

# AQUACULTURE SECTOR INVESTMENT PROFILE



JANUARY 2011



**USAID**  
FROM THE AMERICAN PEOPLE

## Greetings from USAID

It gives the team at USAID great pleasure to present this Sector Investment Profile on the Cambodian aquaculture industry.

It is the nature of frontier markets that investment-relevant information can be difficult to come by. The purpose therefore of this profile is to save you some initial investigative work, and provide a starting point from which you may launch more detailed enquiries.

This document should give an overview of trends that are shaping the aquaculture sector and identify the key factors that contribute to healthy investment prospects. Questions that will be addressed include:

*Does Cambodia possess the essential resources and infrastructure to support a competitive aquaculture industry?*

*What are the market conditions in the fisheries sector, and how does this affect aquaculture?*

*What is the government's view and what support can you expect?*

*Who are the relevant organizations active in the aquaculture industry, and to whom can you turn for further information?*

*Where are the significant aquaculture investment opportunities?*

Cambodia is a vibrant economy, which is winning many admirers for its investment-friendly policies. It has also proven itself a resilient economy, rebounding rapidly from the global financial crisis. The ADB and IMF both upgraded their GDP growth forecast for Cambodia during the course of 2010, citing strong economic performance. While Cambodia has enjoyed rapid economic growth throughout the past decade, there remain many more investment opportunities for the entrepreneurial investor. We hope that this Sector Investment Profile whets your appetite to invest in the aquaculture industry, and wish you and your business every success.

Sincerely,

**USAID Cambodia MSME Project**

## National Strengths

Over the last decade, Cambodia has emerged as a vibrant and robust regional player with many of the underlying attributes necessary for successful business development and growth.

### Open for Business

- ✓ Low corporate taxes – 20% tax on corporate profits (five-year carry forward of losses)
- ✓ No foreign ownership restrictions
- ✓ Ranked ahead of China, India, Vietnam and Indonesia for economic freedom<sup>1</sup>
- ✓ Equal treatment of all investors
- ✓ Ranked ahead of Philippines, China and Vietnam for protecting investors<sup>2</sup>
- ✓ No price controls on any products or services
- ✓ No foreign exchange controls or restrictions on convertibility
- ✓ No restriction on capital repatriation
- ✓ First low-income country to join the WTO
- ✓ No quantitative trade restrictions; falling tariff barriers. Cambodia has duty-free and quota access to major world markets (such as the United States, European Union, Japan and many ASEAN members)
- ✓ Provincial governments have authority to approve investments under US\$2 million to fast-track business development start-up

*“Cambodia is fully open for business and the Royal Government of Cambodia will try its best to guarantee a favourable environment and the success of every enterprise in Cambodia.”*

- H.E. Samdech Hun Sen, Prime Minister of Cambodia.

### Inexpensive & Productive Labor

Compared to many regional competitors, Cambodia enjoys competitive wage rates and high labor productivity, making it an attractive destination for labor-intensive industries.

In recent years, Cambodia’s labor force has grown by more than 50%, greater than

double the rate in any other ASEAN country<sup>3</sup>. And with a very young population (half are under the age of 20), this labor force growth will continue to surge.

*“Like China and India in earlier periods, Cambodia has been identified as a location with a promising future for manufacturing investment, primarily due to the wide availability of low-cost labour and its falling country risk premium ... it also benefits from relative proximity to the West Coast of the US.”*

- PriceWaterhouseCoopers, June 2008

### Strategic Regional Location

Cambodia is ideally located in the heart of the most dynamic region in the world. Nestled between Thailand and Vietnam, Cambodia is part of the Greater Mekong Sub-Region’s Southern Economic Corridor stretching from Ho Chi Minh City to Bangkok.

Given its strategic position, Cambodia has enjoyed significant international support in building its transport infrastructure to facilitate trade within the country and with its neighbors. As a result, trade with Vietnam and Thailand is growing rapidly.



*“You’ve got two of the biggest cities in Asia on either side of you. You’ve got 15 million people in Bangkok and 8 million people in Ho Chi Minh City, and things are increasingly happening between the two.”*

- Edward Hopkins, CB Richard Ellis Group Inc.

