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## Forest Product Trade in Cambodia: A Case Study of Resin

Mr. Prom Tola and Mr. Bruce McKenney of CDRI's Natural Resources and Environment Programme summarise findings from a study of resin trade, with a focus on trade constraints and their impact on rural incomes.\*

Forest products play an essential role in supporting rural livelihoods in Cambodia. Almost all rural Cambodians depend on forest products for cooking fuel and construction materials, and many collect resin, wild fruits and vegetables, and other products to support income generation and food security. With roughly 600,000 people living in forest concession areas and many more people living in or near forests, the collection and trade of forest products represents a significant part of Cambodia's rural economy. However, with the bulk of attention focused on commercial timber management, this sector of the economy is often overlooked.

CDRI recently conducted research on one forest product (resin) to gain insights on how this trade affects rural economies and forest dependent communities. The objectives of the research include identifying constraints on resin trade, assessing the impact of these constraints on rural incomes, and making policy recommendations that support the government's objectives of reducing poverty, ensuring food security, increasing 'pro-poor' trade, and improving forest management.

Tapping resin trees is a significant income generation activity for many households living in the forested areas of Cambodia. Resin is sold domestically for use in sealing/caulking boats and exported for use in varnishes and other products. Various case studies indicate that resin tapping is widespread in forest areas, and an essential income generation activity. For instance, a recent study of four villages in Monduliri by the Wildlife Conservation Society (WCS) found that 86 percent of households tap resin, earning an average of \$340 per year. Although the overall scale of Cambodia's resin production is difficult to estimate precisely, CDRI's research, in combina-



Sealing a fishing boat with resin in Po Village, Kompong Chhnang.

tion with other studies, suggest that approximately 20,000 tonnes of resin are collected annually, and that this activity provides a source of income for roughly 100,000 rural Cambodians. Total annual market/export value of resin is estimated at about \$6 million.

Collection of liquid resin involves cutting a tap in medium to large trees (mostly *Dipterocarpus* species) and burning the area briefly to stimulate the flow of resin, which is then collected over time in plastic containers. Studies of resin tapping suggest that it does not harm the trees and that tapping a tree can continue for decades. However, because resin trees are also commercially attractive, many tappers have lost trees to commercial (and illegal) logging in recent years.

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\* This article summarises key findings from a forthcoming CDRI Working Paper on resin trade.

In selecting sites and trade routes for study, CDRI reviewed existing information to identify areas known for significant resin production and high incidences of poverty and food insecurity. In particular, CDRI took into account an analysis by the World Food Programme (2001) that identified 300,000 people living in 67 'communes of concern' — areas with high forest dependence, forest loss, food insecurity, and poverty. Based on the WFP findings and other reports on forest products, CDRI decided to focus work in four areas: Mondulkiri, Preah Vihear, Kompong Thom, and Oddar Meanchey/Siem Reap. CDRI carried out more than 50 semi-structured interviews with traders, wholesalers, exporters and domestic retailers in these areas between August and November 2002.

### Overview of the Resin Trade

Although resin-tapping activity may be found across most of Cambodia's forested areas, it is most prevalent in the north and northeast regions. From these areas, resin is often transported significant distances to domestic markets around the Tonle Sap, south to the Mekong Plain region, and for export. CDRI estimates that about 3,000–4,000 tonnes of resin are used for sealing boats in Cambodia each year. Most domestically consumed resin appears to be of an inferior quality (thicker consistency) to exported resin. CDRI observed that significant quantities of poor quality resin are being collected in Kompong Thom province, where resin prices are substantially lower than elsewhere.

Although domestic markets for resin are significant, the vast majority of resin is currently exported, primarily to Vietnam. Unfortunately, little is known about the final use of resin exports. Some traders interviewed for this study suggest that resin exports are re-exported to China. Other studies of resin use in Southeast Asia indicate resin may be used in varnishes, or in some cases as a fixative for perfumes but it is unclear if the resin variety collected in Cambodia could be used for these purposes. CDRI was unable to obtain/confirm information about the final uses of Cambodia's resin exports.

Resin trade in Cambodia typically involves the sale of resin from tappers to a marketing chain that includes traders, wholesalers, exporters and domestic retailers:

- **Traders** travel to tapping villages, some of which may be in remote forest areas, to purchase resin. They typically travel by motorbike and are capable of

carrying about 200 kg of resin (six to seven containers). This resin is then brought to a more central or semi-urban area for sale to a wholesaler.

- **Wholesalers** purchase resin from traders and villagers and stock it until they have enough for a shipment (usually about 1–2 tonnes). They often provide credit/capital to traders to support the purchase of resin. Before shipping, many wholesalers filter the resin in a rudimentary manner to improve resin quality, especially if the resin is intended for export. Wholesalers may transport the resin to the market/border themselves or hire independent transporters.
- **Exporters** aggregate resin from wholesalers and transporters for export. In some cases, exporters filter resin if wholesalers have not done so. Export shipments range in size from 1–20 tonnes.
- **Domestic retailers** purchase resin from traders and wholesalers. They are typically located in provincial markets or nearby fishing areas where the high number of boats creates a demand for resin.

### Analysis of Resin Trade Routes

CDRI identified four major resin trade routes for study:

- Keo Seima district (Mondulkiri) to Memot district (Kompong Cham) and on to the Vietnamese border.
- Tbeng Meanchey district (Preah Vihear) to Sourn district (Kompong Cham) and on to the Vietnamese border.
- Kompong Thom town and Kompong Thmor district (Kompong Thom) to Phnom Penh
- Anlong Veng district (Oddar Meanchey) to Chong Khneas (Siem Reap)

For each trade route, CDRI collected information on trade practices, prices and margins, business costs (capital, operating, and working capital costs) and fees. The main quantitative findings from this research are summarised in Table 1. As expected, business costs are largely correlated with the distance of the trade route. Hence, the highest business costs (354 riels/kg) are for trade from Preah Vihear to Kompong Cham/Vietnam. Business costs for trade from Mondulkiri are also high due to the remoteness of tapping villages and the poor quality of roads.

In addition to typical business costs (transport, labour and storage equipment), there are significant fees imposed on the trade of resin. Depending on the trade

**Table 1. Margin and Cost Analysis of Resin Trade in Cambodia for Four Trade Routes**

Margin and Cost Analysis	Trade Route 1: Mondulkiri-Kompong		Trade Route 2: Preah Vihear-Kompong		Trade Route 3: Kompong Thom-Phnom		Trade Route 4: Oddar Meanchey-	
	Riel/kg	\$/tonne	Riel/kg	\$/tonne	Riel/kg	\$/tonne	Riel/kg	\$/tonne
Price paid to tappers	759	194	414	105	261	67	437	111
Export/market price	1275	325	1250	319	675	172	861	220
Price margin (tappers to export/market)	515	131	836	213	414	106	423	108
Total trade costs (costs from tappers to export/market, excluding fees)	226	58	354	90	175	45	127	32
Fees	120	31	240	61	82	21	109	28
Profit margin <sup>1</sup>	168	43	241	61	155	40	187	48
Fees as % of total costs	35%		40%		32%		46%	
Fees as % of "potential" profit <sup>2</sup>	42%		50%		35%		37%	

<sup>1</sup> This margin represents profit in cases where business owners have included their wages within their operating costs. If they are not paying themselves a daily wage as part of operating costs, this margin reflects net revenue.

<sup>2</sup> Potential profit is equal to the price margin (tappers to export/market) minus total trade costs (excluding fees).

route, these fees amount to \$21–\$61 per tonne of resin. At 32–46 percent of total business costs, fees represent the highest cost component for trading resin from tapping villages to the market/border.

Fees paid on resin transport affect the potential profits of all involved with resin production and trade. It does not matter who actually pays the fee since costs may be passed on. As one trader put it, “*when the authorities raise the fees, I cannot pay all of it and make a profit, so I must reduce the price I pay to villages for resin.*” But traders also note that these lower prices can cause a reduction in the amount of resin supplied by tapping villages. At present, fees absorb a significant proportion of potential profits — from 35 to 50 percent depending on the trade route. Such losses can have a substantial impact on the income and food security of resin tapping households, especially since most of these families live in areas facing chronic rice-deficits.

For example, based on the average fees paid in Monduliri, households in the four villages studied by WCS may incur income losses of up to \$82 per year due to fees.<sup>1</sup> As WCS notes, these households only grow enough rice to cover consumption needs for approximately four months. Income from resin sales is used to purchase rice for the remainder of the year. Indeed, CDRI observed wholesalers in Monduliri directly exchanging rice for resin. For resin tapping households in Monduliri, the removal of fees could provide the means to purchase up to 400 additional kilograms of rice per year — enough to support the rice consumption of a household of five persons for five or six months.

Finally, in addition to the fees actually paid, it is important to note that trade inefficiencies and costs are also caused by the *threat* of fees. Resin traders will go to great lengths to avoid paying high fees, since their payment would result in a business loss rather than profit. For example, rather than shipping resin efficiently in a large truck (and paying high fees), it is common in Kompong Thom to ship smaller quantities of resin in the trunks of taxis. While shipping via several taxis raises transport costs, traders have calculated that it is cheaper than a truck shipment subject to fees. Likewise, traders in Monduliri refrain from using nearby roads to the Vietnamese border because the fees are too high, opting instead to go a longer distance and export resin via Memot in Kompong Cham.

### Permit, Licensing and Fee Requirements

With the aim of forest management and revenue generation, the government has established a number of permit, licensing and fee requirements to transport and export Cambodia’s non-timber forest products (NTFPs). For resin transport and export, the government officially requires the following:

- To transport resin within a province requires approval of the Provincial Forestry Office (PFO). No payment is officially required.

- To transport resin across provinces within Cambodia requires approval of the PFO and a transport permit obtained from the Department of Forestry and Wildlife (DFW) in Phnom Penh. A fee of 315 Riels/kg must be paid to either DFW or the PFO.
- To export resin requires approval from the PFO, a transport permit from DFW, and approval of an export license from the Ministry of Commerce and Council of Ministers. In addition to 315 riels/kg, the exporter will be charged a ‘service fee’ equal to one percent of the total value of the resin exported plus a royalty fee (CDRI was unable to determine the official amount of the royalty fee).

### The System in Practice

The official system of permits, licenses and fees is extremely difficult for those in the resin trade to follow in practice because of its high burden and cost. This is especially true for small businesses, which lack the means to pay fees or to travel to Phnom Penh to obtain a transport permit or export license. Although a few large wholesalers obtain official resin transport permits from DFW, irregular enforcement allows these wholesalers to ship more resin than is allowed under the permit. CDRI was unable to identify any actors in the resin trade who hold an export license, and this was confirmed by a DFW representative who informed CDRI that no one has applied for a resin export permit since 2000.

