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Review of Agricultural Policy and Policy Research¹

Since the establishment of Cambodia's government and its first Legislature in 1993, the overarching priority of national strategies and development plans drawn up to execute the country's development has been to promote socio-economic development to lift the country's poor out of poverty and place Cambodia on a path of sustainable economic growth. As was then the case, the agricultural sector holds immense potential where productive gains could boost sustainable outputs – employment and income – to alleviate poverty. Government development policies, as such, address this sector as an engine for economic growth, food security, and poverty reduction. This article seeks to:

(i) review existing agricultural development and food security policies in Cambodia; (ii) assess the existing policy research on Cambodia's agriculture; and (iii) identify knowledge gaps and potential areas for future research to improve agricultural development and food security in the country.

Cambodia's Agricultural Profile

Cambodia had been achieving impressive economic growth over the past decade before it was severely hit by the global economic crisis in 2009. Average gross domestic product (GDP) growth was 9.5 percent per annum in 1999-2008, the highest (at 13.3



Agriculture must be diversified and adapted to the local condition: a yearly flooded village in Prek Khmeng commune, Kandal province

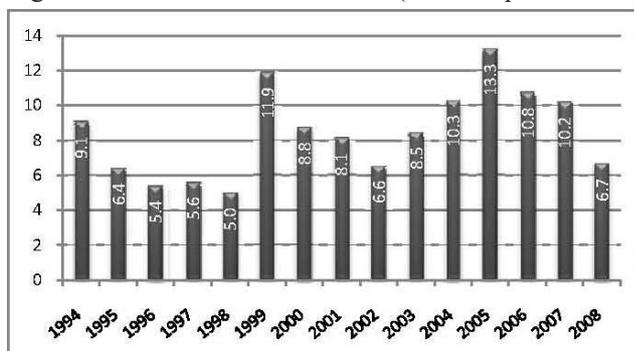
percent) being recorded in 2005 (Figure 1). This growth was made possible by an open economy and a stable macroeconomic environment, increased exports and foreign direct investment (FDI) and a low inflation rate of about 5.0 percent, except when inflation rose to about 22 percent in 2008 due to the sudden steep hike in food prices. However, growth

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¹ This article is prepared by Dr Theng Vuthy, research fellow and programme coordinator for poverty agriculture and rural development (PARD), CDRI, and Mr Chhim Chhun, research assistant in the same programme. It is a summary of CDRI-IFPRI stocktaking policy discussion paper that reviews Cambodia's agricultural policy and policy research by CDRI research teams in 2010, funded by USAID.

Figure 1: GDP Growth 1994-2008 (constant prices 2000)

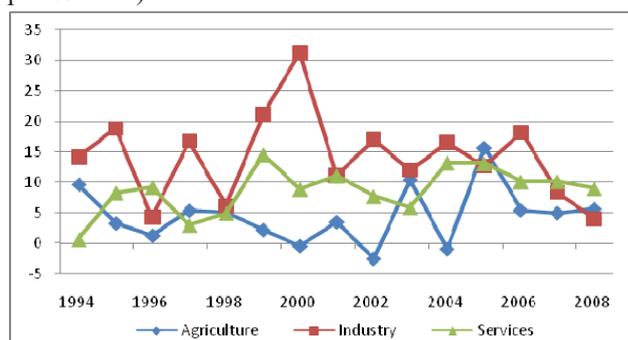


Source: NIS and National Accounts (2008)

has been narrowly based in four key leading sectors: garments, tourism, construction and agriculture.

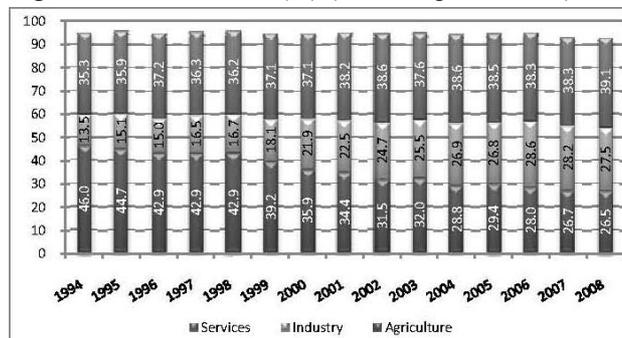
The foundations of the economy have since undergone profound transformation, with the agricultural sector ranking behind services and industrial sectors by 2006. The agricultural sector's share of GDP has been decreasing over time, but has remained a crucial part of Cambodia's economy, at about 27 percent of GDP in 2008 (Figure 2). Average growth rate was around 4.5 percent per annum over 1998-2008 (Figure 3), contributing about 2 percent to GDP growth over that period (Guimbert 2010). The reduction of value added in agricultural GDP was due to the significant increase of the industrial sector. The agricultural sector absorbed approximately 56 percent of the total employed labour force in 2007 (IMF 2009), and labour productivity improved by 2 percent from 1998 to 2007 (World Bank 2009). Growth has been driven by land, labour and productivity gains, but was erratic due to weather conditions until 2005, after which it became stable (Figure 3). This stability was due to the expansion of crop production which contributed 47.4 percent to agricultural GDP over 1998-2008. Rice is by far