<sup>1</sup> Heritage Foundation, 2009 Index of Economic Freedom <http://www.heritage.org/index/>

<sup>2</sup> World Bank, Doing Business 2009 <http://www.doingbusiness.org/>

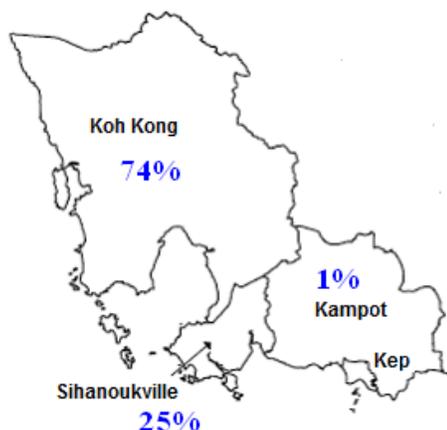
<sup>3</sup> ILO, Labour and Social Trends in ASEAN 2007 - Integration, Challenges and Opportunities



Cambodia's coastline is 435 km long, excluding islands, and territorial waters extend 20 km out to sea. In total, the claimed exclusive economic zone is 55,600 km<sup>2</sup>. Bordering the sea are two provinces Koh Kong and Kampot, and two municipalities Krong Kep and Sihanoukville, the location of Cambodia's deep-water port.

As the following diagram illustrates, almost all of the marine aquaculture on the coast is concentrated in Sihanoukville and Koh Kong.

**Marine aquaculture by province (2009)**<sup>8</sup>



Out of the total marine aquaculture production, the classification by product in 2009 was:

**Marine aquaculture by product (2009)**<sup>9</sup>

Product	%
Blood cockle	37
Mollusk	33
Marine Fish	24
Other	6

## Land

There is an abundance of land available for aquaculture facilities and for production of feed inputs. Total land in Cambodia is 18.1 million hectares, supporting a population density of only 75 citizens per km<sup>2</sup>. Of this, 2.61 million hectares are occupied by rice paddy and 569,000 hectares by other crop production<sup>10</sup>. Growth of crop production is a key target for the Royal Government of Cambodia and it seeks to facilitate this through land concessions.

<sup>8</sup> Ministry of Agriculture and Fisheries, *Annual Report 2009-10*

<sup>9</sup> Ministry of Agriculture and Fisheries, *Annual Report 2009-10*

<sup>10</sup> Royal Government of Cambodia, *National Strategic Development Plan Update 2009-2013*

## Labor

Cambodia is not only an internationally recognized location for affordable labor, but also has a long history of artisanal fish processing. Moreover, the Fisheries Administration and other development partners have made substantial investments in training to sustain local production and value-added processing. Consequently, the labor force has the needed skills base, which investors can leverage.

## 3. Market Conditions

Market conditions are also very conducive to expansion of aquaculture. Strong and growing local demand, proven export potential and constrained supply, are compelling reasons for investment.

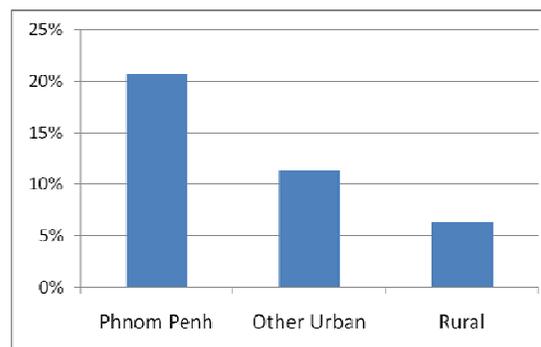
### Internal Demand

Fish consumption is many times the global average and is the greatest source of animal protein (80%<sup>11</sup>) in the Cambodian diet. The majority of Cambodians do not live far from inland fisheries, and therefore consume mainly fresh water fish.

Domestic demand for marine products, including high-value species, is dominated by Phnom Penh, which accounts for 15% of the population. Moreover, the city enjoys considerably higher median wealth than the rest of the country, and a larger proportion of the most affluent consumers.

Demographic changes are increasing the demand for fish. Using Phnom Penh as a proxy for relatively wealthy Cambodians, the following chart indicates increasing fish consumption as population becomes wealthier.

**Fish and seafood as % of calorie intake (2004)**<sup>12</sup>



<sup>11</sup> MRC Technical Paper No.16

<sup>12</sup> Ministry of Planning (2006), *Poverty Profile of Cambodia 2004*

Population growth of 1.54% annually (2008)<sup>13</sup> and steady growth in per-capita income is forecast to raise internal demand by approximately 150,000 tonnes in 2019<sup>14</sup>.