Technically, almost all resin trade and export is conducted on an illegal basis because of the difficulties of compliance. Consequently, the system generates almost no official government revenue. What the system does provide is a basis from which local authorities and officials can justify the collection of informal fees. Similar systemic problems exist for other forest products. For example, the local market price of a wooden pole in Siem Reap is 800 riels, but the official royalty rate charge is 1000 riels per pole. It is clearly impossible to pay the official rate and earn a profit.

The government appears to recognise some of the problems with its NTFP permit and licensing system and has indicated an interest in reviewing the system and improving market conditions. As stated in the National Poverty Reduction Strategy 2003–2005:

*The Forestry Law will be reviewed as information on its effectiveness and implementation is gathered. The system of fee and permits on NTFPs will also be reviewed in consultation with local user groups. Additionally, efforts should be made to remove barriers to marketing NTFPs (especially resin), since NTFPs can be harvested without negatively affecting the forest and are of great importance for rural household economy.*

This review of the Forestry Law should begin with a reconsideration of Article 40, which states: “[a] transport permit is required for any third party who buys

***The official system of permits, licenses and fees is extremely difficult for those in the resin trade to follow in practice because of its high burden and cost.***

*NTFPs for commercial purpose from a local community, in accordance with the provisions of this Law and after payment of any applicable royalties and premiums.*" Since resin and most other NTFPs are widely traded outside of the areas in which they are collected, this section of Article 40 places permit and royalty requirements on most NTFPs. The associated fees represent an additional cost to NTFP marketing that, in turn, drive down the prices that NTFP collectors receive for their products.

### Recommendations for Improving Resin Trade and Rural Livelihoods

Consistent with government objectives to reduce poverty, ensure food security, increase 'pro-poor' trade, and improve forest management, CDRI offers the following recommendations:

**1. The elimination of resin transport permit, licensing and fee requirements.** The current system of requirements does not work; there are several justifications for ending it rather than trying to revamp it.

- *The 'custom' is to trade.* Resin has historically been transported from forest areas for use in fishing areas and for export. Forest communities have little use for resin other than in some cases as a sealant for their own boats or for torch making. In short, resin supply has always been far greater than the demand in forest communities. Trade is necessary. To allow the collection of resin without a permit (as stated in Article 40.B.1 of the Forestry Law) is not meaningful if the trade of resin then requires a transport permit and royalty fees (Article 40.B.5.).
- *Inconsistency with national poverty reduction and food security objectives.* As indicated by the World Food Programme (2001), poverty and food insecurity are common in many forest dependent communities. These communities rely on income from forest products to purchase rice during deficit periods. Clearly, fees that amount to \$21–\$61 per tonne of resin reduce this livelihood income. Eliminating these fees so that forest communities can earn a higher income would be a more effective approach to rural development than charging fees on resin and then, when a rice deficit is faced, trying to reach these remote areas with food aid.
- *Inconsistent with national pro-poor trade objectives.* Spearheaded by the Ministry of Commerce (MoC), the government is currently promoting pro-poor trade. As part of this effort, the MoC has highlighted the need to reduce high fees involved with the export of milled rice, estimated to be \$14 per tonne in 2000. It would be consistent with pro-poor trade initiatives to address the fee system for resin as well since much resin is exported, fee rates for resin are significantly higher than rice, and many of the poorest communities in Cambodia depend on resin.

- *Serves no significant forest management purpose.* Resin tapping does not negatively affect the forest. In fact, income generation from resin provides a strong incentive for tappers to protect the forest areas with resin trees. If the current permit and fee system were eliminated, resin prices at the forest gate would likely rise, giving tappers an even stronger incentive for forest protection.
- *Serves mainly as a basis for charging informal fees rather than official government revenue collection.* For most involved in the resin trade, compliance with the current system is impossible because they lack the means to pay high fees or to make the necessary trips to Phnom Penh to apply for permits and licenses. As a result, the current system functions mainly as a basis for informal fee collection.
- *May discourage the establishment of community forest management.* Communities need incentives to manage and protect nearby forest areas. Reducing the potential income that communities can earn from forest products by imposing fees will not encourage responsible management. Moreover, a permit and licensing system that cannot be complied with does not set a good example for community forest managers who may be looking for management models.

**The current system of requirements does not work; there are several justifications for ending it rather than trying to revamp it.**

**2. Enforce Article 29 of the Forestry Law prohibiting the harvest of resin trees.** While CDRI's research focused on resin trade, not resin tapping, several interviewees noted that the resin supply has been reduced or stopped altogether from some areas due to logging activity.

Reforming policies that govern the trade of resin will not be meaningful if the source of resin production is lost. The government should be commended for prohibiting the cutting of resin trees in the Forestry Law of 2001. The challenge will be to enforce it.

**3. Support the identification of new markets and value-added processing opportunities for resin.** The majority of resin collected in Cambodia is exported with little or no processing, much of it going to Vietnam from where it may be re-exported. Eliminating the permit, licensing and fee system for resin would reduce marketing costs and, in effect, 'legalise' the trade. In turn, this would open up opportunities for investment in value-added processing and encourage entrepreneurs to seek out potentially high-value end-use markets to which Cambodia could export directly.

### Endnote

- <sup>1</sup> The amount of loss to tappers will vary depending on the extent to which fees are passed on from exporters, wholesalers, and traders, causing lower resin prices at the forest gate. If fees were reduced, competition among traders to purchase resin suggests much of the benefit would be passed on to tappers.

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## The Rural Labour Market in Samrong Torng

**Mr. Chan Sophal, a Researcher with CDRI, examines the earnings derived from agricultural activities and the opportunities for off-farm and non-farm work in a typical wet season, rice cultivating commune in Kompong Speu Province.\***

### Introduction

Emerging from decades of civil war and strife Cambodia has achieved marked economic growth, averaging about 5 percent *per annum* over the past decade. However, the benefits of this growth have been concentrated in urban areas. Agriculture, which until recently was adequate for subsistence, has only grown about 1.5 percent *per annum* on average in the past decade. Due mainly to the baby boom of the 1980s, the rapid expansion of the labour force has outpaced the creation of jobs in the non-agricultural sectors. Cambodia is, therefore, facing the significant challenge of job creation for a labour force that is growing by about 200,000 every year. Since agricultural expansion has its physical and institutional limits, expansion of non-farm and off-farm employment will play a critical role in providing income to the rural poor. The rural economic structure has to change, especially if part of the forests and water bodies are to be preserved.

Following the preferential trade status provided by the US in 1996 and the EU in 1997, Cambodia achieved a remarkable inflow of foreign direct investment in the garment industry making it the country's leading industry (Sok, Chea and Sik 2001). There are around 220 garment factories, employing about 160,000 workers, most of whom are young women from rural areas. However, this is clearly not sufficient to meet the expanding demand of the labour force. As was the case in a number of developing countries studied by Ellis (2000), many rural residents in Cambodia are engaged in other forms of work to supplement their farm income, which occupies them for only about 2–3 full months in a year. Based on a survey of nine villages distributed across the major ecosystems in Cambodia, Chan and Acharya (2002) estimate that agriculture contributes only 29 percent of the total income of rural households. The rest of income is derived from hiring out labour including out-migration (17 percent), exploiting common property resources (22 percent), small trades or business activity (29 percent) and other income (4 percent). Surprisingly, the structure of income does not vary greatly from one region to another.

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In Cambodia, about 85 percent of the population live in rural areas and nearly 80 percent are engaged in agriculture, forestry and fisheries (Royal Government of Cambodia 2001). About 75 percent of the population describe themselves as paddy rice farmers<sup>1</sup> and around 85 percent of paddy rice is cultivated in the wet season. Among these wet season rice-cultivating communities it is, therefore, important to understand how people make their living producing rice. Due to limited resources this study takes the case of one commune that shares characteristics typical to most Cambodian communes that cultivate wet season rice. In this way, findings from the survey can be said to reflect many other communes.

### Employment

The concept of 'employment' or 'unemployment' does not apply as well in the context of rural Cambodia as it does in other countries, though the concept of 'under-employment' does. As indicated in previous national surveys and the 1998 census, Cambodia's unemployment rate was around one percent only. However, what does one percent unemployment actually mean when most people do not earn livable wages and about 40 percent of rural residents are still under a poverty line of less than half a dollar a day?

The current study does not aim to assess the unemployment rate in the commune. Instead, it details the extent to which people work, and how much they earn each day. Is the earning adequate for poverty reduction? Which months in the year are people most busy or likely to have jobs? Moreover, in which months are people free for the majority of their time? The different types of jobs, age groups and gender are also explored.

The survey found that most people rarely work more than 200 days a year despite the fact there is no difference between weekdays and weekends for Cambodian rural farmers. Only men aged 25–44 work for about 200 days a year. Except for the 15–24 age group, women work less days than men, but this does not include unpaid housework such as taking care of children and cooking. As for the youngest age group, women have more days (153 days/year) to work than men (127 days/year). This is mainly because numbers of young women in the commune found employment with garment factories in Phnom Penh.

Concerning the seasonality of employment, a similar pattern is observed between males and females. The period between October and November is the slowest time in the year. On average, people do not work more than 10 days a month during this period. The busiest months are December, which is rice-harvest time, and July to August, which is the rice-transplanting period. On average, rice cultivation, which lasts around six or seven months between June and December, keeps people busy for only about two and a half months. The most intensive period is for transplanting and harvesting, which lasts about 15 days each. The rest of the time is spent on preparing soil and taking care of weeds, and to a certain extent, water control.

During the dry season of January to April, when rice is not cultivated, palm sugar is produced, which keeps men busier than women. Palm sugar production has been on the decline due to increasing fuel costs, while the price of palm sugar has not risen in the wake of competition from other kinds of imported sugar. The supply of wood for processing palm juice has been gradually decreasing owing to over-exploitation of the resources. The consequence is that smaller numbers of households now produce palm sugar and they have lower returns. Reportedly, about 70 percent of the households in the commune cultivated palm sugar in 1997. Our survey found only 40 percent of the households continue to do this. As for income, average net return is among the lowest in the commune, standing at 1,534 riels a day for one adult labourer in 2002. This should be reduced if child labour is counted. For the sake of useful comparison, a net return from adult labour in rice cultivation was about 2,000 riels a day in 2001. However, the drought in 2002 brought the figure down to 966 riels. As will be shown below, an average daily wage for undertaking paid work was around 3,000 riels.

**An average worker therefore... earns only about 233,000 riels or \$60 a year. This is only about 'one third' of what is needed to live around the poverty line, not to mention the need to support other family members.**

some cash, each spending, on average, 94 days in the year 2002. The average earning for a job within the commune was about 3,000 riels a day for men and 2,300 riels for women, though the jobs were not necessarily the same.