Figure 3: Sectoral Growth of GDP 1998-2009 (constant prices 2000)



Sources: NIS and National Accounts (2008) and MAFF (2010)

Figure 2: Share of GDP (%) (constant prices 2000)



Source: NIS and National Accounts (2008)

the largest crop sub-sector, contributing about 26 percent of this sector's GDP over the same period (IMF 2004 & 2009).

Policies to promote agricultural development

The Royal Government of Cambodia (RGC) articulates its agriculture policy in the Rectangular Strategy: "to improve agricultural productivity and diversification, thereby enabling the agriculture sector to serve as the dynamic driving force for economic growth and poverty reduction." Key elements of the agricultural development policy draw upon the Cambodian Millennium Development Goals (CMDG) 2003, the Socio-Economic Development Plan (SEDP-II) 2001-2005 and the National Poverty Reduction Strategy (NPRS) 2003-2005, and focus on 1) improving agricultural productivity and diversification; 2) land reform and mine clearance; 3) fishery reform; and 4) forestry reform (RGC 2004).

Complementing the agricultural development policy is Cambodia's National Strategic Development Plan 2006-10 (NSDP), which has the overall aim "to reduce poverty, and implement the government's Rectangular Strategy for the enhancement of the agricultural sector" (RGC 2006). The NSDP further stipulates the primary need to develop a national Strategy for Agriculture and Water (SAW) by 2006. However, SAW 2006-2010 was only completed in 2007, lagging one year behind the plan. The SAW laid out five programmes: institutional capacity building; food security; agriculture and agribusiness; water resources management; agricultural research and development (MAFF & MoWRAM 2007).

An Agricultural Sector Strategic Development Plan 2006-2010 formulated by the Ministry of Agriculture, Fisheries and Forestry (MAFF) also

outlines seven priority goals, and the constraints and actions to be taken to reach these goals. These include: 1) food security, productivity and diversification; 2) improving and strengthening agricultural research and extension systems; 3) market access for agricultural products; 4) institutional and legislative development framework; 5) land reform, land tenure and pro-poor land access; 6) fisheries reform; and 7) forestry reform (MAFF 2005).

Recently, the government launched a policy to promote paddy rice production and milled rice export. This policy refines the government's major strategic policy measures to promote agricultural development, with emphasis on a new pace and scale. The aim is to further strengthen the foundations for economic growth, accelerate poverty reduction, and improve the living standards of the Cambodian people. Towards this end, this latest policy adopts a three pronged-strategy: productivity enhancement, diversification and agricultural commercialisation (RGC 2010).

Other directives for agricultural development, food security and poverty alleviation include:

- The National Water Resource Policy
- Strategic Development Plan on Water Resources and Meteorology 2009-2013
- Circular No. 3 on Food Security and Nutrition in the Kingdom of Cambodia
- Statement of the government of Cambodia on the national fishery sector policy
- National Fisheries Sector Policy and Law on Fisheries (MAFF 2006)
- National Programme for Household Food Security and Poverty Reduction 2007-2011
- Strategic Framework for Food Security and Nutrition in Cambodia 2008-2012
- National Adaptation Programme of Action for Climate Change (NAPA)
- Law on Investment (5 August 1994)
- Law on Amendment on the Law on Investment (23 March 2003)
- Sub-Decree on Mortgage and Transfer of the Right over an Economic land Concession (29 Aug 2007)
- Royal Decree NS/RK/0609/009 (20 June 2009) to provide incentives for agricultural development in Cambodia.

