey findings on farmers' perceptions of flood and drought indicate that they have experienced more drought than flood over the last five years (Figure 3). Less flooding and more frequent drought do not provide ideal conditions for farming.

Figure 3: Perceptions of Flood and Drought Damage in the Previous 5 Years Compared to 10-15 Years Ago



More households were affected by drought than by flood: 34 percent reported having lost property because of drought compared to only 12 percent that lost property due to flood. Table 4 summarises the losses incurred by the survey households due to flood and drought in the study villages, indicating that sample households are more vulnerable to drought than flood because buffalo and cows, which are the main power for agricultural production, often die during drought. Apart from being valuable productive assets, draught animals are costly to replace. Sample households' experiences reveal that the average value of buffalo lost to drought was 500,000 riels and that of cows was 18,695 riels. The total average loss caused by flood was very low at 58,214 riels compared to the higher loss of 246,476 riels due to drought. This suggests that local people are more resilient to flood than to drought. However, prolonged flood and drought heighten people's vulnerability to falling into hardship. Hence, the preparation of adaptation measures would be important in helping strengthen communities' resilience to natural shocks and counter the risk of vulnerability.

Table 4: Losses from Flood and Drought in the Previous 5 Year Compared to 10-15 Years Ago

	Maximum	Mean	Std. Deviation
<i>Loss from flooding (84 HHs, 12% of sample)</i>			
Paddy lands (ha)	70	3.28	10.57
Percentage of total land area	100	49.27	32.59
Percentage of usual production	100	48.45	31.05
Working days	90	4.95	13.38
Human life	-	-	-
Lack of access to safe drinking water (days)	60	2.80	10.13
Lack of sanitation (days)	60	4.26	10.88
Injuries	-	-	-
Total loss for items below (riels)	1280000	58214	176745
- Cows (riels)	-	-	-
- Buffalo (riels)	-	-	-
- Pigs and goats (riels)	1,00000	1390	11034
- Chickens and ducks (riels)	50000	3110	99792
- Other property (riels)	50000	1314	63000
<i>Loss from drought (230 HHs, 34% of sample)</i>			
Total loss value for items below (riels)	16300000	246479	809274
- Cows (riels)	3500000	18695	236510
- Buffalo (riels)	4000000	50000	351757
- Pigs and goats (riels)	2000000	29173	184335
- Chickens and ducks (riels)	800000	63478	128162
- Other property (riels)	6000000	85133	457740

The study results also suggest that the effects of flood are not as severe and have caused less damage to rural household livelihoods compared to drought. A comparison of the destruction caused by flood and drought at provincial and national levels would provide interesting findings because floods destroy not only local people's household assets but also infrastructure of the community as a whole.

Loss of assets such as rice crop, cows, buffalo and poultry differed between male- and female-headed households. This difference is also marked when looking at the impacts of climate change such as flood and drought. Although greater loss of livestock and poultry due to drought was observed, loss of rice crop caused by flood damage was much higher than drought for both male- and female-headed households. However, only loss of rice crop was observed to be statistically significantly different between male- and female-headed households (Table 5). This suggests that measures or extension services that involve different agricultural activities in different seasons must be considered in order to help local people cope with and adapt to climate change.

Table 5: Loss of Household Assets due to Flood and Drought

Gender		Loss by flood				Loss by draught			
		Rice crop (%)	Cows (riels)	Buffalo (riels)	Poultry (riel)	Rice crop (%)	Cows (riels)	Buffalo (riels)	Poultry (riels)
Male	Mean	54.86	0.00	0.00	37500.00	34.97	22513.09	49738.22	59183.25
	No.	64	64	64	64	191	191	191	191
	Std Dev	28.32	0.00	0.00	112687.23	26.32	259485.26	372456.19	117535.41
Female	Mean	39.73	0.00	0.00	11500.00	23.81	0.00	39215.69	64627.45
	No.	20	20	20	20	51	51	51	51
	Std. Dev	34.27	0.00	0.00	29249.38	22.16	0.00	200078.42	153716.88
Total	Mean	51.26	0.00	0.00	31309.52	32.62	17768.60	47520.66	60330.58
	No.	84	84	84	84	242	242	242	242
	Std Dev	30.33	0.00	0.00	99792.31	25.86	230582.84	343061.11	125691.54

4.2.2 Other Climate Variability

Besides the damage caused by flash floods and drought described above, around 35 percent of the interviewed households reported other weather variability, such as changes in temperature and rainfall pattern and shorter but more intense rainy season. These too have been challenging people's livelihoods (Table 6).

With regard to early warning systems, the sample households were asked what information they receive about imminent disaster. It was found that more than 70 percent of them are informed about potential flooding, and that television and radio play a critical role in the dissemination of reliable information (Table 7).