### The Variety of Jobs and Earnings

Table 1 shows the extent to which each category of employment involves male and female rural labourers aged between 25–64. Almost all people in this age group did some work in the year 2002. Ninety-one percent of males and 83 percent of females were engaged in rice cultivation (Columns 1 and 2). Of these people, each spent an average 2.5 months on the activity (Columns 1 and 2). The second largest job of the year for the commune seems to be palm sugar production, though, as discussed above, the net return seems to be among the lowest. 43 percent of men and 34 percent of women were engaged in the activity, each spending an average 88 days and 69, respectively. As for *chamkar* or other crop production, only 1 percent of male workers and 2 percent of female workers were occupied, spending, on average, no more than 20 days *per annum*.

A worker spends 77 days each year in paddy production. In a good year, a net return from this labour is about 2,000 riels a day. Therefore, one worker earns

about 154,000 riels a year from their own rice production. If the person also produces palm sugar (which is the case for about 40 percent of the working age population) they earn about 79,000 riels more. An average worker therefore, who only undertakes both these activities, earns only about 233,000 riels or \$60 a year. This is only about 'one third' of what is needed to live around the poverty line, not to mention the need to support other family members.<sup>2</sup> Clearly, rural workers badly need additional work and the potential for additional employment opportunities forms the main question of this study.

The study found a number of cash earning jobs were available for the residents of the Samrong commune, which is located about 60km southwest of Phnom Penh. Only 20 percent of working age males and 32 percent of females undertook jobs inside the commune to earn

It is of interest to note that daily wage rates for both men and women undertaking work in the commune are generally lower during the first half of the year than in the second. This could reflect the greater demand for labour during wet-season rice cultivation.

There appears to be more cash earning jobs available outside the commune and, as expected, the wage rate is also higher outside. Thirty-eight percent of working age men and 22 percent of the women found cash earning jobs outside the commune. However, each working male had an average 105 days work, while each working female had 195 days work. This is mainly because male workers do more short-term work in construction, small trade and other work, while female workers opted for longer terms of employment, mainly in the garment factories, which pay a higher rate than agriculture.

Only 26 percent of both males and females of the working age population had some form of cash earning job to do in the commune. As much as 87–90 percent did not have any cash-earning job to do in the commune during any month of 2002 (Table 2 overleaf). Fewest jobs were available between September to November, and between the rice transplanting and harvesting periods. Since rice production in the commune is of subsistence nature, very few people found paid work in farming within the commune. When there was farm work, which was mainly between July-August (transplanting) and December (harvesting), the daily earning was on average about 3,500 riels or about \$0.90 per worker.

Three to 8 percent of the working age population were engaged in small trade or small business activities such as making thatch from palm leaves, selling groceries, and selling cakes throughout the year. Relatively

**Table 1. Percentage of People Undertaking Different Jobs and the Average Number of Days.**

	% people doing		Average days of	
	Male	Female	Male	Female
All jobs in the year	98%	99%	168	159
Rice cultivation	91%	83%	79	75
Palm sugar production	43%		88	69
Chamkar	1%	2%	19	9
Cash earning jobs inside commune	20%	32%	104	88
Cash earning jobs outside commune	38%	22%	105	195

**Table 2. Availability of Cash Earning Jobs and Daily Earnings inside Commune**

	Farm work		Small trade/business		Other jobs		% not having cash earning job inside
	% having job	Daily earning	% having job	Daily earning	% having job	Daily earning	
Jan	1%	3,333	7%	1,952	5%	2,613	87%
Feb	0%	..	7%	1,906	6%	2,528	87%
Mar	0%	..	8%	1,868	5%	2,516	87%
Apr	0%	5,000	7%	1,826	5%	2,571	87%
May	1%	4,000	6%	2,364	5%	2,653	89%
Jun	2%	7,778	6%	2,304	5%	2,795	87%
Jul	5%	3,565	4%	3,565	5%	2,676	86%
Aug	8%	3,500	3%	3,008	5%	2,863	84%
Sep	2%	3,200	3%	2,008	5%	2,714	90%
Oct	0%	4,000	4%	3,319	5%	2,726	91%
Nov	1%	3,000	4%	3,725	5%	2,726	90%
Dec	4%	3,442	4%	2,225	5%	2,635	87%

more people, about 6–8 percent, did these activities in the first half of the year, compared to 3–4 percent in the second half. However, daily earnings were around 2,000 riels for the first half of the year but 3,000 riels for the second half. Many more women than men are in this category of cash earning jobs, reflecting a traditional division of labour.

As well as the activities indicated above, about 5 percent of the working-wage residents in Samrong had other kinds of employment within the commune including working as soldiers, local policemen, teachers, nurses and other local authority occupations. These appear to be permanent jobs as virtually the same proportion of the working age population was employed for every month of the year 2002 and the wage was more or less the same, standing just around 2,600 riels a day.

It should be noted that earnings from either small trade/business activities or 'other' jobs were smaller than earnings derived from farm labouring. This is mainly because farm work is the hardest job in terms of labour intensity and is available for only a few days at a time. The former jobs are mostly less intensive in terms of time and labour, and are of a longer-term nature. The other factor is that farm work requires many people at the same time, raising the price of labour. As discussed below, beside farm employment, there are very few jobs available. The opportunity cost of labour is so small that people would do anything for even a return of around 1,000 riels.

There is not enough work to do within the commune. Residents are forced to migrate to other areas, especially Phnom Penh, to find employment to supplement their income. The survey employed detailed questions to identify what employment the Samrong residents found outside the commune.

As presented above, 38 percent of males and 22 percent of females in the working age population were engaged in cash earning jobs outside the com-

mune for some time in the year. However, within a particular month, less than 17 percent of the working age population found work outside the commune, however, they might sometimes find more than one job a month (Table 3).

Five to six percent of the 17 percent that found work outside the commune (most of whom were young women), were employed in garment factories, each earning around 6,500 riels if calculated per day. This wage rate is highly comparable to the rate earned by construction workers, which were mostly men. Garments are the leading sub-sector in the industrial sector of the present Cambodian economy. However, as revealed in Table 3, a small percentage (about 5 percent) of the labour force could find work in this industry.

Garment workers have to consume very minimal amounts of food in order to be able support their family, who earn about \$100 each year from traditional rice cultivation. Our survey found that many garment workers could send home about \$30 a month. Consequently, a single worker would save about \$300 a year, far greater than savings derived from household rice production.

Households with two young women to work in garment factories are generally among the better-off in the village. Many houses were built as a result of savings from garment industry. A trickle down effect was definitely observed in the Samrong commune. This is, however, achieved at a cost to the medium and long-term well-being of the workers, who are eating and living poorly in order to save. Nevertheless, from the viewpoint of the labour market, 'little is better than nothing'. There appears to be a substantial labour surplus in the rural areas and the opportunity cost of the labour is very small.

There are not many people who trade outside the commune. Only 1–3 percent of the working age population were engaged in trade during any month of the year in 2002. Daily earnings were around 4,500 riels a day in the first half of the year, compared to 2,500 riels in the second half of the year.

**Table 3. Cash Earning Jobs Outside the Commune**

	Garment factory		Trade		Construction work		Other jobs		% having no jobs outside
	%with job	Daily earning	%with job	Daily earning	%with job	Daily earning	%with job	Daily earning	
Jan	5%	6,521	3%	4,409	3%	6,571	9%	3,527	83%
Feb	5%	6,521	3%	4,636	3%	6,500	8%	3,267	83%
Mar	5%	6,522	3%	4,409	3%	6,393	8%	3,275	84%
Apr	5%	6,522	3%	4,636	3%	7,000	8%	3,299	84%
May	5%	6,548	1%	8,833	1%	6,000	5%	3,136	88%
Jun	5%	6,548	1%	12,125	1%	5,667	5%	3,771	88%
Jul	5%	6,575	1%	2,500	0%	5,500	5%	2,841	88%
Aug	6%	6,572	1%	2,375	1%	7,000	5%	2,641	88%
Sep	6%	6,419	1%	2,500	1%	6,200	5%	4,724	88%
Oct	6%	6,609	2%	2,700	0%	5,500	5%	4,590	87%
Nov	6%	6,675	2%	2,800	1%	6,500	5%	2,625	86%
Dec	6%	6,675	2%	2,667	0%	6,000	4%	2,583	87%

Construction is a very large sub-sector in the industrial sector of the Cambodian economy, second only to manufacturing. As in any other country, construction in urban areas draws significantly on rural labour. Phnom Penh has experienced remarkable growth in construction, receiving about 600–800 applications annually for construction of houses, apartments, and hotels (CDRI, *Flash Report on the Cambodian Economy, January 2003*).<sup>3</sup> More construction work is available in the dry season. Therefore, 3 percent of the Samrong commune labour force could find work in this sector between January–April, while only one percent, or less, could do so between May and December. Earnings do not vary remarkably from month to month, the average being around 6,300 riels a day.

Beside the above-mentioned jobs, around 5–8 percent of the labour force were engaged in other jobs for some months of the year. These jobs included moving soil, moto-taxi driving, and other forms of hiring out labour. The average earnings were about 3,500 riels a day.

The survey found no significant employment in agriculture and fisheries outside the commune obtained by Samrong residents. This is mainly because Kompong Speu province is not well endowed with rice and fishery production. Evidently, Kompong Speu residents have to depend more on non-agricultural activities to earn cash.

### Conclusion

Despite the fact that food production has been rising gradually, it is widely accepted that off-farm and non-farm employment is critical to rural livelihoods in Cambodia. An average farm of one hectare, growing paddy rice in the wet season, provides an income of around \$100 *per annum*: this is far from sufficient to meet subsistence needs that require about \$1,000 for a rural family of six to live above the poverty line.

Population growth is causing atomization of land, leading to deterioration of farm income and landlessness. There is, therefore, greater and greater dependence on off-farm and non-farm employment. Cambodia's modern sectors including garment, construction and tourism have experienced rapid growth, but they still only absorb a small proportion of the labour force. Other available jobs are of a more informal nature, such as petty trade and hiring out unskilled labour for heavy work.

The survey found that high 'underemployment' is prevalent in the commune. Most people do not have jobs to do all round the year even though they would accept low earnings of just \$0.50 per day. Household rice cultivation occupies rural residents (about 66 percent) for only about 2–3 months each year, providing a return of about 2,000 riels a day for adult labour if there are no droughts or other disasters. Palm sugar production, which is most common in Kompong Speu province,

keeps about 40 percent of the labour force busy for about 1.5 months. Returns from this household job are about 1,500 riels, which is among the lowest. This traditional industry is losing out due to increased costs of fuelwood and severe competition from imported sugar.

There are not many cash earning jobs at all inside the commune. In any particular month, only about 13 percent of the working age population find some work paying about 3,000–4,000 riels a day. About the same proportion of the labour force have opportunities to earn some cash outside the commune, notably in the garment factories. Returns from this employment are about 6,500 riels, about the same as construction work. These earnings are higher than other jobs identified in the survey.

