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Kang Chandararot and Chan Sophal

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Cambodia's Annual Economic Review

Kang Chandararot and Chan Sopha



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September 2003**

Kang Chandararot and Chan Sophal

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Acronyms and Abbreviations

ACLEDA	Association of Cambodian Local Economic Development Agencies
ASEAN	Association of Southeast Asian Nations
CDC	Council for the Development of Cambodia
CDRI	Cambodia Development Resource Institute
GDP	Gross Domestic Product
FDI	Foreign Direct Investment
IMF	International Monetary Fund
LOI	Law on Investment
MEF	Ministry of Economy and Finance
NBC	National Bank of Cambodia
NIS	National Institute of Statistics
UNWFP	United Nations World Food Programme
WTO	World Trade Organisation

Foreword

The Cambodia Development Resource Institute takes great pleasure in publishing its third *Annual Economic Review*. As in the past, this study aims to provide a comprehensive review of the Cambodian economy and an analysis of its performance in 2002 on the basis of the most recently available data. In addition, each year, the *Review* presents CDRI research findings on an important area of concern. Thus, in 2002, the focus was on private sector development. In 2003, we look at the question of agricultural competitiveness, particularly in the non-rice crop sector. Four crops were taken up as case studies in this regard, namely soybean, maize, cassava and cashew.

Cambodia has made considerable progress in its agricultural sector, with rice yields rising sharply from 1.3 tons to 2.1 tons per hectare between 1994 and 2001. Certain non-rice crops, especially vegetables also appear to have received considerable attention. Many studies have however highlighted the poor performance of Cambodian agriculture, especially in comparison with its regional neighbours, constrained by low yields, low adoption rates of modern technology, poor infrastructure and an excessive dependence on rice farming.

This study attempts to understand the constraints facing non-rice crop production in Cambodia, and in particular focuses on trade and marketing costs and distortions that result in low farm-gate prices and poor producer incentives. The study is preliminary in nature based largely on secondary data and selective interviews with key marketing and trading agents. In our view, even these preliminary findings are interesting enough to merit publication in this volume. CDRI is currently engaged in a second phase study on the same topic employing a multi-country, regional approach that will enable us to directly compare Cambodian agricultural competitiveness in specific cash crops with competing regional countries, namely Vietnam, Thailand and Laos.

We hope that the analysis and findings of this year's *Annual Economic Review* will be useful to policy makers, practitioners and analysts in the wider development community. We also reiterate our commitment to conducting high quality, policy relevant research and invite suggestions, advice and engagement in pursuit of our quest for excellence.

Phnom Penh, September 2002
Eva Mysliwiec, Director
Cambodia Development Resource Institute

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Chapter One

Introduction

In the year 2002, Cambodia experienced several important events. In February 2002, Cambodia conducted local elections at the commune level for the first time in its history. Subsequently, a programme of decentralisation and deconcentration has been initiated. Regarding public budget policy, the Royal Government of Cambodia prioritised programmes to develop financial capacity at the Commune-*Sangkat* level and to adopt a Medium Term Expenditure Framework.

Reform measures for strengthening revenue administration, especially tax and customs, and for improving the efficiency of public expenditure have also been continued. To improve revenue performance, the Royal Government of Cambodia introduced Value Added Tax on diesel and increased taxes by 0.02 US dollar and 0.04 US dollar on gasoline and diesel, respectively. To streamline public budget expenditure, the four ministries of education, health, agriculture and rural development were prioritised for full disbursement.

In mid-2002, donor countries promised more aid, and new commitments were entered into with the Royal Government of Cambodia. Judicial and legal reforms continue, although there is general dissatisfaction with the slow pace of reforms. However, the efforts of the Royal Government of Cambodia to gain accession to the World Trade Organization have been an impetus for accelerating necessary legislation.

Reforms in public administration have proceeded with the objective of providing appropriate services to the private sector, the most important measure being the increase in civil service salaries by 44 percent in 2002. Special allowances have also been provided for the civil service in certain priority sectors. Moreover, the payroll system has been automated for all line ministries in each province so that payrolls are now issued without delay for the release of salary payments.

In the face of new challenges from both inside and outside Cambodia, the Royal Government of Cambodia has adopted an amendment to the Law on Investment and the amendment to the Law on Taxation in 2002. The Law on Accounting and Company Audit was also introduced in order to improve transparency.

While developments in the public sector contributed to further strengthening of the economy, changes in the natural environment negatively impacted the economy in 2002. Severe drought and floods caused a reduction in agricultural production, and have put many Cambodian livelihoods at risk. At the same time, Cambodia's major trading partners, including the US and some East and Southeast Asian countries, recovered slowly from recession.

Other challenges facing Cambodia stem from the establishment of a free trade zone within ASEAN, preparations for joining the World Trade Organisation, and preparations for when the Multi-Fibre Arrangement (MFA) regarding international trade in textiles will expire in the year 2004.

Given the complex forces at work, it is important to conduct a review of the performance of the Cambodian economy in the year 2002.

First, the performances of the main economic sectors are discussed in terms of outputs and constraints. Second, the review reports on the performance of the economy by focusing on critical variables, including consumption, investment, and exports and imports. This is followed by brief summaries on public finance, money supply and prices, and the balance of payments, including the structure and the importance of foreign aid.

The report also provides a brief review of the poverty situation in Cambodia as revealed in vulnerability surveys conducted by CDRI. It concludes with a discussion on future perspectives for the Cambodian economy.

Chapter Two

Cambodia's Economic Performance – 2002

2.1. Overall Performance

In 2002, Cambodia experienced slower growth of gross domestic product at an estimated 4.2 percent, down from 6.7 percent growth in 2001. The main problem was a drop in agricultural output, especially paddy production, between 2001 and 2002, due mainly to floods and drought.

At the same time, the growth rate in the industry sector stagnated at 11 percent in 2002, almost the same level as in 2001. This growth rate however, masks considerable shifts in sub-sectoral performance. For example, while the garment industry quickened its growth to 20 percent in 2002, up from 17 percent in 2001, the construction sector grew by only 7 percent, down from 10 percent in 2001.

The service sector grew slowly at 7 percent, as compared to 20 percent in 2001. Major contributors to growth, such as trade and tourism, which are closely associated with the development of income from “hotel and restaurants”, sputtered. A decrease in average spending by tourists in Cambodia contributed to a slower increase in income from hotels and restaurants, although the number of foreign tourists jumped by 30 percent compared to 2001.