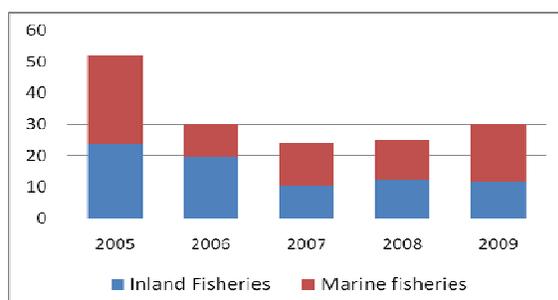
### Strong Export Potential

Development of a stable export-orientated aquaculture industry that is able to provide consistent economic returns to the country is of great interest to the Royal Government of Cambodia.

The export demand for fish is strong. Using destination countries' import records, International Trade Centre (ITC) estimates total exports of fish at US\$100 million in 2006.

However, official exports often under represent this amount, as many transactions are not formally recorded. As well, low official exports may also reflect domestic food security issues, rather than export demand since governments sometimes restrict exports to ensure there is sufficient food for its population<sup>15</sup>. The graph below illustrates slight growth in exports in recent years, driven mainly by marine products<sup>16</sup>.

**Official Cambodian aquaculture exports (thousands of tonnes)<sup>17</sup>**



From the previous graphic it can also be seen that marine products are a considerably higher proportion of exports than they are of total domestic fisheries production. This is reflective of not only the higher export value of marine products, but also Cambodians' customary preference for freshwater fish.

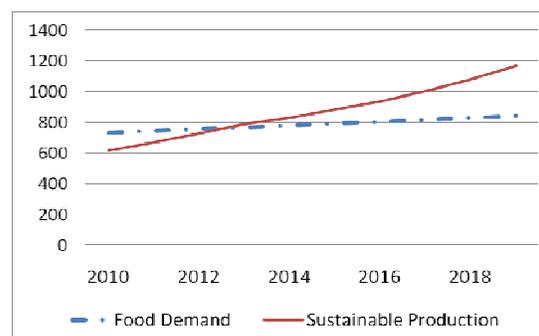
Presently, the main export markets for Cambodian fishery products are Australia,

Vietnam, Thailand, China, Malaysia, Singapore, Hong Kong and South Korea<sup>18</sup>.

### Constrained Supply

As described earlier, aquaculture has been limited to a small percentage of total production due to abundant natural fisheries. However, demographic and environmental factors are placing increasing pressure on these natural resources, causing the level of sustainable production to fall below demand. This is illustrated in the following chart.

**Production targets 2009-2010 (thousands of tonnes)<sup>19</sup>**



Meeting and exceeding internal demand, in order to generate export revenues, is a priority for the Royal Government of Cambodia. The strategy outlined in the Strategic Planning Framework for Fisheries 2010 – 2019 requires limiting wild capture at 500,000 tonnes per year. This requires a 15% year-on-year increase in output of both aquaculture and rice field production. The surplus over domestic consumption will be used for export.

Institutional arrangements can also limit supply. Snakehead fish is a popular delicacy consumed throughout Asia - the 4.5 million population of Singapore consumes 1000 tonne annually. However farming of this carnivorous fish as been banned in Cambodia since 2004 due to the potential negative impact on fish stocks. Snakehead consumes over 5 times its weight in fish, which traditionally will be drawn from wild capture fisheries.

## 4. Business-Enabling Environment

<sup>13</sup> Cambodian National Institute of Statistics

<sup>14</sup> MRC Catch and Culture Volume 15, No.3

<sup>15</sup> Phnom Penh Post, (27 April 2010). *Cambodia's fishery exports set to drop 20 percent this year*

<sup>16</sup> Ministry of Agriculture and Fisheries, *Annual Report 2009-2010*

<sup>17</sup> Planning, Finance and International Cooperation Dept., Fisheries Administration (2010)

<sup>18</sup> Fisheries Administration (2010), <http://www.maff.gov.kh/en/news/32-fish-export.html>

<sup>19</sup> The Fisheries Administration (2010), *The Strategic Planning Framework for Fisheries: 2010-2019*



## SEZ services

A "One stop service"	Quality infrastructure
Investment Registration	Electricity
Import/Export permits	Clean water
Customs Clearance	Reliable internet access
Labor Management	

Businesses within the SEZs also benefit from a number of fiscal incentives, including income tax, customs and VAT benefits.