While policy conclusions should not be drawn from the study of one commune, there is no denying that there is an urgent need for job creation for the rapidly expanding labour force to make a living. The challenge facing Cambodia is the need to create these jobs and expand opportunities for income generation, especially in rural areas.

***The survey found that high 'underemployment' is prevalent in rural Cambodia. Most people do not have jobs to do all round the year even though they would accept low earnings of just \$0.50 per day.***

### Endnotes

<sup>1</sup> This may be misleading because rice cultivation employs farmers for only about 2–3 months each year. Although other jobs are more financially important, many Cambodians still call themselves farmers.

<sup>2</sup> The poverty line for rural area was 1,777 riels according to the Socio-economic Survey of 1999 (Ministry of Planning 2000). Consequently, for one year, one person (average of children and adults) needs (1,777 riels x 360 days) or 639,720 riels *per annum* just to reach the poverty line.

<sup>3</sup> These are formal applications. There is also construction of a considerable numbers of small buildings that are not on Municipal record.

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# Human Insecurity: A New Map of Cambodian Vulnerability

**In this introductory article, Mr. Taylor Owen sets the concept of human security in its historical and theoretical framework, demonstrates its utility using the Cambodian context, and briefly outlines his research in measuring and mapping security threats.\***

During a recent internship at the Cambodia Development Resource Institute, Mr. Taylor Owen conducted research on the concept of 'human security'. The research challenges the traditional notion of security and puts forward a new paradigm and methodology for assessing vulnerability and threats to human security in Cambodia.

According to traditionalist security studies, which are solely focused on violent threats, Cambodia would be deemed secure — a prognosis that marginalises what may be a very serious situation. In fact, the present study demonstrates that Cambodia is not a safe place; people are at great risk from a number of potential harms.

What the author seeks to demonstrate, is that using the concept of human security, a much more meaningful picture of the threats facing Cambodians can be assembled, and the proper degree of threat assessed. The study of human security data will enable the Cambodian condition to be presented with clarity and poignancy to the policy-making community.

## Conceptual Framework

The end of the Cold War saw a major transition in security studies. Up until 1989, what we now refer to as 'tradition security' or 'national security' dominated the field. In this view of security, the state acts as the referent object. It is responsible for the preservation of territorial integrity, domestic order, international affairs and most importantly, the protection of its citizens. In this view, the primary threat to the state, and subsequently to its people, is the force of other states. Interstate war is the primary security concern.

This realist view of international relations came into question with the fall of the Berlin wall, and the subsequent string of successful secessionist movements (for a definition of Realism see Waltz, 1979). All of a sudden, the traditional controlling mechanism of the Westphalian state system no longer seemed reliable. The world was now fractured, and the new components could not be trusted to play by Cold War rules. Often the state, either did not have the capacity to care for its citizens, whether it be from poverty or natural disasters, or, as in

the extreme cases of Yugoslavia and Rwanda, was explicitly responsible for the insecurity of the very people it was meant to protect.

It was this new type of instability that led to the challenging of the notion of traditional security by such concepts as cooperative, comprehensive, societal, collective and human security (Baylis 1997). Although all move away from a focus on inter state relations, human security takes the most dramatic step by making the referent object, not the state, society or community, but the individual.

*"Security" says Kofi Annan, "can no longer be narrowly defined as the absence of armed conflict, be it between or within states. Gross abuses of human rights, the large-scale displacement of civilian populations, international terrorism, the AIDS pandemic, drug and arms trafficking and environmental disasters present a direct threat to human security, forcing us to adopt a much more coordinated approach to a range of issues."* (Annan 2000).

Following the UNDP Report, human security can be seen to have two main components: freedom from want and freedom from fear (UNDP 1994). Freedom from want is the protection from threats such as hunger, disease and repression. This would parallel very closely with traditional humanitarian emergency efforts. Freedom from fear focuses on immanent threats to personal safety from criminal violence or war.

These two components, want and fear, are then broken down into detailed groupings of threats: Economic, Food, Health, Environmental, Personal, Community, and Political. At this level, the holistic all-encompassing UNDP concept of human security becomes quite clear: imminent threats to the individual in one of the noted seven categories.<sup>1</sup>

## Utility of Concept

For Human Security to legitimise itself in the world of foreign policy and development, it must explicitly outline its utility.

By focusing solely on interstate threats, traditional security overlooks most of what is making people insecure. By including a much broader spectrum of threats, the concept of human security is much better suited to identifying people's principal insecurities. This can be demonstrated by using a regional and a Cambodian example.

On a regional scale, mortality data can be effective in crudely demonstrating threat patterns. The following table is taken from the WHO 2000 mortality data set for Cambodia, Laos and Vietnam (subregion 15).

From the data, it is evident that the threat from infec-

**Table 1. WHO 2000 mortality data set**

Cause of Death	Total Number of Deaths
Tuberculosis	336,000
HIV/AIDS	32,000
Malaria	13,000
Violence	58,000
War	2,000

\* Mr. Taylor Owen is a graduate student at the University of British Columbia, Canada. He conducted research at the CDRI from October 2002 to January 2003.

**Table 2. The EM-DAT natural disaster database for the year 2000**

Country	Deaths from	People Affected by
Cambodia	402	8,865,182
Laos	69	450,000
Vietnam	586	5,005,000

tious diseases and disasters far outweighs that from violence and war. In addition, if traditional security parameters were used, only a handful of the war deaths — those caused by interstate conflict — would be included.

If Cambodia is taken on its own the disproportionate weight of threats shows a similar imbalance. Although the impact of recent murders has been profound, as a whole, the threat from physical violence and war in Cambodia is a fraction of what it was ten years ago. Since the disbanding of the Khmer Rouge, the possibility of regional conflict has diminished significantly. It is now safe to travel anywhere in the country and in Phnom Penh, once the country's hub of physical insecurity, murders, violent crime and street violence have decreased dramatically.

This being said, Cambodia is not yet a safe place. Although not threatened by war, Cambodians are dying at alarming rates.

- The first problem is food insecurity. The World Food Program has recently shown that in 835 communes, over 50% of the population lives below the poverty line (WFP 2002).
- Communicable diseases such as malaria, HIV/AIDS, tuberculosis, dengue fever and anaemia are threatening hundreds of thousands of people.
- Flooding, drought and deforestation are leading to large-scale crop failure, population movement and social instability.
- Finally, the political system is rife with conflict. There were deaths, threats, and irregularities surrounding the 2002 elections and there is concern for 2003.

This is not to say that Cambodian security has not improved significantly over the past decade — to the credit of the many working tirelessly for peace and justice, it has. It is only to point out that using a traditional notion of security, or even a violence focused human security definition, almost all of what is truly harming Cambodians is simply off the radar screen. Consequently, Cambodia will not be treated as insecure, strictly limiting international support to development efforts.

This divisive categorisation, between development and security, leads to the underemphasis of what are very serious problems. Limiting the vast intellectual, financial and policy influencing resources available to foreign affairs departments and security institutions, to interstate war, is leaving out the majority of the insecure populace.

### Research Project

If human security is accepted as conceptually useful, proponents are left with two serious concerns:

- 1) How does one organise and compare the vast amount of data representing all of the aforementioned threats, keeping in mind that it is in different formats, and is generally only intelligible to disciplinary experts?
- 2) How can this information be effectively presented to the public and to the policy-making community?

An internship with the Cambodian Development Research Institute provided the opportunity to test a methodology that addresses these two concerns. Based on the structure of a Geographic Information System (GIS), the methodology is designed to collect, organise, map, and analyse data that depicts human security threats. Although still in its infancy, some early reflections might be of benefit to those working in the Cambodian development community.

### Methodology

There are four stages of the measuring methodology. The first is to determine the most significant threats in each of six categories of security: economic, health, food, environmental, personal and political.<sup>2</sup> These are the threats for which data will be collected, mapped and analysed. This is essential in order to isolate the most serious concerns from the thousands of possible threats falling under the broad definition.

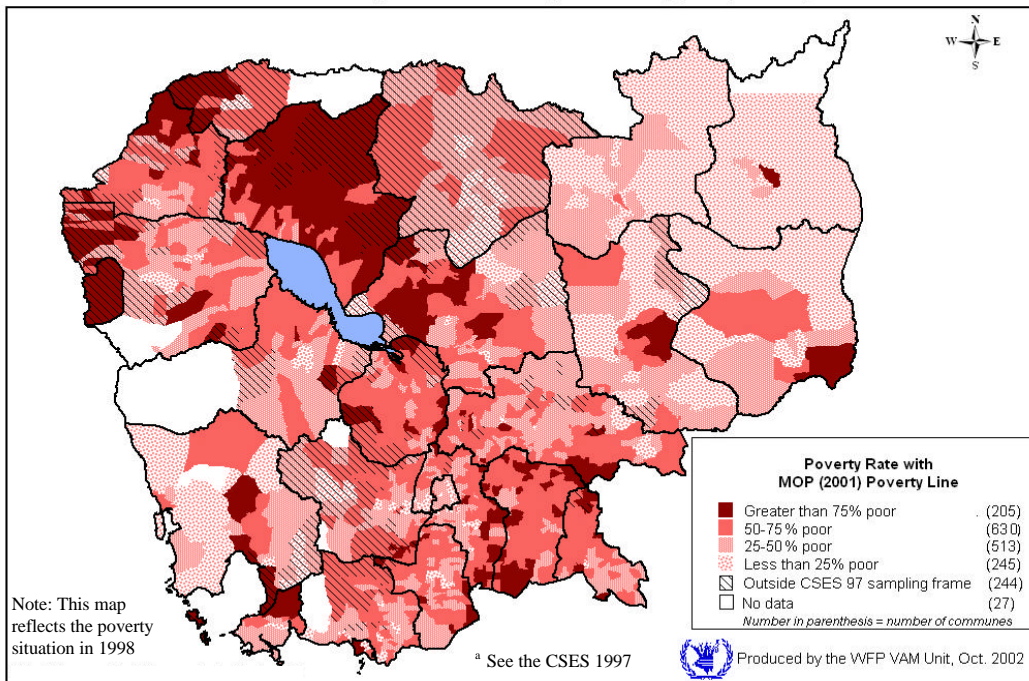
Interviews with 65 researchers, development workers and Government officials produced the following conclusions.

Once the threats are determined, data detailing them must be collected. This data can be of any type providing it has a spatial correlation. This means that all data entries in the set must be linked to either a distinct geographic area (such as a village, commune or province) or to a spatial coordinate (grid point or axis point). This is needed in order to organise and map the data with the GIS. Without going into explicit detail as to the sources, extensive data was collected depicting most of the threats compiled in stage one (Table 3).