Table 6: Interviewees' Perception of Other Climate Variability

Has your household experienced damage from other weather variability?	MHH		FHH		TOTAL	
	n	%	n	%	n	%
Yes	176	33.5	52	33.5	228	33.5
No	342	65.1	101	65.2	443	65.1
Do not know	7	1.3	2	1.3	9	1.3
Total	525	100.0	155	100.0	680	100.0

Table 7: Respondents' Perception of Flood Warning System and Information Dissemination

		MHH		FHH		TOTAL	
		n	%	n	%	n	%
Is there a way that your household would know if flood is coming?	Yes	391	74	106	68	497	73
	No	134	26	49	32	183	27
Total		525	100	155	100	680	100
Radio	Not reliable	6	2	1	1	7	1
	Reliable	110	28	26	25	136	27
	Highly reliable	131	34	30	28	161	32
	Do not know	144	37	49	46	193	39
Total		391	100	106	100	497	100
Short message service (SMS)	Not reliable	5	1	1	1	6	1
	Reliable	13	3	2	2	15	3
	Highly reliable	9	2	6	6	15	3
	Do not know	364	93	97	92	461	93
Total		391	100	106	100	497	100
Television	Not reliable	5	1	1	1	6	1
	Reliable	93	24	23	22	116	23
	Highly reliable	151	39	31	29	182	37
	Do not know	142	36	51	48	193	39
Total		391	100	106	100	497	100
Radio speaker in the village or rural community	Not reliable	16	4	2	2	18	4
	Reliable	15	4	3	3	18	4
	Highly reliable	5	1	0	0	5	1
	Do not know	355	91	101	95	456	92
Total		391	100	106	100	497	100
Local knowledge	Not reliable	6	2	1	1	7	1
	Reliable	41	10	10	9	51	10
	Highly reliable	41	10	9	8	50	10
	Do not know	303	77	86	81	389	78
Total		391	100	106	100	497	100
Word of mouth	Not reliable	42	11	8	8	50	10
	Reliable	83	21	18	17	101	20
	Highly reliable	75	19	28	26	103	21
	Do not know	191	49	52	49	243	49
Total		391	100	106	100	497	100

		MHH		FHH		TOTAL	
		n	%	n	%	n	%
Others	Not reliable	2	1	0	0.0	2	0.4
	Reliable	2	1	0	0.0	2	0.4
	Highly reliable	8	2	1	0.9	9	1.8
	Do not know	379	97	105	99.1	484	97.4
Total		391	100	106	100	497	100

4.3 Gender in Climate Change Adaptation

4.3.1 Gender in Coping Strategies with Climate Change

Male and female-headed households had used almost the same strategies to cope with drought and floods. Borrowing money (going into debt) to cope with drought was the first or second strategy for all male-headed households, whereas female-headed households had this as their third or last strategy (Table 8). In times of both flood and drought, finding paid work outside the village was a priority for female-headed households, while male-headed households were more likely to look for a waged job, both inside and outside the village.

Table 8: Coping Strategies by Type of Calamity

N°		MHH		FHH		Total	
		n	%	n	%	n	%
1	Flood						
a.	Fishing	15	16	4	16	19	16
b.	Farming	11	12	2	8	13	11
c.	Working as hired labour in the village	8	9	2	8	10	8
d.	Seeking paid work outside the village	18	19	6	24	24	20
e.	Making goods to sell	2	2	1	4	3	3
f.	Selling livelihood assets	5	5	1	4	6	5
g.	Turning to family, relatives, friends	3	3	5	20	8	7
h.	Going into debt	17	18	1	4	18	15
i.	Relying on forest resources	2	2	0	0	2	2
j.	Others	12	13	3	12	15	13
	Total	93	100	25	100	118	100
2	Drought						
a.	No change	30	10	7	9	37	10
b.	Fishing	24	8	4	5	28	8
c.	Farming	32	11	9	12	41	11

N°		MHH		FHH		Total	
		n	%	n	%	n	%
d.	Working as hired labour in the village	41	14	16	21	57	16
e.	Seeking work outside the village	51	17	14	19	65	18
f.	Making goods to sell	19	7	4	5	23	6
g.	Selling livelihoods assets (eg. cattle, land)	23	8	2	3	25	7
h.	Turning to family, relatives, friends	9	3	8	11	17	5
i.	Received assistance	2	1	0	0	2	1
j.	Going into debt	50	17	9	12	59	16
k.	Relying on forest resources	2	1	1	1	3	1
l.	Other	9	3	1	1	10	3
	Total	292	100	75	100	367	100
3	Other climate variability						
a.	No change	10	7	3	8	13	7
b.	Fishing	17	11	2	5	19	10
c.	Farming	19	13	4	10	23	12
d.	Working as hired labour in the village	24	16	7	18	31	16
e.	Seeking work outside the village	16	11	8	20	24	13
f.	Making goods to sell	5	3	3	8	8	4
g.	Selling livelihoods assets	14	9	0	0	14	7
h.	Turning to family, relatives, friends	7	5	5	13	12	6
i.	Received assistance from other organisations	1	1	0	0	1	1
j.	Going into debt	31	21	4	10	35	19
k.	Others	4	3	4	10	8	4
	Total	148	100	40	100	188	100

4.3.2 Gender in climate change adaptation

Majority of the male and female-headed households continue to use familiar agricultural production techniques such as the same seed and crop varieties and the same cultivation calendar. For example, only 17 of the households had changed their practices to start cultivation earlier than they used to, while 28 percent had shifted to starting later (Table 9).