## Financial Services

Cambodia has a thriving financial sector comprising of 33 banks and 20 Micro Finance Institutions regulated by the National Bank of Cambodia. In total these institutions issued credit worth approximately US\$3 billion in 2009. Internet banking, mobile banking and ATMs are common within the capital and provincial urban centers. To encourage quality in the sector, effective end of 2010, the National Bank required that each commercial bank increase its registered capital threefold to approximately US\$37 million.<sup>23</sup>

## 5. Infrastructure

### Distribution System

A high proportion of Cambodians live in rural areas and close to freshwater fisheries, so much of domestic trade is sub-regional; retailers or small traders purchase direct from landing sites and supply local consumers. The distribution system, therefore, exists primarily to channel fish to urban centers, the most important of which is Phnom Penh.

The national and export distribution system is organized around three major hubs; Sihanoukville on the south coast, where salt water fish are brought to market; Siem Reap on the northern side of the Great Lake, the major inland fishery; and Phnom Penh, the largest domestic market in the country.

### Distribution centers in Cambodia

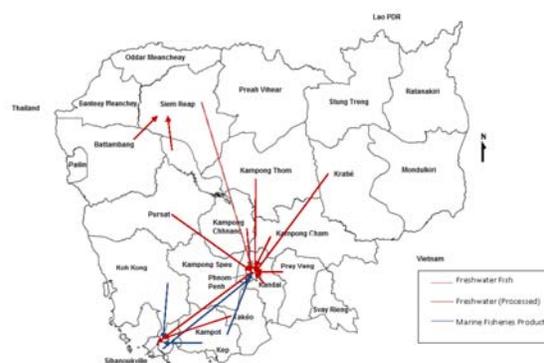
Location	Ownership
Sihanoukville	19 (7 major) private owned
Siem Reap	4 government operated
Phnom Penh	3 government operated

Fish is exported directly from both Siem Reap and Sihanoukville, therefore, the distribution

centers in Phnom Penh exist mainly to serve the local market. In the capital there are three government-run distribution centers, located outside the city, which receive fish and distribute to the network of urban retailers.

Marine fish arriving from the coast typically bypass these distribution centers and are shipped direct from privately owned distribution centers along the south coast, to the city's retailers and restaurants.

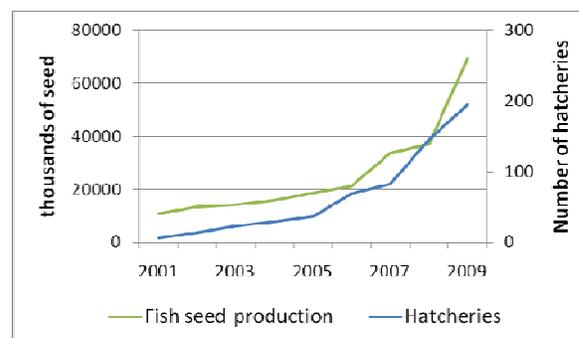
### Fish distribution routes<sup>24</sup>



### Hatcheries

The government has established a small number of public hatcheries, but is increasingly supporting the development of private-sector hatcheries with technical assistance.

### Hatcheries and fish seed production<sup>25</sup>



The Marine Aquaculture Development Centre (MADeC) is a modern hatchery currently under construction in Sihanoukville. This US\$7.3 million project, funded under a Japanese grant aid scheme, aims to produce 400,000-500,000 fingerlings per year.

<sup>23</sup> National Bank of Cambodia, *Annual Report*, Banking Supervision Department, 2009.

<sup>24</sup> Adapted from Department of Fisheries (2006) *Fish Markets in Phnom Penh, Sihanoukville and Siem Reap*

<sup>25</sup> Aquaculture Department, Fisheries Administration (2010)

## Transportation

Significant investment in transport infrastructure has improved national distribution and export potential, enabling Cambodia-based producers to tap into established global supply chains.

**Road:** Phnom Penh can be accessed by well-constructed national roads from all provinces.<sup>26</sup> There are seven international border checkpoints in the country providing uninterrupted road access to neighboring Thailand, Laos, and Vietnam.

**River:** The Mekong River is frequently used to transport trade commodities (mainly agricultural products) and connects Cambodia to Laos and Vietnam.

**Rail:** The Royal Government of Cambodia is working together with ADB and other donor partners to rehabilitate the national rail lines. Two main rail lines run from Poipet (on the western border with Thailand) to Phnom Penh and another line from Sihanoukville port to Samrong on the southern border with Vietnam. Rehabilitation of the rail lines project will be completed in 2013.<sup>27</sup>

Lastly, of particular relevance to marine products is the Southern Economic Corridor, from Bangkok, Thailand to Ho Chi Minh City, Vietnam, which runs along the entire length of Cambodia's coastline.