On the side of spending, the picture appears to confirm the development in production in each sector. Spending on consumer goods grew more rapidly in 2002 at 5 percent, up from 3 percent in 2001. The main factor was an accelerated rate of increase in private consumption, which resulted from more spending on recreation and vehicles. Meanwhile, public consumption dropped, mainly due to the fact that the budget implementation differed from the target set by the Budget Law, thus curbing the growth of consumption in this area.

Total investment rose by 5 percent in 2002, significantly slower than 18 percent in 2001. The reason was decelerating growth both in public investment, due to differences between budget implementation and the targets for 2001 and 2002, and in private investment, principally due to a decline in foreign direct investment. The export sector, which has played an important role in stimulating the economy, experienced declining growth, especially in the

export of textile products. During the same period, imports to Cambodia grew, particularly imports of petroleum products, construction materials, and vehicles.

The balance of the public budget has improved. The overall public deficit declined to US\$ 225 million in 2002, down from US\$ 238 million in 2001. As a proportion of GDP, the public deficit was reduced to 6.3 percent in 2002, down from 7 percent in 2001.

Money supply increased by 31 percent, the fastest rate of increase in six years. Consumer prices rose by 3.3 percent, compared with just 0.2 percent in 2001. Nevertheless, the Cambodian riel appreciated marginally by 0.15 percent against the US dollar between 2001 and 2002. The trade balance had a larger deficit, US\$ 282 million in 2002, as compared with a deficit of US\$ 226 million in 2001. The main reason was an increase in imports to US\$ 1,736 million in 2002, from US\$ 1,600 million in 2001, due to more imports of vehicles and construction materials. However, thanks to increases in official loans and transfers, Cambodia's balance of payments was in surplus. It grew from US\$ 73 million in 2001 to US\$ 172 million in 2002, increasing the net foreign assets of the National Bank of Cambodia by US\$ 177 million between 2001 and 2002.

2.2. Gross Domestic Product - by Sector

2.2.1. Agriculture

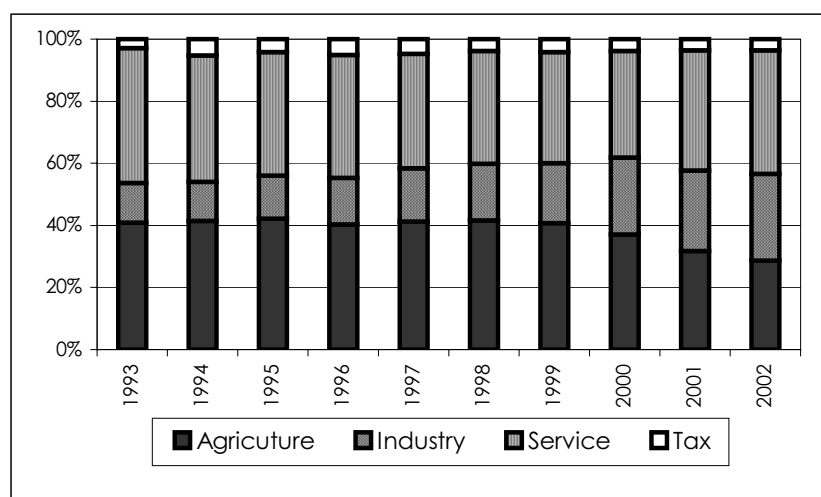
During 2002, the agricultural sector experienced a setback, largely because of natural disasters such as floods and drought. Paddy production dropped to 3.7 million tons, down from 4.1 million tons in 2001. The main reason was a sharp reduction in production during the wet season from 3.3 million tons in 2001 to 2.9 million tons in 2002. Although the harvested area of 1.7 million ha¹ changed little during this period, the yield of paddy production during the wet season fell to 1.7 ton/ha in 2002, down from 1.9 ton/ha in 2001. The decline in yield was primarily due to the late arrival of the rains. Provinces such as Kandal, Prey Veng, Svay Rieng, Takeo, Kampong Speu, and Kampong Cham, which together accounted for 42 percent of total paddy production in the wet season, were particularly affected by the severe drought.

Along with other crops, Cambodia generated a value added of US\$ 451 million (at 1993 prices) from crop production in 2002, 7 percent lower than in 2001. In contrast to crop production, production in livestock and poultry contributed positively to the growth of gross domestic product. In 2002, real income from livestock and poultry production rose by 8 percent, compared with

¹ Ministry of Agriculture, Forestry and Fisheries: Agricultural Statistics (2001-2002). And: Official Report on Agriculture, Forestry and Fisheries 2002-2003.

a decline of 8 percent in 2001. Livestock and poultry production accounted for 6 percent of real GDP in 2002, compared with 5 percent in 2001. The fisheries sector, which is second after rice production in terms of generating income from the agricultural sector, continued to slump. According to data from Cambodia's Ministry of Agriculture, Forestry and Fisheries (MAFF), fishing activities resulted in a real income of US\$ 238 million, 13 percent lower than in 2001. The main reason for this decline was a drop in production from 177,000 tons in 2001 to 156,150 tons in 2002, and a continuing decline in the proportion of high value fish in total fish production from year to year.² Since the catch of marine fish was 45,850 tons, 3,850 tons more than in 2001, the general slump in fisheries was caused by declining production of inland fish, from 135,000 tons in 2001 to 110,300 tons in 2002. However, inland fish production of 110,300 tons in 2002 was still 0.27 percent higher than the official target.

Figure 1. Sector Contribution to GDP in Cambodia



Source: CDRI

Other agricultural sources of income, such as forestry and rubber, gradually declined. Illegal logging and over-exploitation have diminished both forest resources and the existence of high value wood.³ Meanwhile, the Royal

² McKenney B. & Prom T. (2002): Natural Resources and Livelihoods in Cambodia; CDRI's working paper No. 23.

³ It is very likely that forest resources and high value wood have diminished. However, there is much confusion about the present extent or state of Cambodia's forestry resources. Therefore, it is encouraging that the Royal Government of Cambodia is currently updating the national forest resource map. This will provide clear information on the current status of Cambodia's forest

Government of Cambodia has adopted policies related to protecting the forests. However, real income generated from forestry in 2002 declined by 9 percent to an estimated US\$ 93 million.

The general slowdown in the production of the main agricultural products led to a 6 percent drop in value added derived from the agricultural sector in 2002 as compared to 2001, while its contribution to GDP declined to 29 percent, down from 32 percent in 2001 (Figure 1).

2.2.2. Industry and Construction

In contrast to the agricultural sector, the industrial sector stabilised its annual growth at around 12 percent, compared with 11 percent in 2001. The major contributor to the growth in industry was accelerating growth in manufacturing, while the construction sector experienced a decline in growth.