Table 9: Adaptation Measures of Respondents

	Adaptation measure	MHH		FHH		Total	
		n	%	n	%	n	%
Household changed season for growing rice?	Wet to dry	6	1.1	1	0.6	7	1.0
	Dry to wet	17	3.2	2	1.3	19	2.8
	Not applicable/ no change	429	81.7	121	78.1	550	80.9
	Do not know	73	13.9	31	20.0	104	15.3
Total		525	100	155	100.0	680	100.0
Household changed the timing of rice cultivation?	Planting earlier	77	17.5	22	17.7	99	17.6
	Planting later	133	30.3	28	22.6	161	28.6
	No change	208	47.4	60	48.4	268	47.6
	Do not know	21	4.8	14	11.3	35	6.2
Total		439	100	124	100	563	100
Household changed to different crop variety due to flood damage?	Yes	98	22.3	25	20.2	123	21.8
	No	341	77.7	99	79.8	440	78.2
Total		439	100	124	100	563	100
Household changed to different crop variety due to drought?	Yes	147	33.5	38	30.6	185	32.9
	No	292	66.5	86	69.4	378	67.1
Total		439	100	124	100	563	100

5. CONCLUSIONS

Perceptions of the survey households indicate that they have suffered more from drought than flood. Apart from the fact that frequent droughts are detrimental to farming, buffalo and cattle – the main power for agricultural production – often die during drought. This plus the fact that less property is lost to flood than to drought renders rural households more vulnerable to drought and more resilient to flood.

Male and female-headed households generally use almost the same coping strategies to help mitigate the effects of climate change. However, male-headed households seem to choose to borrow money above all other options, which can lead them into indebtedness compared to female-headed households. Male-headed

households also seem more likely to sell family assets than their female-headed counterparts. Female-headed households are more likely to opt to find extra paid work, either in or outside the village than male-headed ones.

In terms of adaptation measures, majority of the interviewed households still use the same agricultural technologies and farming methods. Less than 50 percent of them had begun to adapt their farming to climate change by shifting cultivation times (earlier or later plantation) and growing new varieties.

The findings suggest a need for more information on the duration and intensity of drought and flood. And, since the agricultural sector is the backbone of the country's economy and because agriculture (i.e. food production, food security) is widely acknowledged as being extremely vulnerable to climate change, it is critical to focus more on extension services so that farmers can be trained and sharpen their knowledge on how to cope with and adapt to climate change.

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-IX-

Empowering Women's Greater Participation in the Labour Market

by Sum Sreymom and Keo Socheat¹

1. INTRODUCTION

1.1 Background

There has been a clear shift from working in the agriculture sector to employment in industry and services sectors for both women and men. Wage employment has increased and women's share of wage employment has reached parity in agriculture and industry (MoWA 2008). The Royal Government of Cambodia considers women to be the backbone of society and the economy. It has clearly recognised that the gender issue cannot be treated separately as it is closely related to poverty reduction, and therefore key to improving the wellbeing of women and their families. The government has defended the rights of female workers through advocacy and policy interventions such as the Neary Rattanak² Strategy.

Despite the progress in policy implementation, the promotion of gender equality and women's empowerment remains a challenge. There are significant wage differentials for women educated to upper secondary and university levels, while the informal economy remains the main source of livelihood for the majority of women. At the core of the continued extensive gender disparities in employment is the traditional attitude towards "appropriate" occupations for women and men. Additional factors that limit livelihood alternatives for women workers are the low education levels of those currently in the workforce and the literacy of those in the labour market. Moreover, changes in the structure of the economy and increased economic migration are contributing to the increased vulnerability of women workers, further exacerbated by the 2008 global economic crisis (RGC 2009).

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- 1 Research Associates in the Poverty, Agriculture and Rural Development (PARAD) Programme, CDRI
 - 2 Neary Rattanak ("Women are Precious Gems") was launched by the Ministry of Women's and Veterans' Affairs in February 1999 as a five-year strategy aiming to present "a new image of Cambodian women, moving from a disadvantaged group to the nation's invaluable assets and its economic potential". Neary Rattanak III is the updated strategic plan (2009-13) for Gender Equality and the Empowerment of Women in Cambodia: <http://women.open.org.kh/km/neary-rattanak-en> (accessed 11 January 2012)

Promoting opportunities for women not only has overall benefits for men, women and their families as a whole, but also brings women into the mainstream and benefits the economy by fuller utilisation of human capital. A gender analysis of the labour market, e.g. providing sex-disaggregated data, is needed to inform policies aimed at advancing decent work for women in Cambodia.

1.2 Objective

The overall objective of this article is to review the existing mechanisms to promote decent work for women in Cambodia. Specifically, this study identifies potential problems with regard to Cambodia's labour market in an attempt to enhance decent work and expand employment opportunities for women, thereby contributing to more inclusive growth.

1.3 Methodology

To respond to the objective of the study, this article is presented into two parts: an overview, oriented towards women's issues, of the labour market; and a discussion on gender policy frameworks to support women's participation in the workforce and address gender inequity in all sectors.