## Business Opportunities

Increasing demand, constrained supply and substantial improvements to the Cambodian investment climate and infrastructure provide significant investment opportunities in aquaculture and associated industries, including:

**Fish farming:** Despite recent growth, some research suggests that fish farming is still less than 10% of its total potential<sup>28</sup>, and therefore represents a huge growth opportunity. Traditional techniques remain widespread, so there are potentially large investment returns related to improved operations, economies of scale and breed selection.

**Feed production:** Pond aquaculture requires high-quality feed in order to optimize yield. Currently, this demand is only partially satisfied by imports, the expense of which is difficult to recoup in the market price for fish and consequently informal feed production is pervasive. The increasing popularity of pond aquaculture, therefore, has led to a growing opportunity for domestic production of quality fish feed using widely available raw materials.

**Seed production:** While there has been a strong increase in seed production, Cambodia still requires organized fish seed marketing channels and distribution mechanisms to fulfill demand.<sup>29</sup>

**Cold storage:** Improved preservation and storage are essential to maintain value, prevent post-harvest losses, and extend export reach to more profitable markets. It was estimated in 2005 that 70% of all ice production in Cambodia was used for fish preservation.<sup>30</sup>

**Processing:** Processing and reprocessing is a labor-intensive operation. Cambodia offers not only a cost-efficient workforce, but also has a long history of skill in preparation of salted, dried, smoked and other forms of preserved products for domestic use. Several larger-scale processing operations are exploiting these advantages to start operations serving export markets.

## Development Partners in the Aquaculture Industry

A number of development partners are aiding aquaculture private sector development:

**USAID Cambodia Micro, Small and Medium Enterprise (MSME) Program** facilitates technical and business assistance to thousands of micro-, small- and medium-sized enterprises in rural Cambodia. MSME has worked with both aquaculture and input producers to improve production techniques, business management, and strengthen public-private sector dialogue.

The MSME project also concentrates on facilitating technical assistance to eight other product sectors, including: swine, clay tile, safe drinking water and latrines, skills

<sup>26</sup> Ministry of Public Works and Transportation, (2009) *Overview on Transport Infrastructure Sectors in the Kingdom of Cambodia*

<sup>27</sup> ADB, (2010) *Cambodia and ADB Sign New Railway Funding Agreement*,

<http://www.adb.org/documents/news/carm/2010/carm201002.asp>

<sup>28</sup> HE Nao Thourk, Fishery Administration (2009) *Equity Weekly News - Net Profits in Fish Farming*

<sup>29</sup> FAO (2007), *Assessment of Freshwater Fish Seed Resources For Sustainable Aquaculture*

<sup>30</sup> The Fisheries Administration, *The Strategic Planning Framework for Fisheries: 2010 – 2019 Volume II*

development to the garment industry, honey, resin, eco-tourism and high-quality fruits.

**Japan International Cooperation Agency (JICA)** is responsible for the Marine Aquaculture Development Center at Tomnop Rolok, Sihanoukville province.

**Mekong River Commission (MRC)** promotes and coordinates sustainable management and development of water and related resources for the countries' mutual benefit and the population's well-being by implementing strategic programs and activities and providing scientific information and policy advice.

**The WorldFish Center** is an international NGO that works to reduce poverty by improving fisheries and aquaculture. Its office for the Greater Mekong region is based in Phnom Penh.

**The World Bank** supports fisheries-related projects in biodiversity and protected area management.

**The Southeast Asian Fisheries Development Center (SEAFDEC)** provides training, research and information services to improve development of fisheries resources. Its services cover the broad areas of fishing gear technology, marine engineering, fishing ground surveys and stock assessment, post-harvest technology as well as development and improvement of aquaculture techniques. Cambodia is member of SEAFDEC.

**The Fisheries Administration (FiA)** is the government agency responsible for management and development of fisheries in Cambodia. It is part of the Ministry of Agriculture, Forestry and Fisheries.