During 2002, Cambodia's manufacturing, which mainly includes production in "Textile, Apparel & Footwear" and "Food, Beverage & Tobacco", grew by 14 percent, compared with 11 percent in 2001. In particular, production in "Textile, Apparel & Footwear" generated real income, measured at 1993 prices, of US\$ 520 million. This is 20 percent higher than in 2001, when there was 17 percent growth. This faster rate of growth in the apparel sector was basically attributed to increased external demand, particularly from the US, which is the main market for Cambodia's apparel industry. US demand rapidly increased by 22 percent in 2002, compared with an increase of 6 percent in 2001.⁴ The faster growth rate also reflected better production conditions (in terms of flexibility), which resulted from improvements in laws, law implementation, and cooperation between the government and private sector. Three policies have helped to expand production in response to external demand:

1. The gradual simplification of import and export procedures has eased certain difficulties, and shortened the time spent for documentation processing. As a result, producers have been more responsive to orders from outside. In particular, administrative procedures and documentation time have been shortened after the promulgation of Announcement No. 1300 dated August 24, 2001.⁵
2. The organisation of the annual Government-Private Sector Forum provides an opportunity for the government to better understand problems facing the private sector as well as its interests and needs. At the same time, the

resources. A forest resource map for Cambodia was last developed in 1996-1997 using satellite images collected in 1995-1996.

⁴ Based on data from Cambodia's Ministry of Commerce

⁵ Main points of reform, see Hing, T. (2003): Cambodia's Investment Potential.

private sector is better informed about necessary changes in government policy related to issues of concern. In general, production needs to respond to the market in a continuous and effective manner. This normally depends on the production environment, which is often influenced by a government's policies. Thus cooperation between the government and the private sector can greatly enhance the responsiveness of production to the market.

3. In terms of defusing confrontations between workers' unions and factory management, institutional mechanisms for better understanding their mutual interests have emerged that have helped improve cooperation and helped to smooth the production process. As a result of interventions by the Royal Government of Cambodia, workers are developing a better understanding of their rights, including peaceful methods of exercising their rights. Also, factory management has become better aware of how to deal with workers in different situations. A better and more peaceful atmosphere in the factories has helped managers to respond more quickly to increases in demand.

Since Cambodia's garment industry has been relying on quotas granted by the US, the potential for expansion may be limited. As these quotas will expire in 2004, the development of the garment industry will eventually depend on strengthening its international competitiveness. In principle, competitiveness is determined by product quality and/or the price of the product, the minimum level of which is determined by the cost of production.

Compared to neighbouring countries, which are also trying to develop their own garment industries, Cambodia is characterised by high costs for energy,⁶ transportation, and informal fees, even though the Royal Government of Cambodia has been introducing policies to tackle these problems. For example, according to a survey conducted by a team of international consultants in cooperation with Cambodia's Ministry of Commerce in 2001, port charges at Sihanoukville port proved to be the highest in the region, and four times higher than a feeder port of comparable size, such as Songkhla in Thailand.

The survey on "Competitiveness of Cambodia's Garment Industry" jointly conducted at the beginning of 2003 by CDRI and Japan's Institute of Developing Economies revealed that most factory managers consider the following two factors as the main constraints to the competitiveness of Cambodia's garment factories:

⁶ The price of gasoline in Phnom Penh was 0.55 US\$/litre on average in 2002, while gasoline in Thailand was priced at 0.33 US\$/litre.

1. *Complicated and relatively long documentation processing:* In order to obtain an export licence, factories must wait at least 5 days, while in the Philippines producers need just two days to complete similar documentation procedures. As a result, all garment factories in Cambodia have been operating under constant time pressures. Such pressures have also been increased by the many compulsory inspections for every consignment. Garment factories face additional time pressure because there is only one shipment per week on Saturdays. If one shipment is missed, additional costs associated with waiting one more week are incurred. These two factors combined, one weekly shipment and relatively long documentation procedures, place garment factory managers in a disadvantageous position with respect to public officials who are responsible for overseeing garment shipments. In the end, unofficial payments have occurred. According to interviews, this so-called "Under Table Money" (UTM) sometimes accounts for a large proportion of total production costs.
2. *A lack of supporting industries:* Most of Cambodia's export industries must import inputs such as raw materials and intermediate goods. This weakens Cambodia's competitiveness in export markets because of the higher procurement costs for production inputs. The most significant aspect of this problem is the fact that in most cases Cambodia imports inputs from those countries that are its competitors, including China, Vietnam, and Thailand. As a result, there is no firm foundation for Cambodia's competitiveness.

In order to tackle these problems, Cambodia has considered three main policies aimed at promoting the development of export industries:

1. *Adjusting the Law on Investments (LOI) to changes in the economy:* According to the latest amendment to the LOI, which came into force in March 2003, supporting industries for the export industry were considered. As specified by the Sub-Decree, a "Supporting Industry - Qualified Investment Project" will be entitled to import production equipment, construction materials, raw materials, intermediate goods and production input accessories duty free.
2. *Creating "Industrial Zones":* A Law on the Industrial Zone and a Law on Industry Management will be prepared.⁷ The policy basically focuses on (a) initially allocating scarce infrastructure development resources inside the zones to bring them up to an internationally competitive level, and (b) lowering the costs of administering

⁷ Hing, T. (2003). Cambodia's Investment Potential.

complete duty and tax-free exemptions on imports within the physically defined area of the zone. Also, an "Industry Zone" policy would induce manufacturers from neighbouring countries to relocate their production operations to zones in Cambodia situated along the borders.

3. *Liberalising trade policies*: The two goals concerning trade policy are (1) reducing production costs, and (2) seeking markets for export industries. In this regard, Cambodia has worked on policies to facilitate trade and integration into ASEAN and WTO.⁸

The fruits of Cambodia's efforts to promote industrialisation based on export industries, however, also depend on developments in those countries that are Cambodia's competitors in export markets. As a result, any progress or improvement in production conditions does not necessarily imply that Cambodia's export industries will be able to compete. Other countries will also be adopting measures to improve their positions, including reforms, amendments to relevant laws, and trade policies to reduce costs. Competing with well-established regional actors constitutes a huge challenge.

An export-led strategy is, therefore, risky and unpredictable with regard to both domestic and international partners. In this context, domestic markets should be fully exploited, and import-substituting and locally owned industries should not be discriminated against.

There should be a review of development strategy to consider a shift in focus from an excessive dependence on FDI and export-led growth towards a much greater role of domestic private investment⁹ and domestic markets.