1.3.1 Definition of Decent Work

"Decent work", as defined by the International Labour Organisation (ILO), has four elements: (i) all kinds of employment – not just workers in the formal economy, but also the self-employed, unregulated wage workers and home workers; (ii) social security in terms of protection against the risk of losing income, including safe and healthy work conditions; (iii) workers' rights which refer to freedom of association, non-discrimination in the workplace and the absence of abusive conditions of forced labour and child labour; and (iv) social dialogues focusing on workers' rights in consultation with employers or authorities related to matters concerning working conditions (ILO 2002).

1.3.2 Data Collection Strategy

The study is a desk research that draws on existing information and available secondary data to analyse gender in Cambodia's labour market; the latest statistics used are from MoP (1998, 2008), NIS (2004, 2009), and MoWA (2007). National databases and reports and research study reports comprised the main materials for this study.

2. GENDER EQUALITY INDICATORS

Towards achieving the third Cambodia Millennium Development Goal (CMDG), to promote equality and empower women, the government selected a number of gender equality indicators (Table 1). These indicators represent women's economic empowerment (participation in wage employment) and education.

Table 1: Some Gender Equality Indicators

Indicators (%)	Benchmarks		Target		
	Value	Year	2005	2010	2015
Ratio of girls to boys in primary education	87	2002	98	100	100
Ratio of girls to boys in lower secondary education	63	2002	96	100	100
Ratio of girls to boys in upper secondary education	48	2002	59	80	100
Ratio of females to males in tertiary education	38	2002	50	70	85
Ratio of literate females to males 15-24 years old	87	1998	95	100	100
Ratio of literate females to males 25-44 years old	78	1998	85	100	100
Female share in wage employment in agriculture	35	1998	50	50	50
Female share in wage employment in industry	44	1998	50	50	50
Female share in wage employment in services	21	1998	30	37	50

Source: MoP (2007); MoWA (2008)

3. LABOUR MARKET, DECENT WORK AND GENDER

3.1 Participation in Labour Market

The working age (15-64 years) population increased from 53.7 percent in 1998 to 62 percent in 2008 (NIS 2009a). On the one hand, this indicates an expansion of the labour force for economic activity; on the other, it signals the potential challenges to increasing decent employment opportunities in the Cambodian labour market.

3.1.1 Education, Training and Labour Demand

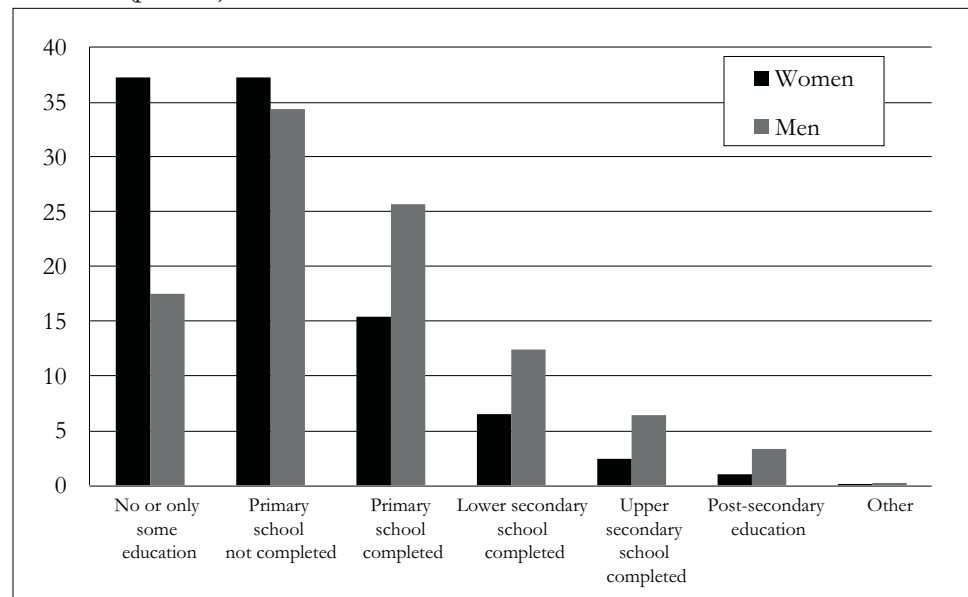
The net enrolment rate for girls in primary education was 91 percent in 2007, up from 84.2 percent in 2002 and 90.7 percent in 2005 (NIS 2009a: 72), but still lower than the target of 95 percent set for 2005. In lower secondary education, girls' enrolment rate had reached 33.4 percent in 2007 from only 16.4 percent in 2002 and 24.8 percent – half the target – in 2005.

The ratio of literate females to males aged 15-24 increased by only three percentage points – five percentage points lower than the planned ratio of 95 percent (MoWA 2008). Although the ratio of girls to boys in primary, secondary and tertiary education increased over the period 2002 to 2005, only the target for secondary education was reached (Table 1).

At the time of the 2009 Cambodia Socio-economic Survey (CSES), 28.3 percent of the population aged 25 and over, most of whom are women (Figure 1), had no or

only a little education (NIS 2010). The proportion of women who had not completed primary education is slightly higher than for men. However, the proportions of women that had completed formal education at primary, lower secondary and upper secondary level are lower than for men. These fairly recent data imply that there are still significant gender disparities in educational attainment at every level (Figure 1).