Once the spatially referenced data is collected, it is then organised in a GIS. As it is all linked to a like unit, space, all the data is connected by a common attribute. Within the GIS, each threat becomes a layer that can be

**Table 3. Cambodian Threat Assessment**

Economic and Food	Poverty
Health	Tuberculosis HIV/AIDS Malaria Dengue Fever Anaemia
Environmental	Floods Droughts Conflicts over land
Personal	Landmines and UXOs Violence (crime, domestic violence) Human rights violations Small Arms Sex trafficking
Political	Corruption Political violence and intimidation

Figure 1. Commune-level Poverty Rate with Ministry of Planning (2001) Poverty Line <sup>a</sup>

mapped alone or with any other threat. This enables any data set, whether it is a survey, quantitative study, or a satellite image to be mapped and analysed.

As an example of what each map layer will look like, a map was created by the WFP to show a poverty data set at the commune level (See Figure One).

The final stage, data analysis, is done by conducting a series of overlays between threat layers. In particular, three trends are expected to emerge: hotspots, correlations and consequences of war.

*Hotspots* are regions that experience the aggregate impact of multiple security threats. Although we may know where each independent threat is the most serious, we have no idea where they are overlapping and causing cumulative harm. For example, satellite images can tell us where flooding has been the worst, studies demonstrate the location of landmines and socio-economic analysis reveals regions of extreme poverty. But what if one village, commune, or region was subject to all three of these threats? Clearly they would be the most vulnerable and should be the focus of immediate attention.

Hotspots also help us to understand whether multiple minor threats have the same impact as one emergency threat. This should be important to the development community as it addresses the trend of development as a humanitarian emergency response. Should we be doing more than simply responding to the next emergency? Perhaps by showing that people are insecure, not solely in disaster areas, but also in communities faced with many 'non emergency' threats, we will bring attention to these forgotten regions.

Geographic analysis also seeks to determine *correlations* amongst threats. This is important in order to better understand relationships between natural events, conflicts and socio-economic conditions. Based on simple logic equations (if A and B, then C etc.), spatial analysis is able to identify areas that are subject to ex-

PLICITLY defined combinations of threats. This, for example, could be invaluable in determining the long-term impacts of landmines, carpet-bombing or floods. Understanding these relationships will also help to better target assistance and to predict future instabilities.

Finally, spatial analysis could help us better understand the socio-economic and environmental *consequences* of civil war. For example, overlaying landmine and UXO data with regions of high disease rates or poverty could provide a

telling picture of the legacy of war.

The methodology applied for the analysis begins to address both of the concerns facing proponents of human security — analysis and presentation of large amounts of interdisciplinary data.

First, adding a common variable, space, to each of the data sets, allows for the direct comparison and aggregation of very different information. In other words, a common language facilitates interdisciplinarity. Also, having all relevant data in one location and linked by a common attribute will be invaluable to data users and policy analysts.

Second, interactive data visualisation is the ideal mechanism to present complex, broad ranging information to the policy-making community. A map is infinitely more approachable than a complex database, especially when doing multivariate analysis. This accessibility will prove critical in attracting the much-needed attention that Cambodian security issues warrant.

## Conclusion

Cambodia is not a safe place. In order to see this, however, one needs to look beyond traditional notions of security. Human Security, by expanding the discourse to include health, environmental and economic threats, provides such a framework. There is reason to believe that a tool that recognises and displays human insecurities, in a manner attractive to both academics and policy makers, would go a long way toward both identifying Cambodia's human insecurities as well as solidifying the concept in international discourse.

## Endnotes

<sup>1</sup> For more on the definition of human security see: Hampson: 2002, Alkire: 2002, Rothchild:1995, and Bajpai: 2000.

*Continued on page 16*

## Economy Watch – External Environment

Most recent quarterly data suggests that America's and Japan's economy lost some steam in the fourth quarter of 2002 while the economy in the Euro Area continued to grow at a steady rate. Consumer prices in the US and Euro area grew faster while the period of deflation in Japan approached its end. In the currency market, the dollar became generally stronger except against the Euro.

### World Economic Growth

In the fourth quarter of 2002, the US economy grew at an annual rate of 1.4 percent, slower than in the third quarter, according to the Bureau of Economic Analysis. The deceleration in real GDP growth was mainly due to a deceleration in personal consumption expenditure: a 1.5 percent increase in the fourth quarter compared with an increase of 4.2 percent in the third. Spending, especially on durable goods, fell by an annual rate of 8.5 percent, in contrast to an increase of 22.8 percent in the third quarter. The deceleration of domestic components was compounded by a slowdown in external trade. America's real imports of goods and services rose by an annual rate of 7.2 percent in the fourth quarter, compared with an increase of 3.3 percent in the third. At the same time, real exports of goods and services declined by 4.4 percent. This should relate to a general strength of the dollar in the fourth quarter. The fact that the US economy continued to grow reflected a jump in federal government spending, especially on national defence with 11.4 percent in the fourth quarter, compared with an increase of 6.9 percent in the third. For the year 2002, the US economy rose by an estimated 2.9 percent, faster than in 2001 when it was 1.2 percent. The Economist Intelligence Unit forecast a growth of 2.4 percent in the US economy in 2003.

The economy in the Euro Area grew in the fourth quarter of 2002 (1.3 percent) at almost the same pace as the third. For the year 2002, the Euro Area experienced sluggish economic performance, with 0.8 percent growth, compared with 1.4 percent in 2001. According to the European Commission, weak private consumption, a contraction in the construction sector and a bleak international environment accounted for the slower economic growth. In Germany, the biggest economy in Europe, unemployment reached a four-year high of 10.1 percent of the labour force. Industrial output also dropped to a record low of 2.6 percent. Overall, industrial production in the Euro Area fell to 1.5 percent compared to the previous year. The European Central Bank cut the key interest rate by 0.50 percentage points to 2.75 percent in December to stimulate growth in the Euro Area. For the year 2003, real GDP in the Euro Area is expected to grow by 1.1 percent.

Japan's economy experienced a decelerating growth rate at 2.2 percent in the fourth quarter of 2002, down from 3.2 percent in the third quarter. The unemployment rate remained high at 5.5 percent in December 2002. A slow recovery in consumer confidence keeps private

consumption flat. Other key domestic components, such as public investment, are undergoing a cut of 10.7 percent from the previous fiscal year. Exports have also been affected by the slowdown in the world economy.

Economic activities in other East Asian economies were also sluggish. In the fourth quarter ending 2002, real GDP growth was 5.4 percent in Malaysia and 3.0 percent in Singapore; both decelerating compared to the third quarter. Despite the worldwide slowdown, the gross domestic product remained steady in China at 8.1 percent in the fourth quarter, the same as its annual growth rate in 2002. Heavy government spending, more foreign direct investment, sturdy export growth and a rise in urban consumer spending were the driving forces in China's economy. In 2003, China's GDP is forecast to be 7.5 percent. This rate, which is lower than 2002 reflects the expectations that fiscal spending will grow at a slower rate, there will be falling prices and declining real incomes in the interior rural economy, and there will remain a chronic non-performing loan problem, slower export growth and an increase in imports.

### World Inflation and Exchange Rates in the International Markets

In the fourth quarter of 2002, consumer prices in the US rose by an average 2.2 percent, faster than in the third quarter (1.6 percent) according to *The Economist*. The main reasons were lower interest rates, large public spending, growing demand, higher oil prices and higher car prices. The Euro Area also saw a faster increase in consumer prices, 2.3 percent in the fourth quarter, compared with 2.0 percent in the third quarter. The deflationary period in Japan moved to an end. In the fourth quarter of 2002, consumer prices fell by just 0.5 percent, compared with a fall of 0.8 percent in the third quarter. The main reason underlying this is higher food prices.

In the last quarter of 2002, the US dollar showed its general strength against all main currencies, with the exception of the Euro. Compared to the third quarter 2002, the dollar appreciated by 2.8 percent against the Japanese yen, but depreciated by 1.9 percent against the Euro. In the first quarter of 2003, however, the dollar significantly lost value against all main currencies; by 3.9 percent against the yen, and by 7.5 percent against the Euro. This was a result of the growing possibility of a US-led war in Iraq, continuing tension with North Korea, and gloomy reports about the US economy.

### Commodity Prices in the World Markets

After increasing in the third quarter of 2002, the price of first quality rice in the Bangkok international market and rubber in the Malaysia international market fell in the fourth quarter by 3.3 percent and 1.5 percent, respectively. In the first quarter of 2003, however, the price of rice, rubber and crude oil rose markedly by 4.6 percent, 8.2 percent, and 15 percent, respectively.

*Dr. Kang Chandararot*

## Economy Watch–External Environment

**Table 1. Real GDP Growth of Selected Trading Partners**

	2000		2001		2002				2001	2002
	Q1-Q4	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1-Q4	Q1-Q4
Selected ASEAN countries										
Cambodia	-	-	-	-	-	-	-	-	5.3	-
Indonesia	4.4	3.5	3.5	4.1	2.5	3.5	3.9	-	3.8	3.8
Malaysia	8.7	0.5	-1.3	-0.5	1.1	3.8	5.6	5.4	0.5	5.6
Singapore	9.5	-0.9	-5.6	-7.0	-1.7	3.9	3.7	3.0	-2.3	2.6
Thailand	4.4	1.9	1.5	2.1	3.9	5.1	5.8	5.6	1.9	5.1
Vietnam	-	-	-	-	-	-	-	-	6.0	6.7
Selected other Asian countries										
China	8.0	7.8	7.0	6.6	7.6	8.0	8.1	8.1	7.5	8.1
Hong Kong	10.6	0.5	-0.3	-1.6	-0.9	0.5	3.3	5.0	0.3	5.0
South Korea	9.1	2.7	1.8	3.7	5.7	6.3	5.8	-	3.0	6.1
Taiwan	6.0	-2.4	-4.2	-2.7	0.9	3.0	4.8	4.2	-2.1	4.2
Selected industrial countries										
Euro-11	3.5	0.2	1.3	0.6	0.1	0.5	1.2	1.3	1.4	0.8
Japan	1.6	-2.9	-0.5	-1.9	-1.6	-1.2	3.2	2.2	-1.3	2.8
United States	5.0	1.2	0.6	0.4	1.5	2.1	4.0	1.4	1.2	2.9