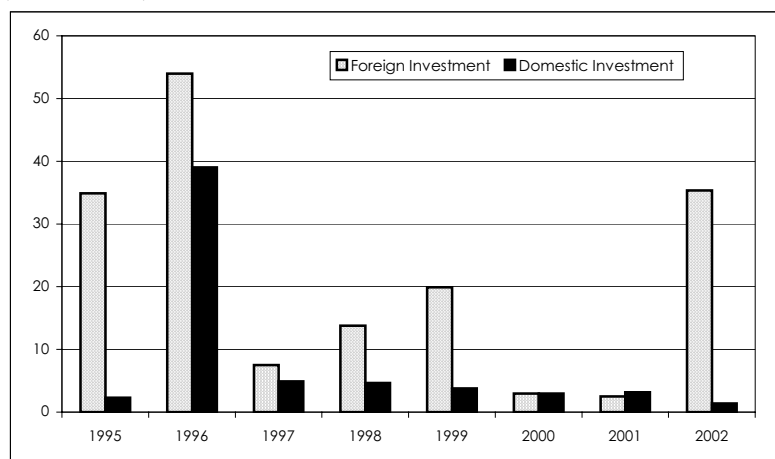
For example, greater investments in agro and food processing, construction and mechanical assembly, which are economic activities mainly dependent on the domestic market, need to be encouraged.

According to a list of projects approved by the Council for the Development of Cambodia, investment projects in the agro and food industry rose to US\$ 36.7 million in 2002, up from US\$ 5.7 million in 2001. Of the US\$ 36.7 million, foreign investment accounted for US\$ 35.3 million, the highest amount since 1996. Domestic investors accounted for the remaining US\$ 1.4 million, the lowest amount ever (See Figure 2).

⁸ More details, see Ministry of Commerce (2002): Cambodia - Integration and Competitiveness Study.

⁹ Creating a positive environment for local investors does not necessarily mean taking measures to protect them from competition with "cheap" imports. Rather, it is more about improving the efficiency of local investors so that they can compete against "cheap" imports.

Figure 2. Agro and Food Industry Investment Approved by the CDC (million US\$)



Source: Data from Council for the Development of Cambodia

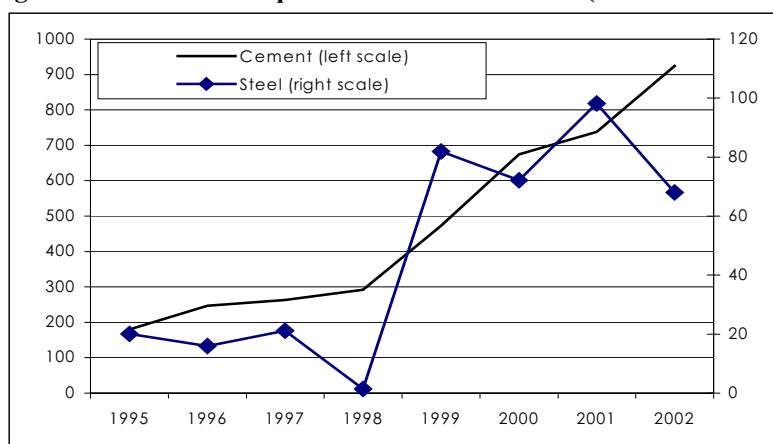
From 1997 to 2001, investment in the agro and food industry had remained low at not more than US\$ 25 million. In the years 2000 and 2001, it was just around US\$ 6 million, about 1 percent of total private investment. This trend suggests that enterprises in the agro and food industry have not received sufficient policy support.

Construction, which includes public and private construction activities, has assumed second rank after manufacturing within the industry sector, accounting for about 20 percent of total industrial income on average. Due to the lack of procedures for collecting data in the provinces, private construction activities could not be monitored outside Phnom Penh, which means that overall construction activities are underestimated here. However, the import data for construction materials, such as cement and steel (See Figure 3) indicate continuous growth in construction activities.

After falling in 2001, Cambodia's private construction sector expanded significantly in 2002. The value of the projects approved by the Department of Cadastre and Geography of the Municipality of Phnom Penh reached US\$ 220 million, 12 percent more than in 2001. The number of projects that were approved rose from 662 in 2001 to 774 in 2002, of which 530 projects were for apartment construction, 162 for housing construction, and the remaining 82 for "other construction," such as commercial buildings.

The growth of construction activities is partly related to people's perceptions about national security. Although occasional instances of unrest still occur, Cambodians now live in peace with a large degree of stability. People no longer live in fear of civil war, as was the case in the 1970s, 1980s, and 1990s. In this context, it seems reasonable to believe that people would buy houses, apartments, and other buildings if they have enough income.

Figure 3. Cambodia's Imports of Cement and Steel (in thousands of tons)

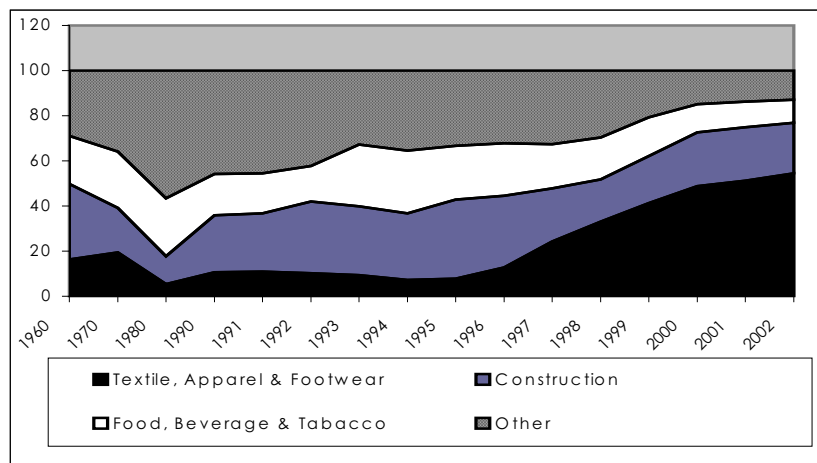


Source: Data from Customs and Excise Department

The growth of construction activities generates considerable income and employment. Although there are no exact data, it is widely accepted that the majority of construction workers are local people. The income of these people is usually spent in local rural markets because most construction workers come from those areas. This in turn induces new investment in rural areas, thus helping to broaden the base of economic development. Measures to stimulate construction activity would therefore be highly beneficial.

The construction sector rose by 7 percent during 2002, slower than in 2001 when it grew by 10 percent. The slower growth of the entire construction sector basically reflected slower growth in public construction activities, which increased by only 4 percent in 2002, as compared with a 22 percent increase in 2001.