Figure 1: Persons Aged 25 and Over by Educational Attainment and Sex in 2009 (percent)



Source: CSES 2009 (NIS 2010)

3.1.2 Vocational and Technical Training

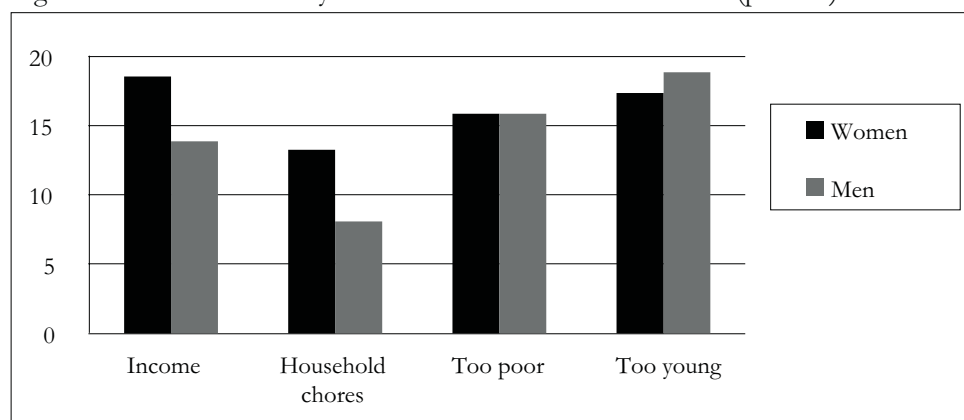
Vocational and technical training for Cambodian women is basically confined to conventional women's work, for example, sewing, hairdressing and beautician skills (MoWA 2008: 81). The CSES 2009 found that around 85 percent of women had participated in foreign language courses, which was also the case for men. The high demand for foreign language courses could be because most available jobs in the labour market relate to sales, marketing and business administration which require foreign language proficiency, especially in English³. However, the quality of education and training in Cambodia – based on interviews with business leaders – is relatively low. The World Bank (2010) points out that the low returns to experience and education may partially be a reason for poor school enrolment. On average, the earnings of employees with tertiary education in Cambodia are 67 percent higher than those of workers without education; the ratio is around 138 percent in Thailand, and 112 percent in Indonesia (World Bank 2010: 44).

3 Please refer to http://www.nea.gov.kh/main/images/stories/nea/LMI/graphic_2010_2011.pdf (accessed 30 November 2010)

3.1.3 Constraints to Women's Access to Quality Education and Training

One of the inherent obstacles in Cambodia to pursuing gender equity in education is the gender stereotype arising from traditional culture and society. Almost 50 percent of women give higher priority to sons when it comes to education opportunities (MoWA 2008: 83). Poverty is another constraint to females' access to education. For example, daughters are expected to help their parents with household chores or engage in income earning activities at an early age (Figure 2). Other constraints are the quality and accessibility of school facilities, limited number of teaching staff, and the perceived limitation of the country's education system, all of which negatively affect parents' willingness to invest in their children's education (ibid:84).

Figure 2: Reasons for 6-17 year olds' Non-attendance at School (percent)



Source: CSES 2009 (NIS 2010)

3.2 Labour Force Participation

Cambodia's working age population increased by 1.3 million or 16.8 percent to 8.9 million over the period 2004 to 2009 (NIS 2010: 58), during which time the labour force grew by 1.24 million or around 20 percent. However, the labour force participation rate increased by only 2.2 percentage points over the same period while the employment rate went up by three percentage points for both women and men (Table 2).

Table 2: Labour Force, 15-64 years, by sex

	2004	2009
Labour force participation rate		
Both sexes	82.2	84.4
Women	77.5	80.4
Men	87.4	88.8
Employment rate		
Both sexes	81.3	84.3
Women	76.6	80.3
Men	86.6	88.6
Unemployment rate		
Both sexes	1.0	0.1
Women	1.1	0.1
Men	1.0	0.2

Source: CSES 2009 (NIS 2010)

Unemployment rates for both men and women were only one percent in 2004, and became marginal in 2009.