Source: The International Monetary Fund and The Economist

**Table 2. Inflation Rate of Selected Trading Partners, 2000–2002 (% increase over the previous year – average)**

	2000		2001		2002				2001	2002
	Q1-Q4	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1-Q4	Q1-Q4
Selected ASEAN countries										
Cambodia	-0.3	0.1	-0.4	-0.6	3.4	3.3	3.5	3.0	-0.4	3.3
Indonesia	3.7	11.1	12.1	12.7	14.5	12.6	10.2	10.3	11.3	11.9
Malaysia	1.5	1.6	1.4	1.2	1.5	1.9	2.1	1.9	1.4	1.9
Singapore	1.4	1.7	0.8	-0.2	-0.9	-0.4	-0.4	0.1	1.0	-0.4
Thailand	1.6	2.6	1.7	1.1	0.6	0.2	0.3	1.4	1.8	0.6
Vietnam	-1.7	-0.8	-0.7	0.1	2.3	2.7	2.9	3.4	0.0	2.8
Selected other Asian countries										
China	0.3	1.6	0.8	-0.1	-0.5	-0.7	-0.8	-0.6	1.0	-0.7
Hong Kong	-3.7	-1.3	-1.1	-1.3	-2.7	-3.1	-3.5	-2.9	-1.5	-3.1
South Korea	2.3	5.3	4.3	3.4	2.5	2.7	2.5	3.2	4.3	2.7
Taiwan	1.4	-0.0	-0.5	-0.6	-0.1	-0.1	-0.3	-0.5	0.5	-0.3
Selected industrial countries										
Euro-11	2.3	3.1	2.7	2.2	2.5	2.0	2.0	2.3	2.6	2.2
Japan	-0.6	-0.5	-0.8	-1.0	-1.4	-0.9	-0.8	-0.5	-0.5	-0.9
United States	3.4	3.4	2.7	1.9	1.2	1.3	1.6	2.2	2.9	1.6

Source: The International Monetary Fund and The Economist

**Table 3. Exchange Rates of Selected Trading Partners Against the US Dollar, 2000–2002 (period averages)**

	2000		2001		2002				2001	2002
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1-Q4	Q1-Q4
Selected ASEAN countries										
Cambodia (riel)	3,871	3,932	3,953	3,932	3,910	3,916	3,935	3,948	3,935	3,927
Indonesia (rupiah)	8,421	11,242	9,558	10,365	10,078	9,076.6	8,940	9,027	10,236	9,280
Malaysia (ringgit)	3.80	3.80	3.80	3.80	3.80	3.80	3.8	3.8	3.80	3.80
Singapore (S\$)	1.72	1.81	1.77	1.83	1.83	1.81	1.76	1.77	1.79	1.79
Thailand (baht)	40.1	45.4	44.8	44.3	43.77	42.78	42.09	43.4	44.4	43.0
Vietnam (dong)	14,083	14,670	14,999	15,084	15,142	15,231	15,314	15,297	14,827	15,246
Selected other Asian countries										
China (yuan)	8.28	8.28	8.27	8.28	8.28	8.28	8.28	8.28	8.28	8.28
Hong Kong (HK\$)	7.80	7.80	7.79	7.80	7.80	7.80	7.80	7.80	7.80	7.80
South Korea (won)	1,131	1,306	1,295	1,290	1,319	1,273	1,197	1,214	1,291	1,251
Taiwan (NT\$)	31.8	34.6	34.6	34.7	35.1	33.8	33.8	34.8	34.1	34.4
Selected industrial countries										
Euro-11 (euro)	1.08	1.15	1.11	1.12	1.15	1.09	1.02	1.00	1.12	1.07
Japan (yen)	108	123	121	125.5	133.3	127.6	119.6	123.0	122	126

Source: The International Monetary Fund and The Economist

**Table 4. Selected Commodity Prices on the World Market, 2000–2002 (period averages)**

	2000		2001		2002				2001	2002
	Q1-Q4	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1-Q4	Q1-Q4
Hardwood (logs) - Malaysia (\$/m3)	190.1	163.8	159.4	146.2	137.6	153.0	178.7	180.8	160.1	162.5
Hardwood (sawn) -Malaysia (\$/m3)	599.2	492.2	482.0	471.8	479.7	493.0	536	565.6	488.3	518.5
Rubber – Malaysia (\$/ton)	720.8	628.9	597.7	549.4	622.3	754.0	863	834.1	602.0	768.4
Rice - Bangkok (\$/ton)	203.7	164.7	170.4	173.3	193.7	196.6	192.6	189.6	172.6	193.1
Soybeans – USA (\$/ton)	211.3	186.7	205.6	188.0	179.9	189.8	219.3	220.0	195.6	202.3
Crude oil – Dubai (\$/barrel)	26.1	25.1	23.9	18.2	19.9	24.3	25.4	26.2	22.8	24.0
Gold - London (\$/fine ounce)	279.0	267.7	274.7	278.4	281.0	280.9	313.7	317.8	279.0	298.3

Source: The International Monetary Fund and The Economist

## Economy Watch—Domestic Performance

According to recent data, Cambodia experienced positive economic development in 2002, compared to 2001. Private investments grew by 10.3 percent. The export sector achieved a growth of 14 percent, slower than in 2001 (17 percent). Regarding economic output, the garment industry quickened its growth to 23 percent, from 13 percent in 2001. The construction sector achieved 12 percent growth and the tourism sector continued to expand. The number of international arrivals by air rose 16 percent in 2002, compared with 15 percent in 2001. However, Cambodia's economy was hindered by some negative developments. The agricultural sector suffered a drop in production, experiencing a 15 percent decrease in the production of rice. The national budget operated with a deficit of 762 billion riels (US\$195 million). Money supply increased by 31 percent, the fastest for five-years. Consumer prices rose by 3.3 percent, compared with just 0.3 percent in 2001. The earning situation of vulnerable workers worsened with their real income dropping by 0.7 percent between February 2002 and February 2003.

### Economic Activity

According to the Ministry of Commerce, the output of Cambodia's garment industry, which has been dominating the export sector, was US\$1,375 million in 2002, 23 percent more than a year ago. Of this total, 70 percent was directed to the US market, and the remaining 30 percent to the rest of the world. During 2002, garment exports grew gradually on a quarterly basis: US\$232 million in the first quarter, and US\$439 million in the fourth quarter. Sixty-three percent of total garment exports were conducted in the second half of 2002. Faster growth in the export of garment products was encouraged, primarily, by increasing orders from US markets. The quarterly value of garment exports was an average of US\$242 million in 2002, compared with US\$198 million in 2001. Since trading with the US in 1995, the quarterly value of Cambodia's garment exports to the US has grown constantly. If the garment quota granted by the US expires in 2004, the development of Cambodia's garment industry will have to rely solely on its international competitiveness. However, total investments in the garment industry dropped considerably to just US\$18 million in 2002, from US\$100 million in 2001.

Cambodia's tourism sector, a second force encouraging Cambodia's economic growth, continued to flourish. According to the Ministry of Tourism, Cambodia received 786,524 international visitors in 2002, 30 percent more than in 2001. Of this total, 68 percent arrived in Cambodia by air with the remaining 32 percent arriving from overland and by sea. The 77 percent increase in the number of tourists was mainly attributed to more visitors by land and sea, owing to the opening of new border checkpoints, especially between Cambodia and Thailand. The number of international visitors arriving by air rose by 16 percent. Pochentong Airport (now, Phnom Penh Airport) welcomed 348,313 tourists in 2002, 5

percent more than in 2001, while Siem Reap Airport welcomed 188,913 persons, 41 percent more than a year ago. The Ministry of Tourism estimated that the total expenditure of tourists was US\$379 million in 2002. Compared to 2001, national income from the tourism sector rose by 25 percent, slower than in 2001 (33 percent). The main reason for a slower increase of tourist expenditure was a decrease in an average daily spending: one tourist spent US\$9 dollars per day in 2001, but US\$8 in 2002. Additionally, the average length of stay in Cambodia did not increase much, from 5.5 days in 2001 to just 5.8 days in 2002. To encourage tourists to spend more time and money, Cambodia has launched key policies, which can ease visa issues (especially for people from ASEAN-countries), strengthen security for tourists, and promote new services and recreation areas. Meanwhile, Cambodia prioritised eco-tourism policies.

After declining in 2001, Cambodia's construction sector expanded significantly in 2002. Income from this sector (in Phnom Penh, only) was worth US\$220 million, 12 percent more than in 2001. According to the Department of Cadastre and Geography of the Municipality of Phnom Penh, apartment construction projects, the largest form of construction activity, reached 535 projects, the highest number since 1999. Income for apartment construction totaled US\$180 million, 82 percent of total income for the construction sector. Compared to 2001, income from apartment construction rose by 7 percent. The average daily earning of construction workers, however, developed differently. Skilled construction workers could improve their daily earning by 17 percent to 12,856 riels in 2002, from 10,937 riels in 2001, while unskilled construction workers lived with an almost constant daily earning of 6,578 riels in 2002, compared to 6,557 riels in 2001 (according to CDRI surveys). The reason is that there has been a steady stream of unskilled migrants coming from the provinces to Phnom Penh seeking work, especially in construction. The earning situation of unskilled workers in the provinces seems to be worse than in Phnom Penh. According to CDRI's survey in February 2003, unskilled workers in Kompong Cham earned on average of 3,600 riels/day, 26 percent lower than in Phnom Penh. According to interviews conducted by CDRI, the large difference could encourage the desire to migrate to Phnom Penh.

### Inflation and Foreign Exchange Rates

In the last quarter 2002, consumer prices in Phnom Penh rose by 0.3 percent over the third quarter. For the whole of 2002 Cambodia experienced faster price increases at 3.3 percent, compared to 0.3 percent in 2001. The main change was a large increase in prices for 'housing and utilities', which rose by 7.2 percent in 2002, compared with 0.98 percent in 2001. Prices of food, which represent the core of the consumption basket, have continuously fallen since September 2002. In January 2003, food prices declined by 0.8 percent, but were 2.7 per-

## Economy Watch—Domestic Performance

cent higher than a year ago. In contrast, prices for transport and communication have risen gradually: a 3.8 percent difference between January 2002 and January 2003. The main reason was a jump in the price of diesel: a 9 percent rise between December 2002 and January 2003.

The Cambodian riel gained marginal value against the US dollar in 2002, appreciating by 0.2 percent. Against the Thai baht, however, the riel depreciated by 3.7 percent. There are two reasons for the riel gaining some value against the dollar: the larger need for riel during the first half of 2002 (communal elections), and the general weakness of the US dollar. As Cambodia's economy is largely dollarised, the implications are a larger form of exchange from dollar to riels, rather than from baht to riel.

### Poverty Situation – Earnings of Workers

The surveys, conducted by CDRI in Phnom Penh and Kompong Cham during February 2003, suggest a mixed development in the daily earnings of vulnerable workers. Compared to data of CDRI's November 2002 survey, some groups of workers improved their daily earnings while others did not. A 'cyclo driver' could earn an average 9,200 riels per day in February 2003, 3.6 percent higher than three months previously. The increase was especially due to Chinese New Year. Compared to the same period in 2002, however, daily earnings of cyclo drivers fell by 2.6 percent. The main reason was more migrants to Phnom Penh, resulting from serious floods and droughts in 2002. After improving in November last year, 'motorcycle-taxi drivers' suffered a drop in their daily earnings from 12,075 riels in November 2002, to 11,400 riels in February 2003. Compared to February 2002, their income fell even more (by 20 percent) due to a high increase in the price of gasoline and diesel.