Existing policy research and knowledge gaps

Several policy research institutions exist in Cambodia, among which are the Supreme National Economic Council (SNEC), Royal University of Agriculture (RUA), CDRI, the Learning Institute (LI), WorldFish Centre, Economic Institute of Cambodia (EIC), and the Cambodia Institute of Development Studies (CIDS). Access to policy research papers in the public domain, however, is very limited, especially for public research institutes and 'think tanks'. This review of existing policy research focuses primarily on irrigation, agricultural crops, fisheries and livestock sub-sectors though some other related areas may also be discussed.

Water related policy research has covered governance issues, infrastructure, economic returns and some pilot studies of irrigation schemes. These studies found that low capacity of irrigation scheme leaders and weak institutions are the major constraints in most irrigation schemes. Many irrigation schemes were inappropriately designed, resulting in water scarcity which leads to imbalanced water distribution and conflict among water users. Some conflicts are resolved within the community, but others need intervention from provincial and national authorities (CDRI 2010). The participation of Farmer Water User Community (FWUC) members in fee payment, maintenance, ownership and water distribution was found to be critical to successful irrigation management. Research on groundwater in Cambodia is not yet available (Ros 2010). Groundwater could potentially provide a year round source of water for irrigation, and help mitigate the impact of drought and climate change on agriculture and food security.

Studies on agricultural trade between Cambodia and ASEAN, and between ASEAN and China, found that agricultural commodities such as livestock (pigs, cattle and buffaloes) and crops (rubber, cassava, maize, soybeans and rice) are mainly traded. This cross-border trade could help stabilise market prices and expand markets for Cambodian agricultural produce. However, Cambodia benefits least and is less competitive than other ASEAN countries since almost all commodity exports are raw products traded through informal routes. Thailand and Vietnam have advantage over Cambodia as they process many of the commodities imported from Cambodia and sell them on the world

market (Ballard & Thun 2007; Hing & Nou 2006; Hing & Thun 2009).

There is rich research on the relationship between economic growth and food security and poverty in Cambodia, employing cross-sectional and panel data analysis and qualitative methods. The studies show that poverty reduction is unlikely to be connected with economic growth, and that economic growth is not inclusive. Poverty and food insecurity remain high in the rural areas. Land ownership issues continue to be a significant determinant of poverty and food insecurity for Cambodian rural households. Large households with many dependent members, poor education and health are major internal determinants of poverty in rural communities. Poor access to public services such as education, health and vocational training, lack of access to credit, and poor infrastructure (road and irrigation) are the external determinants of rural poverty. Addressing needed improvements in the agricultural sector is critical if livelihoods and food security in rural areas are to be enhanced, while common property resources and wage labour opportunities serve as critical safety nets for the poor (So *et al.* 2010; Fitzgerald & So 2007; Ballard *et al.* 2007). The number of landless households is increasing markedly from year to year due to newly created families and the land market. The challenges and interaction between landlessness and food insecurity with social protection and vulnerability remain unknown.

Many policy research studies address inland fisheries issues in response to the government policy on fisheries sector reform. The performance and sustainability of fisheries co-management is constrained due to a lack of clearly defined property rights and resource boundaries and the absence of enabling legislation. This leads to conflicts between fisheries communities, and between fisheries and farming due to competition for different water resource use (Viner *et al.* 2006; So *et al.* forthcoming). The poor have yet to benefit from

access to fishing grounds. The average net income of a small fishing family is USD12 per trip in the open season and USD4.6 per trip in the closed season. However, if family labour is deducted from the net income, the real profit is only USD4.5 in the open season and USD1.6 in the closed season (Hap & Madhusudan 2009). Hydrology changes, sedimentation, agricultural development around the Great Lake, and the current fisheries communities' management capacity threaten the sustainability and environmental use of the Tonle Sap Lake (Chadwick *et al.* 2008). In addition, the water level of the Mekong River is about 5 metres lower and that of the Tonle Sap Lake is about 3 metres lower than a year ago due to dam construction upstream. The low water levels will have negative impacts on inland

fisheries ecology and habitats in Cambodia. The effects of lower water levels on inland fisheries population, fish breeding, and food security in Cambodia are as yet unknown. Comprehensive research on marine fisheries is not yet available.