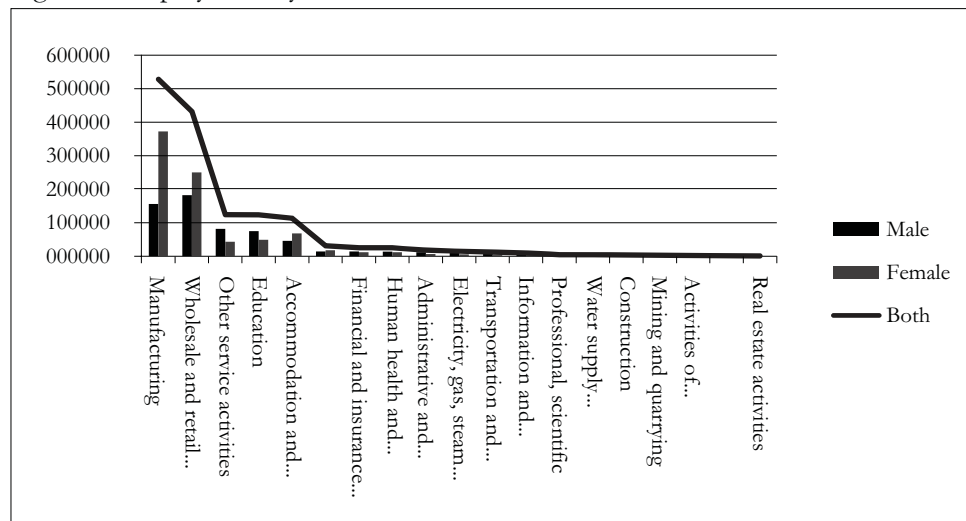
4. EMPLOYMENT BY INDUSTRY, OCCUPATION AND SIZE OF ENTERPRISE

4.1 Employment in Key Sub-sectors

The employed population totalled 7.5 million in 2009 – overall 57.6 percent in agriculture, 15.9 percent in industry and 26.5 percent in the services sector; the sectoral shares for men and women show a similar pattern (NIS 2010: 68) .

According to the 2005 Small and Medium Enterprise Development Framework (SMEDF), the size of an enterprise is defined based on either the number of its employees or the size of its assets excluding land: micro enterprises have fewer than 10 employees or assets worth less than USD50,000; small and medium enterprises have 11 to 100 employees or assets valued from USD50,000 to USD500,000; and large enterprises have over 100 employees or assets greater than USD500,000. Manufacturing enterprises, mainly garment factories, are the largest contributor to employment generation for females, while wholesale and retail trade enterprises rank second (Figure 3).

Figure 3: Employment by Industrial Classification and Sex



Source: NIS 2009b, Nation-Wide Establishment Listing 2009

4.2 Migration Trends

The latest Population Census reveals that the number of internal migrant workers in 2008 was 3.53 million, or 26.5 percent of the total population 49.5 percent of whom were women (NIS 2009a). Changing residence because family members had moved remained the most common reason for migration over the period 1998 to 2008, and this mainly held for women. The second major reason for migration in 2008 was to seek employment opportunities. Migration streams from the 2008 Census reveal that

rural to rural movement was predominant at 50.88 percent, followed by rural to urban and urban to urban movements (Table 3). Compared with internal migration between 1998 and 2008, there was significant increase in rural to urban movement, particularly for women, whose share increased by more than five percentage points.

Table 3: Migration Streams by Sex, 1998-2008

Migration stream	Percentage to Total Internal Migrants					
	Both sexes		Males		Females	
	1998	2008	1998	2008	1998	2008
Number of internal migrants	3387140	3457228	1685986	1744044	1701154	1713184
Total	100.00	100.00	100.00	100.00	100.00	100.00
Rural to rural	58.00	50.88	59.05	53.26	56.98	48.45
Rural to urban	23.50	27.53	22.50	25.56	24.48	29.54
Urban to rural	5.16	6.48	5.37	6.76	4.95	6.16
Urban to urban	13.34	15.11	13.08	14.39	13.59	15.85

Source: Census 2008 (NIS 2009a)

Cross-border migrants view irregular migration as a relatively convenient, efficient and secure route because they do not require legitimacy or authorisation to work in destination countries (Hing *et al.* 2011), primarily inside Thailand, along the Thai border and Malaysia. The usual short-distance jobs are agriculture-based and the long-distance ones involve fishing, construction and factory work. Hing *et al.* (2011) attribute irregular migration to chronic poverty, lack of employment, and costly and complex legal recruitment procedures.

Without legal status, irregular migrants have increasingly faced abusive and exploitative conditions such as physical and sexual harassment, indebtedness, being cheated by employers and hounded by authorities. In the worst cases, some men are forced to work in harsh (i.e. dangerous) conditions while some women are trafficked and forced to work in the sex trade as prostitutes.

4.3 Employment in the Informal Sector

Self-employment and unpaid family work is a proxy for the informal economy (Hing *et al.* 2011: 41). As noted earlier, 52.4 percent of women in 2009 were self-employed and 24.5 percent were unpaid family workers, so it can be said that around 77 percent of women were engaged in the informal sector in 2009. This is also true for men, with 68.7 percent being employed in the informal economy in the same year. In short, the majority of the Cambodian workforce is employed in the informal sector.

4.4 Work Earnings

Self-employment is not only the dominant form of employment, it is also the main source of total household income. In 2009 average monthly earnings totalled USD182, only USD59 or 32 percent of which was generated from waged work, whereas remuneration from self-employment represented 65 percent of total earnings.

This indicates that self-employment is the main source of income for women as 52.4 percent of women are engaged in such enterprise. As far as the shares of earnings from sub-sources in self-employed work is concerned, in Phnom Penh, 70 percent of households generate employee income⁴ (wages/salary), though 59 percent of total monthly income comes from self-employment (NIS 2010: 97-98).

4.5 Social Protection

Majority of the Cambodian labour force is engaged in the informal sector where workers have limited access to legal and social protection. The main government social protection programmes are the National Social Safety Net Fund, Vocational Training, School Feeding Programme and Take Home Rations, Scholarships for the Poor, Health Equity Fund, Nutrition Programme, Emergency Relief, and Public Works Programmes (Kem 2010). To date, seven ministries have financial schemes for safety net programmes⁵. Overall spending on these programmes amounted to 3.92 percent of GDP or USD442.25 million in 2010.