According to previous trends, the contribution of construction to the overall industry sector had declined to 19 percent in 1998 and then started to increase slowly to 22 percent in 2002 (See Figure 4). The increase in public spending for the development of physical infrastructure, especially in rural areas, raises expectations that construction activities will continue to flourish.

Figure 4. Development in the Structure of Cambodia's Industry

Source: CDRI, compiled from government data

However, the average daily earnings of people involved in construction activities have changed very little. According to CDRI surveys, skilled construction workers were able to improve their daily earnings by 17 percent¹⁰ to 12,856 riels in 2002, up from 10,937 riels in 2001. Meanwhile, unskilled construction workers had to live with almost the same¹¹ level of daily earnings: 6,578 riels in 2002, as compared with 6,557 riels in 2001. The reason is that there has been a constant flow of unskilled migrants from the provinces to Phnom Penh seeking jobs,¹² especially in construction. The earning potential for unskilled workers in the provinces seems to be lower than in Phnom Penh. According to CDRI's survey in February 2003, unskilled workers in Kampong Cham earned on average 3,600 riels/day, 26 percent lower than in Phnom Penh. According to people interviewed by CDRI, the wage differential seems high enough to motivate people to migrate.

2.2.3. Services

Cambodia's service sector grew more slowly in 2002 at 7 percent, down from 20 percent in 2001. The reduced rate of growth resulted from a slower growth in the trade sector and in "Hotel and Restaurant", which in turn is related to the tourism sector.

¹⁰ In real terms, meaning after deflating, daily income of skilled construction workers rose by 13% between 2001 and 2002.

¹¹ In real terms, daily income of unskilled construction workers declined by 3.3%, the inflation rate between 2001 and 2002.

¹² According to interviews conducted by CDRI in February 2003.

Cambodia's tourism sector, which plays the second most important role in Cambodia's economic growth, continued to flourish in terms of the growing number of foreign visitors. 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 by air, while the remaining 32 percent arrived by land and boat. There has been an increasing trend in tourist arrivals by land and boat. This is largely due 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 had 188,913 arrivals, 41 percent more than a year ago.

However, spending by foreign tourists increased in 2002 at a slower rate than in 2001. The Ministry of Tourism estimated that the total spending by foreign tourists was US\$ 379 million in 2002. This represents an increase of 25 percent in 2002, compared to 33 percent in 2001. The main reason for the slower increase was a drop in average spending per day: each tourist spent US\$ 9 per day in 2001, but only US\$ 8 in 2002.¹³ Moreover, the average length of stay in Cambodia increased from 5.5 days in 2001 to just 5.8 days in 2002. To encourage tourists to spend more time and money in Cambodia, the government has launched new policies that include easier visa procedures, especially for people from ASEAN countries, strengthened security for tourists, and focused on the promotion of new services and recreation areas, such as eco-tourism. Any improvement in physical infrastructure and security is also likely to foster tourism growth, including domestic tourism.

2.3. Gross Domestic Product - by Demand

2.3.1. Consumption

Within expenditure, which is a function of the distribution of national income, consumption accounted for the largest share of GDP in 2002 at 83 percent. The growth of consumption expenditure, which represents an important aspect of demand for production and therefore stimulates growth, grew by 5 percent. This was more than the 3 percent growth in 2001. The main factor was an accelerated increase in private consumption, while public consumption declined by 6 percent in 2002.

According to the Budget Law of 2002, however, public consumption should have increased by 10.5 percent. The drop¹⁴ in public consumption in 2002 was a result of budget implementation, and was caused by many factors.

¹³ Ministry of Tourism (2002): Tourism Statistical Report-Year Book 2002.

¹⁴ Both in riel terms and dollar terms, because the Cambodian riel appreciated by 0.13% against the dollar.

Public spending for consumption has been streamlined as a result of fiscal reform policy. According to the Budget Law of 2002, wages for civil administration should have increased by 10 percent over 2001, while wages for defence and security should have decreased by 14 percent. According to data from the Ministry of Economy and Finance, the actual budget expenditure showed a pattern similar to the Budget Law: increasing wages for civil administration, and decreasing wages for defence and security.

However, the implementation of non-wage spending was not in line with the Budget Law 2002:

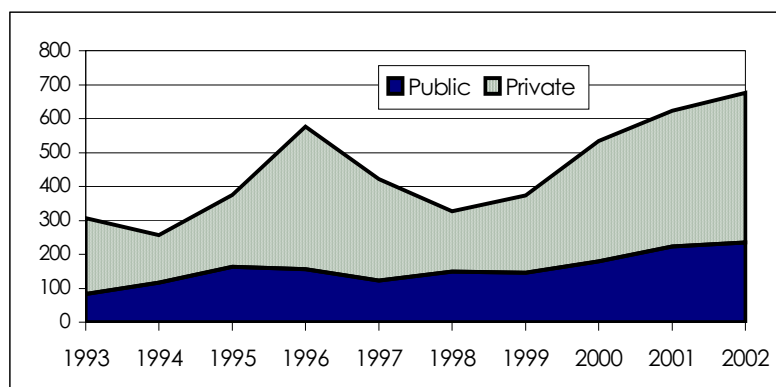
- Spending for operating costs in the civil administration reached just 76 percent of the target set by the Budget Law, 16 percent lower than the amount spent in 2001;
- Spending for operating costs in defence and security should have increased by 11 percent according to the Budget Law, but fell by 21 percent according to implementation data.

Consequently, the drop in public consumption in 2002 was not a result of fiscal policy, which is mandated by the Budget Law 2002, but rather was due to below-target implementation of spending for operating costs in both civil administration and defence and security.

2.3.2. Investment

The spending on investment rose by 5 percent in 2002, down from 18 percent growth in 2001. The reason was slower growth in both public and private investment (See Figure 5).

Figure 5. Private and Public Investments (in million US\$, 1993 prices)



Source: Data from Ministry of Economy and Finance

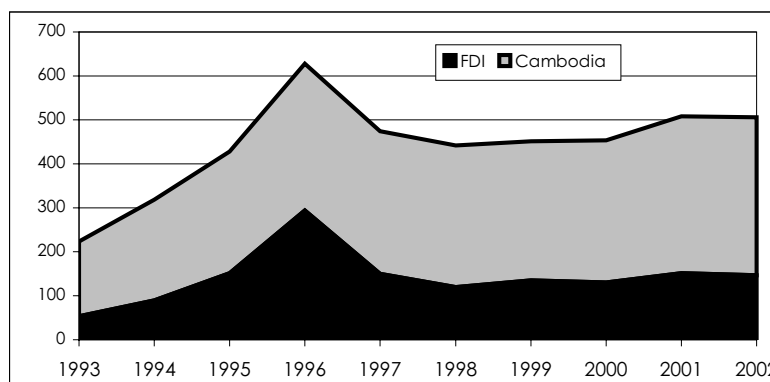
Public investment grew by 5 percent in 2002, considerably slower than 2001 when it grew by 24 percent. The large drop in growth was not related to policy, but rather to the implementation of the Budget Law. According to the Budget Law for each of the three years 2000, 2001, and 2002, public investment should have increased by 0.5 percent in 2001 and 0.9 percent in 2002.