Compared to the November 2002 survey, 'porters' increased their daily earnings to 7,600 riels in February 2003. Compared to a year ago, however, their income has dropped by 7 percent, mainly because new (or repaired) roads provide alternative transport services to the provinces. 'Small vegetable sellers', most of them coming from the provinces, reveal an increase in daily earnings in February 2002, 1.3 percent more than the last three months and 19 percent more than a year ago. More vegetable consumption during events such as the International and Chinese New Years have buoyed daily income for this group.

'Waitresses' earned 4,600 riels per day in February 2003, compared with 4,000 riels for the three months previous. In the same period, the daily income of 'rice-field workers' declined from 4,219 riels to 4,180 riels. Compared to February last year, however, rice-field workers are earning 7 percent more. This was related to the fact that many young people migrated to Phnom Penh or provincial cities resulting in an increased demand for rice-field workers.

CDRI's survey in February 2003 indicates that 'garment workers' continued to get higher daily earnings, 10,127 riels/day, up from 10,097 riels/day in November 2002. Including payments for overtime, the average monthly salary of garment workers in February 2003 reached US\$67.5. Generally, garment workers improved their income by simply working more overtime.

### Monetary Developments

After implementing a more restrictive policy in the third quarter of 2002, the National Bank of Cambodia eased monetary restrictions in the fourth quarter. The amount of Cambodian riels, (which consists of the riel outside banks and the riel on deposits at banks) rose to 887 billion riels in the fourth quarter, an increase of 4.8 percent compared with a 3.8 percent increase in the third quarter. At the same time, foreign currency deposits, which have shared the main portion of Cambodia's money supply, increased to US\$508 million by the end of the fourth quarter of 2002, up from US\$482 million at the end of the third quarter. Total liquidity (M2), which includes the amount of riel and foreign currency deposits, rose at a pace of 5 percent to 2,888 billion riels by the end of 2002. This was faster than the 3.8 percent increase experienced at the end of the third quarter. Compared to 2001, Cambodia's total liquidity (M2) grew by 31 percent in 2002, compared to just 20 percent in 2001. By the end of January 2003, total liquidity amounted to 2,952 billion riels, equivalent to US\$750 million, of which: US\$523 million were from foreign currency deposits, with the remaining US\$227 million being converted from riel. For many years, foreign currency deposits have determined 70 percent of Cambodia's total liquidity, and the Cambodian riel has determined just 30 percent. This calculation does not consider dollars circulating outside banks, as this figure is uncertain. In reality, therefore, the portion of the Cambodian riel in total liquidity could be less than 30 percent.

### Public Finance

In the fourth quarter 2002, the public budget operated with a deficit of 264 billion riels, 11 percent more than in the third quarter. For the whole year of 2002 the total deficit reached 762 billion riels, lower than the 795 billion riels set by the budget law. Including adjustments for expenditure, the total budget deficit amounted to 881 billion riels in 2002, 11 percent more than target. The higher deficit was caused on the one hand by the lower than target revenue and on the other hand by higher than target expenditure. Current revenue was 1,713 billion riels, reaching just 96 percent of target, in which non-tax revenue was 92 percent of target. Forest exploitation was the furthest from target revenue at only 32 percent. The collection of value added tax, the most important source of tax revenue, was just 89 percent of target, while tourism tax was only 71 percent of target. On the expenditure side, Cambodia spent 111 percent, much more than the target for capital expenditure. Expenditure

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for projects financed by external assistance were especially over-target at of 861 billion riels, compared to the 700 billion riels laid out by Cambodian budget law. Of the budget expended, 2,491 million riels (current expenditure) accounted for 1,341 billion riels, in which General Administration was 275 billion riels, Defense and Security was 368 billion riels, Social Administration 437 billion riels and Economy Administration 142 billion riels. Expenditure for Education, Youth and Sport was 220 billion riels, while expenditure for Interior Administration increased more than double at 155 percent. The National Audit Authority, the newest organ in the General Administration, spent 3 billion riels, 2.4 percent over target.

Private investments approved by the Council for the Development of Cambodia (CDC) were valued at US\$340 million, 10.3 percent more than 2001. Although garment exports boomed, private investment in the garment industry declined considerably to US\$18 million in 2002 from US\$26 million in 2001, a 31 percent decline. Foreign direct investment, the dominant factor in private investment, has gradually declined since 1999. Malaysia was the top foreign direct investor for Cambodia up to the year 2002, followed by Taiwan. Thailand has invested marginally in Cambodia over the years, though there was no investment in 2002.

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### Private Investment and Employment

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## Continued from page 11 Human Insecurity...

<sup>2</sup> Community security (the seventh UNDP category) has been left out as the issue does not qualify as an immanent threat to people's lives and is very difficult to measure.

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## Economy Watch—Indicators

**Table 1. Cambodia: Main Macro-economic Indicators, 1994–2001**

	1994	1995	1996	1997	1998	1999	2000	2001
GDP at current prices (billions of riels)	6,256	7,176	8,271	9,125	10,795	11,797	12,149	12,724
GDP at current prices (billions of dollars)	2,435	2,915	3,131	3,042	2,841	3,088	3,149	3,234
GDP per capita (dollars)	225	262	273	258	234	248	247	247
Growth rate of real GDP (1993 prices)	5.3	7.6	6.7	0.7	2.9	6.8	5.5	5.3
Agriculture	4.8	9.2	2.9	2.2	0.1	1.4	-2.4	0.7
Industry	7.3	11.8	19.5	0.6	16.8	12.6	16.7	11.2
Service	5.3	4.7	6.0	-0.6	0.1	9.4	7.5	6.1
Inflation (in riels, final quarter basis)	17.8	3.5	9.0	9.1	12.6	0.0	0.5	-1.3
Riel/dollar parity (annual average)	2,569	2,462	2,641	3,000	3,800	3,820	3,859	3,935
Budget revenue (percentage of GDP)	9.4	9.0	9.1	9.7	8.7	11.2	11.7	12.0
Budget expenditure (percentage of GDP)	16.1	16.7	17.4	13.8	14.4	16.4	17.3	18.4
Current public deficit (percentage of GDP)	-1.4	-0.8	-1.2	0.7	-0.2	1.6	1.6	1.3
Overall public deficit (percentage of GDP)	-6.7	-7.8	-8.4	-4.2	-5.7	-5.2	-5.6	-6.3
Exports of goods (percentage of GDP)	19.6	29.1	23.1	28.7	32.1	33.9	44.2	46.4
Imports of goods (percentage of GDP)	30.0	41.4	39.4	40.9	49.3	48.2	54.4	56.9
Trade balance (percentage of GDP)	-10.4	-12.3	-16.3	-12.2	-17.2	-14.3	-10.2	-10.5
Current account balance (percentage of GDP)	-9.1	-12.7	-15.3	-10.4	-15.5	-11.6	-7.2	-6.7
External contribution to the economy (percentage of GDP)	16.5	20.9	20.4	13.8	17.5	15.6	14.5	13.2
Total savings (percentage of GDP)	18.2	21.6	26.7	21.6	25.3	22.8	19.3	18.3
Gross foreign reserves (months of imports)	1.5	1.7	2.1	2.4	3.2	3.8	4.7	5.5
Population (million)	10.8	11.1	11.5	11.8	12.1	12.5	12.8	13.1
Labour force (percentage of population)	41.1	41.2	41.4	41.6	41.9	42.2	42.5	43.0

Sources: CDRI, Compiled from Government data

**Table 2. Destination of Garment Exports, 1994–2002**

	1994	1995	1996	1997	1998	1999	2000	2001	2002			
	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1	Q2	Q3	Q4
	Millions of dollars											
United States	0.0	0.02	0.1	26.8	74.1	121.5	187.5	198.3	158.7	201.7	307.4	299.8
Rest of the world	1.0	6.6	19.6	30.0	20.5	17.0	58.8	80.8	73.7	69.4	124.9	139.7
Total	1.0	6.6	19.7	56.8	94.5	138.5	246.3	279.1	232.4	271.1	432.3	439.4
	Percentage change over previous year											
Total	-	560	200	187	66	47	78	14.8	-7.8	3.6	44	46

Sources: Ministry of Commerce, Department of Trade Preferences Systems [1994-2001 (Q1-Q4), quarterly average]

**Table 3. Passenger Arrivals by International Flights at Pochentong and Siem Reap Airports, 1994–2002**

	1994	1995	1996	1997	1998	1999	2000	2001	2002			
	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1	Q2	Q3	Q4
	Thousands of passengers											
Tourist visas	27.9	38.7	55.3	46.3	38.1	44.9	57.4	57.4	67.3	59.7	55.1	70.2
Business visas	7.1	10.6	15.8	13.9	10.7	16.0	20.6	20.6	18.1	14.4	18.6	18.4
Official visas	3.3	3.9	3.2	3.6	4.4	8.8	4.8	4.8	5.7	6.1	6.9	7.7
Total Pochentong	38.3	53.2	74.3	63.8	53.2	69.7	82.7	82.7	91.1	80.2	80.6	96.3
Total Siem Reap	-	-	-	-	2.6	7.15	33.4	33.2	54.7	29.6	39.7	64.9
	Percentage change over previous year											
Total Pochentong	29.7	38.9	39.7	-14.1	-16.6	31.0	18.7	0	3.1	-1.2	2.1	17
Total Siem Reap	-	-	-	-	-	175	367	-1	30.5	25.4	30.0	77

Sources: Ministry of Economy and Finance and Ministry of Tourism [1994-2001 (Q1-Q4), quarterly average]