The amount of social insurance or benefits provided to individuals is marginal as both private and public transfers account for only 3 percent of total monthly income (NIS 2010: 97). Kem (2010) contends that the effectiveness and sustainability of social protection in Cambodia remains a challenge due to inadequate resources, weak strategy, and poor coordination and targeting.

5. POLICY FRAMEWORK ON EMPLOYMENT AND GENDER

5.1 Policy Context

In response to gender inequality in Cambodia, the government identified gender-related objectives in the National Strategic Development Plan (NSDP) 2006-10 and its 2009-13, Update, drawing on the 2002 National Poverty Reduction Strategy (NPRS). Also, the CMDGs 2005-15 have been expanded to include the elimination of gender inequality in all sectors (education, health, economic activities, agriculture, forestry and fisheries, public sector) and to address issues relating to violence against women and children. Regarding education in particular, the Cambodian government made a commitment to eliminate the gender gap in literacy by 2010, and to achieve gender equity in wage employment in agriculture and industry by 2010 and in services by 2015 (MoWA 2008).

Employment in Cambodia is linked to private sector development since the government considers this sector an engine of economic growth and poverty reduction. The Private Sector Development and Employment section of the NSDP 2009-13 specifies that the prerequisites to fostering growth, creating jobs, reducing poverty and achieving sustained economic development are improving the business climate and creating an enabling environment for private sector development. Towards private sector development and employment, the government has given policy priority to

4 Income, earnings and remuneration are used interchangeably in this section.

5 There was no accessible gender-related information

(i) strengthening the sector and attracting investment, (ii) creating jobs and ensuring improved working conditions for employees, (iii) promoting small and medium enterprises, and (iv) creating social safety nets. Three of these policy priorities are described below:

Creating Jobs and Ensuring Improved Working Conditions for Employees

Specifically, the NSDP 2009-13 focuses on job creation and ensuring improved working conditions, including:

- effective implementation of labour standards and norms, the Labour Law and international conventions;
- continuation of the “better factory” project;
- helping workers find jobs abroad;
- capacity building through vocational training in response to market demands by focusing on women, people with disabilities, young drop-out students in secondary and high schools, marginalised and minority groups;
- development of a labour market statistical system and national qualification standards;
- conducting wide public awareness campaigns on labour market demands to assist labour mobility; and
- strengthening existing labour dispute resolution mechanisms such as the Arbitration Council and demonstration and strike resolution committees at all levels.

For planned actions to implement priority employment policies and to ensure good, safe and healthy working conditions and fairness the MoLVT has been taking actions to set minimum monthly wages and holiday allowances, reduce wage inequality between men and women, and resolve disputes peacefully to minimise employers’ lost productivity and employees’ lost wages. The ministry is also making efforts to foster gender equality in labour and has run Vocational Training Programmes (short and long term courses) to create appropriate job opportunities in the informal and formal sectors and to minimise unemployment and provide education and skills to men and women to meet labour market demand; developed technical and vocational education networks for both males and females; established a statistical data system disaggregated by sex; attempted to address wage disparities between men and women; and enforced the Labour Law and the Law on Social Security (RGC 2010).

Furthermore, the National Employment Agency (NEA) was established in 2009 as a Special Operating Agency under the National Training Board with the General Directorate of Technical Vocational Education and Training (under MoLVT). It is to coordinate and provide specific labour market information to help the government formulate appropriate human resource development and labour market plans aimed at achieving the strategic goals of poverty reduction through technical vocational training and education and creating job opportunities (RGC 2009). This agency is very new and its function and operation are still in the early stages of development.

Promoting Small and Medium Enterprises

Towards expanding employment opportunities through micro, small and medium business enterprises under the section on Private Sector Development and Employment in NSDP 2009-13, the government has simplified the process of registering SMEs by minimising the requirements and reducing company registration fees. It also gives priority to improving the business climate for SMEs by focusing on four aspects: legal and regulatory frameworks, financing, supportive actions, and integrating SMEs into a global value chain and preventing all kinds of smuggling. At the same time, the government has promoted the one-village-one-product movement in rural areas, and technical training for special products within some regions to strengthen product quality and expand markets (RGC 2010).

With regard to expanding employment opportunities, similarly to the MoLVT's training programmes for labour market readiness, MoWA's Neary Rattanak II 2004-08 has focused on enhancing women's participation in economic development especially in micro and small enterprises, aiming to build women's capacity and empower women towards active involvement in inclusive growth-oriented labour markets (MoWA 2004). Towards this end, the MoWA (with development partners) has established 11 Women's Development Centres (WDCs) in the provinces to provide education and vocational skills, enterprise development services and social-cultural empowerment activities to women. Most WDCs are in rural areas and have to address problems of low education levels and poor skills. They offer a variety of training packages depending on available resources. The skills training offered to rural women are sewing, wedding preparation, hair dressing, weaving and food processing (Sok 2011).