[www.nis.gov.kh](http://www.nis.gov.kh)

**USAID Cambodia Micro, Small and Medium Enterprise (MSME) Program**

<http://www.cambodiamsme.org/>

**Japan International Cooperation Agency (JICA)**

<http://www.jica.go.jp/cambodia/english/>

**Mekong River Commission (MRC):**

<http://www.mrcmekong.org/>

**The WorldFish Center:**

<http://www.worldfishcenter.org/>

**The Southeast Asian Fisheries Development Center (SEAFDEC):**

<http://www.seafdec.org/cms/index.php>

## Want to learn more?

**Council for the Development of Cambodia**

[www.cambodiainvestment.gov.kh](http://www.cambodiainvestment.gov.kh)

**Cambodia Chamber of Commerce**

[www.ccc.org.kh](http://www.ccc.org.kh)

**Ministry of Agriculture, Forestry and Fisheries**

[www.maff.gov.kh](http://www.maff.gov.kh)

**National Institute of Statistics**

## Key Statistics

Fisheries and Aquaculture data (2009) <sup>31</sup>			Cambodian macroeconomic data <sup>34</sup>						
Total Production		510,000 tonne		<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009e</b>	<b>2010f</b>
Total wild catch		465,000 tonne	Real GDP growth (%)	13.3	10.8	10.2	6.7	-2	4.4
Total aquaculture		50,000 tonne	Export growth, goods only (%)	12.4	26.9	10.7	15.2	-17	5
Freshwater aquaculture		4%	Exports, goods only (% GDP)	47%	50%	47%	46%	39%	0.37
Maring aquaculture		96%	FDI (US\$Million)	375	475	866	795	515	725
Export (recorded)		30,000 tonne	FDI (%GDP)	6%	6%	10%	8%	5%	0.07
Cambodia at a glance <sup>32</sup>			Business costs <sup>35</sup>						
Land area		181 035 km <sup>2</sup>	<b>Land</b>	<b>Sales price (per sq.m)</b>					
Climate		Tropical	Phnom Penh, Commerical land	US\$800-5,000					
Average temperature		27°C or 80 F	Siem Reap Commercial land	US\$300-500					
Population		13 395 682 (2008)	Sihanoukville., Commercial land	US\$300-1000					
Annual population growth rate		1.54%	Development land (all provinces/cities)	US\$30-120					
Official language		Khmer	<b>Office space</b>	<b>Rent/month (per sq.m)</b>					
Business language		Khmer and English	Prime areas	US\$10-15					
Religion		Buddhist	Secondary areas	US\$7-10					
Coastline		440 km	<b>Electricity tarriffs in Phnom Penh Commercial and industrial</b>	<b>Tariff, US\$/kWh (average in 2009)</b>					
<b>Cambodia tax rates<sup>33</sup></b>			Small (<6,750kWh)	US\$0.1863					
Profit tax	normal	20%	Medium (≥6,750kWh but less than 13,500kWh)	US\$0.1783					
	incentive rate	0% or 9%	Big (≥13,500kWh)	US\$0.1742					
Minimum tax		1% of turnover	Directly connected to MV	US\$0.1703					
Withholding tax		15%	<b>Industrial gas supply</b>	US\$0.32/Kg					
Income from property rental		10%	<b>Labor costs</b>	<b>Salary (per month)</b>					
Payment to non-residents		14%	Senior manager	US\$1,000-1,5000					
Tax on salary (riel per month)			Middle manager	US\$500-1,000					
0-500,000		0%	Entry level manager	US\$240-400					
500,001-1,250,000		5%	Accountant	US\$250-400					
1,250,001-8,500,000		10%	Secretary	US\$120-150					
8,500,001-12,500,000		15%	Office clerk	US\$100-120					
12,500,001 +		20%	Driver	US\$100-120					
Non-residents	flat rate	20%	Janitor	US\$50-80					
Fringe benefits tax		20%	Laborer	US\$50-80					
Value added tax		10%	Garment worker minimum wage	US\$60					
	export	0%							
Property transfer tax		4%							

<sup>31</sup> Ministry of Agriculture and Fisheries, *Annual Report 2009-10*

<sup>32</sup> Ministry of Tourism, *Annual Report on Tourism Statistic, 2009*

<sup>33</sup> Council For The Development of Cambodia, *Cambodia Investment Guidebook, January 2010*

<sup>34</sup> Council For The Development of Cambodia, *CDC East Asia and Pacific Economic update, 2010*

<sup>35</sup> For Land and Office Space, see Bonna Realty Group, *ASEAN Facts and Figures 2009 Research*

For Electricity Tariff, see Electricite Du Cambodge, *Internal Report, 2009*