The high rate of growth of public investment in 2001 at 24 percent was mainly caused by the fact that capital spending in 2000, which is financed by external assistance, reached just 83 percent of the target, while capital spending in 2001 reached 117 percent of the target.

The 5 percent growth in public investment in 2002, which is higher than the target of 0.9 percent, was affected by more capital spending financed by external assistance, reaching 123 percent of the target.

Also, private investment by local and foreign investors experienced slower growth, down from 13 percent in 2001 to 10 percent in 2002. The main cause was a drop in foreign direct investment to an estimated US\$ 146 million in 2002, down from US\$ 152 million in 2001¹⁵ (See Figure 6).

Figure 6. FDI and Cambodia's Investment (million US\$, current prices)



Source: Data from Council for the Development of Cambodia

There are basically two reasons for declining foreign direct investment in Cambodia:

- Slow economic recovery in East and Southeast Asia, where most of Cambodia's foreign investors come from; and,

¹⁵ Data refer to value of fixed assets approved by the Council for the Development of Cambodia.

- *Faster improvement in the investment environment in competing countries, such as Vietnam, the Philippines, China, and Thailand.* Progress in the improvement of physical infrastructure and the institutional environment in Cambodia has not matched the pace of improvements in competing countries. For example, Vietnam has improved its transportation, electricity, irrigation, and institutional systems to a level that is not achievable for Cambodia at the present time. As long as Cambodia lags behind competing countries in terms of establishing a better investment climate, FDI is unlikely to rise. This requires strong efforts by the government to adopt much needed reforms, especially those related to administrative reform and the fight against corruption.

A new economic policy emphasising a strategy that gives priority to certain specific actors is therefore needed. Based on the comments above, domestic private investors who produce for local and/or export markets should be considered strategic actors that can help promote sustainable economic growth during a period of economic “take-off”.¹⁶

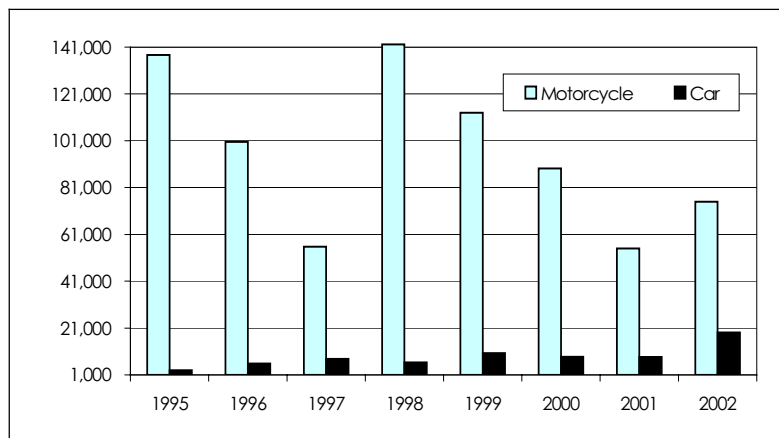
2.3.3. Exports and Imports

External demand for Cambodia's products provided some stimulus for Cambodia's economy. Cambodia's exports rose by 6 percent in 2002, down from 8 percent in 2001. The main exports are apparel products. The export of textile products grew by 13 percent, reaching US\$ 1,333 million in 2002, compared with 25 percent growth in 2001. The main export market for Cambodia's textiles has been the US, followed by the European Union (EU). Since trade began with the US in 1995, the value of Cambodia's garment exports to the US has grown steadily. 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.

In contrast to exports, Cambodia's imports rose by 8 percent in 2002, slightly faster than in 2001 at 7 percent. The main products Cambodia imported were petroleum products, construction materials, and vehicles.

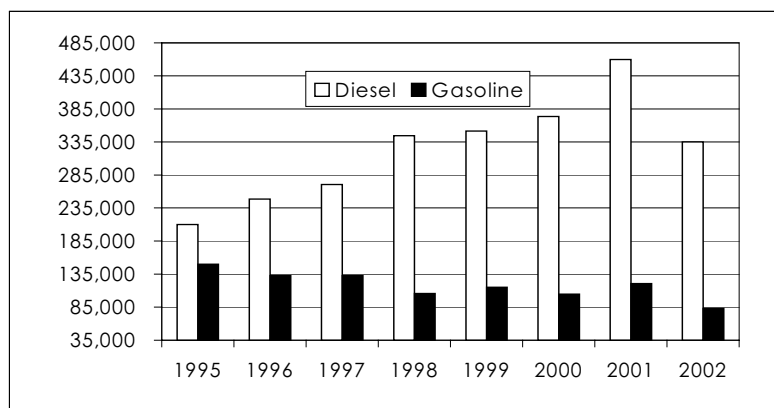
According to data from Cambodia's Customs and Excise Department, car imports reached US\$ 72 million in 2002, 42 percent more than in 2001. After falling during four consecutive years through 2001 (See Figure 7), Cambodia increased its imports of motorcycles again, reaching 74,925 units in 2002, compared with 55,018 units in 2001.

¹⁶ It is important to examine to what extent the domestic private sector (and domestic investment) could be stimulated. Research related to this area is needed.

Figure 7. Cambodia's Imports of Cars and Motorcycles 1995-2002 (units)

Source: Data from Customs and Excise Department

During 1995-2002, gasoline imports dropped overall from the highest level of 149,969 tons in 1995, to 115,106 tons in 1999, and then to 82,863 tons, the lowest level, in 2002 (See Figure 8). During the same period, however, the import of diesel increased from the lowest level of 210,070 tons in 1995, to the highest level of 459,692 tons in 2001, and then fell to 334,996 tons in 2002.