Sok's (2011) study on the employability of WDC trainees in Kompong Chnang and Kompong Cham found that WDCs are essential to promoting rural employment, even though some women were unable to put their newly acquired skills into practice immediately after training. However, the surveyed WDCs face several challenges in balancing and meeting local market demands, choosing skills, and securing financial resources for trainees to put their new skills into practice. The latter particularly impacts on the practical application of learned skills to generate income. In terms of WDCs' capacity and financial resources, there was no budget to provide technical support to trainees or monitor their progress once they had completed training.

Creating Social Safety Net

Under the section on the Creation of a Social Safety Net as stipulated in the NSDP 2009-13, the government has prioritised actions in several areas to continue implementing its social safety net policies. These include improvement of working conditions for workers/employees, enforcement of Social Security Law, implementation of benefit and pension scheme for people with disability and their dependents, protection of those covered by the Labour Law, and made available to all employees insurance coverage against workplace accidents. Social protection programmes are mainly provided by government, though NGOs and the private sector also contribute significantly. The MoLVT and

MoEF are responsible for managing the National Social Safety Fund (NSSF) which covers private sector workers. The NSSF has been operating since 2007 to provide workers with: (i) employment injury scheme (compensation), (ii) health insurance scheme, and (iii) a pension scheme. By the end of 2009, the NSSF had enrolled 884 firms covering 340,840 workers or 88 percent of the total workforce (MoLVT 2010 cited in Kem 2011). To date, the NSSF only covers employees of registered firms.

Given the absence of strong legal framework, regulatory mechanisms and services to support safe migration, in July 2005 a Memorandum of Understanding (MOU) was signed by the MoLVT with the United Nations Development Fund for Women (UNIFEM)⁶ to “Protect the Rights of Cambodian Women Migrant Workers” in order to deal with the exploitation, abuse and trafficking of women migrant workers who are highly vulnerable to unfair labour practices. Under the MOU, MoLVT and UNIFEM cooperate with government and civil society organisations to mainstream gender concerns in policy and legislation regarding migrant workers. Some priority strategic activities have been implemented, namely:

- establishing and strengthening a national, multi-sectoral multi-stakeholder committee to coordinate the National Plan of Action on migration
- developing pre-departure training programmes for women migrant workers
- collecting and analysing data and information on women’s migration (MoWA 2008).

Informal sector workers are likely to be most vulnerable as they are not covered by Cambodia’s Labour Code and therefore cannot rely on the Social Security Law for benefits and protection. Article 1 of the Social Security Law explicitly stipulates that the law is intended to establish security for those who are governed by labour legislation. Informal workers, i.e. 77.4 percent of females and 68.7 of males in the workforce, are then by definition being deprived of any retirement benefits, illness benefits, and coverage for occupational risks such as accidents and health hazards.

5.2 Institutional Context

The national machinery for promoting gender equality and women’s empowerment and implementing Neary Rattanak III 2009-13 comprises the MoWA, the Cambodia National Council for Women (CNCW), Provincial and District Departments of Women’s Affairs including the Technical Working Group on Gender (TWG-G), Women’s and Children’s Consultative Committees (WCCC), and Gender Mainstreaming Action Groups (GMAG) in line ministries (MoWA 2009 & JICA 2007).

6 In January 2011, UNIFEM was merged into UN Women along with the International Research and Training Institute for the Advancement of Women (INSTRAW), Office of the Special Adviser on Gender Issues (OSAGI), and Division for the Advancement of Women (DAW).

A wide range of development partners are also engaged in programmes and projects towards the economic advancement of women. Key development partners in the agricultural sector are the Asian Development Bank (ADB), Agence Française de Développement (AFD), Australian Agency for International Development (AusAID), the European Union (EU), Food and Agriculture Organisation (FAO), International Fund for Agricultural Development (IFAD), and Japan International Cooperation Agency (JICA). The main development partners on land issues include the German Organisation for Technical Co-operation (GTZ), Department for International Development (DFID), and the Canadian International Development Agency (CIDA). On private sector development, the partners are ADB, the World Bank, International financial Cooperation/Mekong Private Sector Development Facility (IFC/MPDF), EU, GTZ, ILO and the United States Agency for International Development (USAID). Nearly all of these development partners have policies specifying that gender concerns be taken into consideration in the design and implementation of their activities.

Civil society has also played a very important role in a wide range of economic development activities that particularly target women beneficiaries. These include agricultural development and animal health, community development, credit and savings schemes, education and training, as well as income generating activities for people with disabilities. There has been very little experience with private sector development in the NGOs' efforts apart from handicrafts (MoWA 2008).

6. CONCLUSION AND RECOMMENDATIONS

Findings from the analyses of existing information reveal the need for the government to accelerate its efforts to enhance gender equality in educational attainment. Meanwhile, it should continue diversifying its training programmes to enable more women to engage in the labour market, especially in the formal sector. The government should also develop a feasible mechanism such as a policy and legal framework to support the labour force in the informal economy. In order to expand employment opportunities for women in the labour market through vocational and technical training programmes designed by both the government and development partners, a complete support package such as start-up capital, plus follow-up technical support after training and market linkage should be taken into account.

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