Government policy on the livestock

sub-sector lacks clear direction. The sub-sector also has no strategic plan to guide research and development even though it plays an important role in food security and draught power for agricultural production. Cattle and buffaloes are used for draught power and meat consumption. Pigs and chickens are raised for saving and consumption. Pigs and chickens are actively traded within and between rural communities. Cattle and buffaloes are mostly traded informally with neighbouring countries (Ear 2005; FAO 2004). No recent policy research is available for the livestock sector, signifying an urgent need for research to improve the development of this sub-sector; a socio-economic study of livestock should be also prioritised.

Policy research has been conducted on improving the rice sub-sector and promoting rice export for the high potential that this crop holds for Cambodia's economic growth and food security. The promotion of agro-processing and agri-business will strengthen

“ The performance and sustainability of fisheries co-management is constrained due to a lack of clearly defined property rights and resource boundaries and the absence of enabling legislation. This leads to conflicts between fisheries communities, and between fisheries and farming due to competition for different water resource use. ”

this sub-sector for export. Current rice milling capacity in Cambodia is low (less than 10 tonnes per hour), and capacity is only one third of the paddy produced. Cambodia thus needs to increase milling capacity three fold in order to meet domestic demand. Rice also has huge potential for increased production and productivity if cultivation techniques could be improved and inputs – improved seeds, fertiliser and irrigation – were invested in. However, future growth in rice productivity is uncertain as there are many constraints e.g., low inputs such as lack of credit, irrigation, and improved seed; poor extension services; and poor rural roads (Tong & Puy 2010; Yu & Fan 2009).

Potential future research areas

Several key research themes have been identified to frame potential future research areas and interests, though this framework may not be able to respond to all the knowledge gaps:

Water resources management

1. What potential does groundwater hold for irrigation both as an integral aspect of Cambodia's water balance, and as a substantial natural storage of water that could be available all year-round? What are the advantages and disadvantages of using groundwater for agricultural development and environment? What is the impact of groundwater on soil property and fertility in the long run?
2. How can surface water use of the existing irrigation scheme be made more efficient?
3. How can surface water users' participation in ownership and effective maintenance of irrigation schemes be strengthened? What is the economic return of investment in irrigation scheme maintenance?
4. What kinds of conflict exist around water scarcity and water resources allocation, and in what ways can these be resolved effectively?

Agricultural development and food security

1. How can agricultural research be expanded to promote agricultural growth? How can research institutions and technology users be more effectively linked? What is the best way to promote and encourage farmers to adopt new

production practices to increase productivity and food security?

2. What appropriate technology and inputs use would intensify productivity for small landholders to produce enough food? How can rice-based farming with limited irrigation capacity be diversified to promote rural livelihood and poverty reduction?
3. How can better land use planning and agricultural crops zoning be promoted to increase agricultural growth? How can the rice production area be expanded to increase agricultural growth and promote export? In what way can idle agricultural land be returned to productive use?
4. How can social land concessions for landless and near landless households be promoted? What are the risks and challenges to food security faced by landless households? What policies would be effective in reducing risk and food insecurity for landless households? What are the risks and challenges facing households in rural areas who face severe food insecurity?
5. How can the risks to agricultural production and food security be reduced under the threat of climate change? How can effective groundwater use be designed and promoted to reduce the threat to agricultural land?

Fisheries sub-sector development

1. What are the negative impacts of low river levels on fisheries ecology, habitats and productivity in Cambodia's inland fisheries sector? How can the change in river levels be managed to sustain fish ecology, habitats and productivity?
2. How can fisheries community development and capacity building for effective and sustainable management of natural fisheries resources for income generation, food security and poverty alleviation be promoted and strengthened?
3. How can aquaculture production be improved to reduce the threat to natural inland fisheries? How can aquaculture be promoted in rural areas far from inland fisheries to improve animal protein consumption and income?

Livestock sub-sector development

1. How can the livestock sub-sector be promoted to improve rural income and food security? What is

the integral relationship between livestock and agricultural production, rural household incomes and food security? What is the economic return from small scale livestock raising? What are the major risks and constraints of livestock raising faced by rural communities? How can these risks and constraints be mitigated?

2. How can a livestock market for small-scale producers be developed? What regulations are needed to improve the livestock market?
3. How can local swine production be improved to supply local market demand? What are the appropriate production practices to improve pig raising? What risks and constraints do pig producers face? What regulations and policies are in place to minimise the import of pigs and to promote local producers?

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