Figure 8. Cambodia's Imports of Gasoline and Diesel 1995-2002 (tons)

Source: Data from Customs and Excise Department

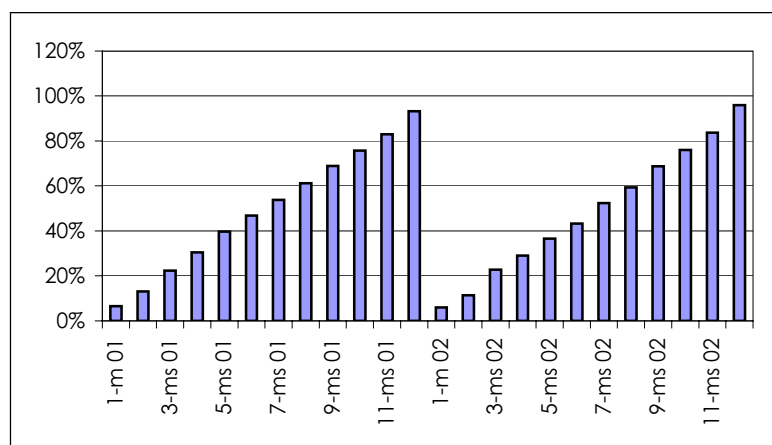
2.4. Public Finance

During 2002, the total deficit reached 762 billion riels, which is lower than the 795 billion riels set by the Budget Law 2002.¹⁷ As a proportion of GDP, the budget deficit declined from 7 percent in 2001 to 5 percent in 2002. Including expenditure adjustments, the total deficit for budget implementation amounted to 881 billion riels in 2002 (US\$ 225 million), which was 11 percent more than the target, all of which was financed by foreign sources. The above-target deficit resulted from below-target revenues and above-target expenditures.

Cambodia collected revenues totaling 1,729 billion riels (US\$ 441 million), which is divided into current revenue of 1,713 billion riels (US\$ 437 million), and capital revenue of 16 billion riels (US\$ 4 million). Compared to the target set by the Budget Law 2002, current revenue reached just 96 percent of the target. This amount included tax revenue, which was 97 percent of the target, and non-tax revenue, which was 92 percent of the target.

In terms of tax revenues, the collection of turnover tax was the lowest at 78 percent of target, while the collection of customs duties reached 99 percent of the target. Value added tax, which accounted for the largest portion of total tax revenue at 40 percent, reached 89 percent of the target.

Figure 9. Implementation of Current Revenue (percent of target) by period of months



Source: Data from Ministry of Economy and Finance

¹⁷ Based on data from monthly reports on "State Budget Implementation" by Cambodia's Ministry of Economy and Finance.

In terms of non-tax revenues, forest exploitation was the furthest from the targeted amount at 32 percent of target, while tourism tax was only 71 percent of target. Revenue collection from quota and export licences achieved 133 percent of the target, reaching US\$ 27 million from textile exports of US\$ 1,333 million in 2002.

Based on historical data, however, revenue targets have been unrealistically high, which tends to make comparisons between actual revenue and targets less meaningful. The actual budget revenue collected has never reached the target set by the Budget Law, averaging 94 percent of the target. By comparing actual revenues to target revenues (See Figure 9), however, there are two interesting features related to Cambodia's budget implementation:

1. The gap between actual and targeted revenue narrows as the end of the fiscal year approaches. In 2002, for example, for the one-month period through January, the actual revenue reached 6 percent of target, for the three-month period through March it reached 23 percent of target, for the six-month period through June it reached 43 percent, for the nine-month period through September it reached 69 percent, and for the twelve-month period through December it reached 96 percent.
2. According to data from Cambodia's Ministry of Economy and Finance, the pattern of budget implementation in each year turns out to contain the same structure (See Figure 9). For example, for the first one-month period through January, the collection of current revenues achieved around 7 percent of the target, for the five-month period through May it reached around 40 percent of target, and so on.

As for budget expenditure, Cambodia spent a total of 2,610 billion riels (US\$ 666 million), including expenditure adjustments. Current expenditure amounted to 1,342 billion riels (US\$ 342 million), which was 85 percent of the target. Of this amount, General Administration spent 275 billion riels, Defence and Security spent 368 billion riels, Social Administration spent 437 billion riels, and Economy Administration spent 142 billion riels.

Although the Budget Law 2002 clearly reflected the intention of the Royal Government of Cambodia to increase public spending for the education system by 28 percent, actual spending was 220 billion riels (US\$ 56 million), or 77 percent of the target. This was just 5 percent more than the amount spent in 2001. During the same period, expenditure for Interior Administration, which is subject to General Administration, more than doubled, reaching 181 percent of the target.

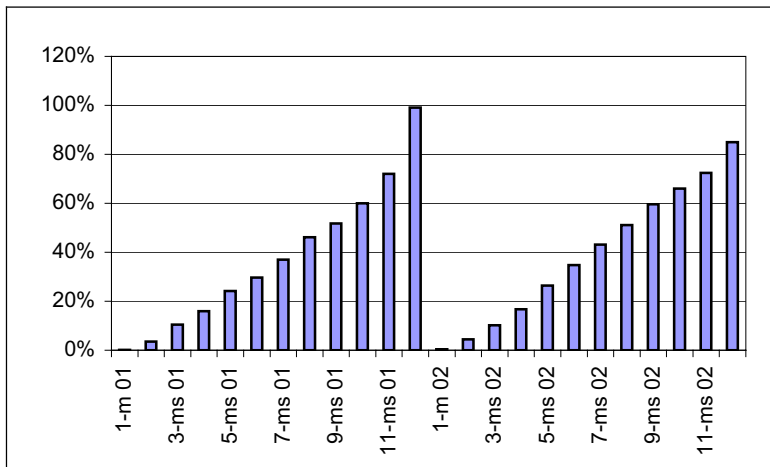
Other relevant public expenditure, which contributed to a deficit that exceeded the target, is as follows:

- Council of Ministers, 144 percent of target;
- Economy and Finance, 163 percent of target;
- Planning, 108 percent of target;
- National Election Committee, 263 percent of target;
- National Audit Authority, 102 percent of target; and,
- Subsidies to Provincial and Municipalities, 111 percent of target.

Capital expenditure in 2002 amounted to 1,149 billion riels (US\$ 293 million), which was 111 percent of target. Expenditure for projects financed by external assistance were significantly over the target of 700 billion riels (US\$ 177 million) when compared with implementation of 861 billion riels (US\$ 220 million).

The implementation of current budget expenditure, when compared to targets set by the Budget Law, shows the same basic structure and pattern for each (See figure 10), as in the case of the implementation of current revenues.