**Table 4. Consumer Price Index (CPI), Exchange Rates and Gold Prices, 1994–2002 (period averages)**

	1994	1995	1996	1997	1998	1999	2000	2001	2002			
	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1	Q2	Q3	Q4
	Consumer price index (percentage change over previous year)											
Provinces	-	-	-	6.1	16.3	6.2	5.4	0.9	-3.4	0.0	2.0	-0.3
Phnom Penh - All Items	-0.5	7.8	7.1	8.0	14.8	4.0	-0.8	-0.6	3.4	3.3	3.5	3.04
- Foods	-13.4	4.9	7.6	6.7	14.1	7.6	-3.3	-2.8	-0.6	1.02	2.0	2.00
- Energy	-1.2	19.4	20.7	20.0	15.1	3.5	6.6	-1.1	-0.4	-0.02	0.9	2.25
	Exchange rates, Gold and Oil prices (Phnom Penh market rates)											
Riel per US dollar	2,582	2,479	2,666	3,029	3824	3832	3,879	3,935	3,910	3,913	3,935	3,948
Riel per Thai baht	102	99	105	98	88	101	96.3	88	89.3	91.4	93.5	90.9
Riel per 100 Vietnamese dong	23.5	22.3	24.0	25.6	28.6	27.8	27.4	26.6	25.8	25.7	25.7	25.8
Gold prices (US dollar per chi)	45.8	45.9	46.3	40.4	36.0	34.0	33.3	32.7	34.6	36.2	38.0	38.5
Price of Diesel (Riels/litre)	750	716	779	883	1,065	1,105	1,329	1,521	1,480	1,450	1,550	1550
Price of Gasoline (Riels/litre)	698	847	1,118	1,378	1,613	1,760	2,113	2,084	2,100	2,167	2,200	2200

Sources: CDRI, IMF, NIS, Ministry of Planning, Ministry of Economy and Finance

## Economy Watch—Indicators

**Table 5. Average Daily Earnings of Workers, 1997–2003**

	Daily earnings (riels)									Change from last year (%)		
	1997	2001	2002						2003	2002		
	Pre-Jul	May	Aug	Nov	Feb	May	Aug	Nov	Feb	Aug	Nov	Feb
Cyclo drivers	12,250	9,568	9,057	6,262	9,450	9,375	8,900	8878	9200	-1.7	41.78	-2.65
Porters	9,675	7,058	7,189	5,000	8,137	6,675	7,600	6312	7600	5.7	26.24	-6.60
Small vegetable sellers	7,050	7,386	6,670	5,096	6,062	6,712	6,862	7158	7250	2.9	40.46	19.60
Scavengers	4,155	2,670	2,686	3,393	3,350	4,231	3,440	4012	3875	28.1	18.25	15.67
Waitresses*	–	2,600	2,683	2,358	3,543	3,652	4,225	4000	4600	57.5	69.64	29.83
Rice-field workers	–	3,613	4,500	3,618	3,916	5,167	3,833	4219	4180	-14.8	16.63	6.74
Garment workers	–	7,500	9,165	8,968	7,772	8,775	9,800	10000	10127	7.0	12.59	30.30
Motorcycle-taxi drivers	–	12,050	10,559	9,791	14,327	11,978	11,300	12075	11400	7.0	23.33	-20.43
Unskilled construction workers	–	8,261	5,625	4,841	7,025	6,912	6,525	5850	6162	16.0	20.85	-12.28
Skilled construction workers	–	10,306	12,375	9,866	11,530	13,850	12,695	13350	12500	3.0	35.32	8.41

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

**Table 6. Monetary Survey, 1994–2002 (end of period)**

	1994	1995	1996	1997	1998	1999	2000	2001	2002			
	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1	Q2	Q3	Q4
	Billions of riels											
Net foreign assets	391	550	881	1,172	1,550	1,961	2,589	2,892	3,366	3,614	3646	3682
Net domestic assets	59	99	31	-109	-435	-591	-759	-838	-959	-965	-923	-891
Net claims on government	143	148	128	54	141	111	3	-75	-152	-165	-125	-124
Credit to private sector	237	293	435	637	682	731	898	944	976	928	959	1011
Total liquidity	450	650	912	1,063	1,116	1,370	1,831	2,054	2,408	2,648	2723	2792
Money	200	279	329	385	466	515	540	568	676	748	771	780
Quasi-money	250	371	583	678	655	855	1,291	1,486	1,731	1,901	1952	2011
	Percentage change from previous year											
Total liquidity	35.1	44.3	40.3	16.6	4.9	22.7	33.6	12.2	26.8	33.4	28.2	26.6
Money	-1.9	39.5	17.9	17	21	10.5	4.9	5.2	23.4	37.5	35.3	27.9
Quasi-money	93.2	48.1	57.2	16.4	-3.4	30.5	51.0	15.1	28.1	32.0	25.5	26.1

Source: National Bank of Cambodia.

**Table 7. National Budget Operations on Cash Basis, 1994–2002 (billion riels)**

	1994	1995	1996	1997	1998	1999	2000	2001	2002			
	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1	Q2	Q3	Q4
Total revenue	148	161	187	220	230	329	356	382	423	369	457	481
Current revenue								379	407	369	456	481
Tax revenue	91	111	134	149	169	239	260	274	252	302	323	339
Customs duties	70	80	86	87	94	108	98	94	81	104	116	122
Non-tax revenue	56	47	44	68	51	87	89	106	156	66	133	142
Forest exploitation	22	13	7	9	5	9	11	7.3	1	1	9	5
Post & Telecommunications	15	14	16	21	22	27	23	31	34	13	30.7	44
Capital revenue	0	2	10	3	9	3	7	2.3	15	0	1	0
Total expenditure	252	300	360	315	324	448	515	583	522	714	704	668
Capital expenditure	84	128	157	113	92	156	220	244	231	272	303	343
Current expenditure	168	172	203	202	245	291	295	339	290.1	442	401	325
Education and Health	23	25	31	32	33	70	62	86	34	108	85	96
Defense and Security	98	106	102	105	110	116	111	101	35.6	117	105	110
Other Ministries	48	41	71	65	83	103	123	159	221	217	212	120
Overall deficit	-105	-139	-173	-95	-95	-119	-160	-201	-100	-346	-248	-187
Foreign financing	108	140	170	111	67	104	167	192	264	237	273	287
Domestic financing	-3	-1	3	-16	28	15	-7	9	-164	110	-25	-100

Source: Ministry of Economy and Finance: Quarterly average [1994–2001 (Q1–Q4), quarterly average]

**Table 8. Private Investment Projects Approved, 1994–2002\***

	1994	1995	1996	1997	1998	1999	2000	2001	2002			
	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4	Q1	Q2	Q3	Q4
	Number of investment projects											
Total	46	51	75	34	35	24	24	47	9	9	11	8
Garment	27	30	36	12	21	11	13	19	5	4	5	2
	Registered capital (millions of dollars)											
Total	116.0	89.0	97.8	69.5	104.1	61.7	25.6	32.3	10.9	4.5	12.1	20.3
Garment	26.8	28.0	39.2	8.6	22.9	13.9	6.4	15	6.6	1.0	5	1
	Fixed assets (millions of dollars)											
Total	303.0	76.2	186.7	190.4	212.3	118.5	66.6	54.3	27.8	23.3	127.6	60.9
Garment	25.1	25.4	39.6	9.7	30.2	19.9	19.2	25.0	8.5	2.4	5.5	1.7

Source: Cambodian Investment Board [1994–2001 (Q1–Q4), quarterly average] \* Including existing investment expansion projects

## Glossary-Terms Used in This Issue

### Westphalian state system

The 1648, Treaty of Westphalia brought to an end both the 80 years war and the thirty years war of Europe. More importantly, it recognised the sovereign independence of the nation state, setting the international political system that survives to this day.

### Realist view of international relations

The world order is based on a balance of powers between nation states. These states are both responsible for the safety of their population as well as for the relative role that the country will play in world affairs. The dismissive factor determining a countries international role is its ability to use force — the size of its military.

### Pandemic

A pandemic (e.g. HIV/AIDS) is something occurring over a wide geographic area and affecting an exceptionally high proportion of the population.

### Interdisciplinarity

Used to describe a methodology that incorporates two or more academic, scientific, or artistic disciplines.

### Diprerocarpus

A family of tall hardwood tree of tropical Asia, they are a source of valuable timber and aromatic oil as well as resin.

(Continued from page 20)

### Publications

Recent publications include Working Paper 25: *Facing the Challenge of Rural Livelihoods: A Perspective from Nine villages in Cambodia*. This study explores the links between food security and land holdings, land productivity, access to credit, access to common property resources, rural poverty and labour markets. The recently released *Off-farm and Non-farm Employment in South-*

*east Asian Transitional Economies and Thailand* is the result of a collaborative research project of the Development Analysis Network which includes seven research institutes from Cambodia, Laos, Thailand and Vietnam. The Cambodia country study *Off-farm and Non-farm Employment: A Perspective on Job Creation in Cambodia* from this joint publication will also be published separately as *Working Paper 26* and will be available in April 2003.



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## CDRI Update

### Management

The Cambodia Development Resource Institute mourns and honours the memory of its respected and cherished Board member, H.E. OM Radsady, who died tragically in Phnom Penh on February 18, 2003.

The CDRI bid farewell and extended its thanks and best wishes to Mr. Dararith Kim-Yeat, Deputy Director, who leaves to pursue further study. CDRI also welcomes three new appointments, Ms. Eng Netra who joined CDRI's Decentralisation Research Programme in January, and Mr. Ray Hossinger who joined the Institute as Executive Manager in March. Dr. K.A.S. Murshid has been appointed as CDRI's new Research Director and will assume the position in May 2003. An independent evaluation of CDRI's Centre for Peace and Development was completed in February, and provides valuable insights for the programme's short-term and long-term planning. CDRI extends its thanks to all stakeholders who contributed to this evaluation.

### Research

An inception seminar for the 'Policy Oriented Research Programme on Decentralisation' was held on 27 March 2003. More than 50 representatives from government institutions, donors and NGOs participated and gave fruitful input to the planned research activities. Fieldwork for CDRI's joint project with Institute of Developing Economies (Japan) on the garment and silk weaving sectors has been completed. A second CDRI/IDE collaborative study on 'Livelihood Strategies of Rural Households in Cambodia, has also been completed. With support from the Rockefeller Foundation, CDRI has begun research to assess the competitiveness of

Cambodia's agricultural trade, marketing, and exports in comparison to SE Asian neighbours. The Natural Resources and Environment Programme is preparing Working Papers on resin trade and fish export issues to be published later this quarter. CDRI expects to publish its Annual Economic Review in June.

### Centre for Peace and Development

Three roundtable COPCEL meetings were held in the first quarter of 2003, and engaged stakeholders on a number of issues including an assessment of the registration process and working with competent authorities to obtain an extension of the voter registration time-frame. Election related security issues were also addressed in the meetings. The CPD training team returned to Srey Snam district, Siem Reap province from 20-25 January, to deliver a second workshop on conflict management skills for Commune Council members. The team also completed Part II of a conflict management course for CIDSE staff, from 3-7 March. The pilot testing in high schools, of the illustrated book *The Buddha as Peacemaker* has been completed and the books were well received. A Working Group has been established to review the draft *Peacebuilding Lexicon*, and met at CDRI in January to agree working procedures. The group aims to finalise the Lexicon by Sep 2003.

### Library

The CDRI Library has begun the conversion of its database of library holdings to a more user-friendly system (WINISIS), and staff received training in its use. Orientation to the new system is provided on site to interested library users.

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