Figure 10. Implementation of Current Expenditures (percent of target) by period of months



Source: Data from Ministry of Economy and Finance

2.5. Money and Prices

2.5.1. Money Supply

After adopting a restrictive policy in 2001, the National Bank of Cambodia (NBC) eased monetary pressure in 2002. The amount of Cambodian riels, which consists of the riels outside banks and the riels in deposits at banks, rose by 33.5 percent to 888 billion riels by the end of 2002, compared to a 14 percent increase in 2001. At the same time, foreign currency deposits, which constitute the bulk of the money supply in the country, increased to US\$ 508 million by the end of 2002, 30 percent more than a year ago. Cambodia's total liquidity (M2), which includes both the amount of riels and foreign currency deposits (after conversion into riels), rose to 2,888 billion riels (US\$ 734 million) by the end of 2002, which was 31 percent more than in 2001.

The increase in the amount of riels in Cambodia's total liquidity M2 was primarily the result of intensive currency issue by the NBC. Between December 2001 and December 2002, the NBC accelerated the issuance of riels with an additional 187 billion riels, reaching a total stock of 803 billion riels by the end of 2002. Compared to the end of 2001, currency issue by the NBC rose by 30 percent, which was faster than the period between December 2000 and December 2001 when there was a 16 percent increase. The amount of riels outside banks, or in circulation, increased to 766 billion riels by the end of 2002, 33 percent more than the previous year.

Since the claims of the NBC on the Royal Government of Cambodia and on deposits in money banks have declined between 2001 and 2002,¹⁸ the injection of new amounts of riels into circulation should be closely related to a higher increase of foreign assets in the NBC, and/or to an increase in fixed assets of the NBC. According to the NBC, foreign assets of the NBC grew by 31 percent, from US\$ 696 million in 2001 to US\$ 914 million in 2002. During the same period, fixed assets of the NBC rose from 73 billion riels in 2001 to 141 billion riels in 2002. The expansion of Cambodia's total liquidity was also associated with a faster rise in the amount of foreign currency deposits, which accounts for the largest portion, 70 percent, of total liquidity. By the end of 2002, foreign currency deposits with deposit money banks soared by 30 percent to US\$ 509 million, up from 21 percent growth in 2001. Since foreign currency is not produced by the NBC, the increase in foreign currency deposits must be related to the following factors, which represent different sources of foreign currency:

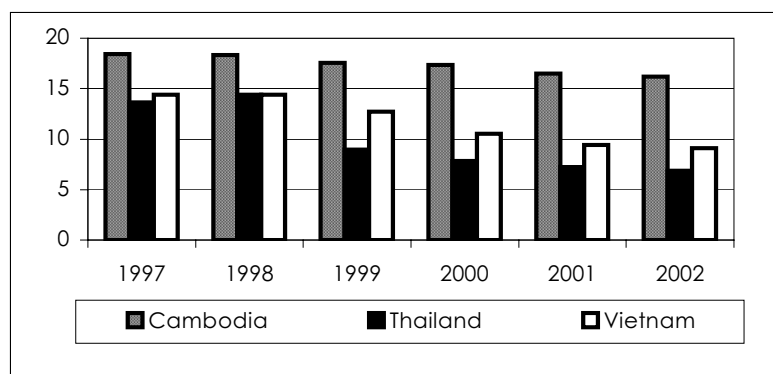
¹⁸ Data from the National Bank of Cambodia: Monthly Reports.

- development in Cambodia's export of merchandise and services, especially in textile exports and in tourism;
- development in foreign direct investments;
- foreign assistance;
- private transfers; and
- transfers of cash holdings in foreign currency into deposits. At the beginning of 2001, the amount of US dollars in circulation reached around US\$ 3 billion.¹⁹

2.5.2. Interest Rates

Since 1996, banks in Cambodia have gradually reduced interest rates on lending in foreign currency, principally in US dollars, from 18.8 percent in 1996 to 16.2 percent in 2002. Compared to neighbouring countries Thailand and Vietnam, however, Cambodia still charges the highest interest rates on lending in foreign currency. In general, banks in Thailand charged the lowest interest rate on foreign lending at 6.88 percent in 2002, followed by banks in Vietnam, which charged 9.1 percent in 2002 (See Figure 11).

Figure 11. Nominal Lending Rates in Cambodia, Thailand, and Vietnam



Source: National Bank of Cambodia, International Monetary Fund

From a financial perspective, the relatively high interest rates on loans in Cambodia, where 95 percent of total credit is usually paid in US dollars, make investments less attractive compared to Thailand and Vietnam. It is often argued that the high interest rates are associated with the high risk of investment, as well as with the high operation costs banks must bear in terms of

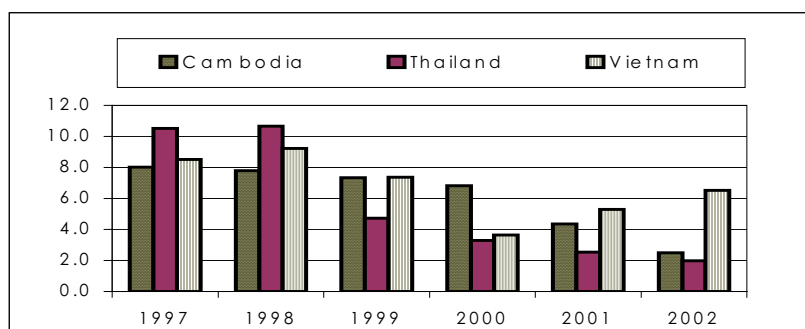
¹⁹ Zamaróczy, M. d. & Sa, S. (2002): Macroeconomic Adjustment in a Highly Dollarized Economy - the Case of Cambodia; IMF Working Paper (WP/02/92).

administrative costs, poor infrastructure, and so on.²⁰ For example, as of January 2003, ACLEDA, one of Cambodia's specialised banks, charged the highest interest rates on loans in US dollars at 24 percent, compared to other banks such as the Foreign Trade Bank and Canadia Bank, both of which charged 18 percent. The main reason is that ACLEDA's smaller loans are more risky and have higher transaction costs than traditional loans.

The relatively high lending rates force investors in Cambodia to seek other sources of capital with which to finance their investments. In 2002, 29 percent of the investments in the construction sector were financed by credit provided by Cambodian banks, up from 14 percent in 2001.²¹

As in the case of lending rates, Cambodian banks have gradually reduced interest rates on deposits in riels, from 8.8 percent in 1996 to 2.5 percent in 2002. This compares to 6.5 percent on dong deposits in Vietnam and 2.0 percent on baht deposits in Thailand (See Figure 12).

Figure 12. Interest Rates (%) on Deposits in Cambodia, Thailand and Vietnam



Source: National Bank of Cambodia, International Monetary Fund

When we take inflation rates in terms of domestic currency into account,²² Cambodia's banks provided a negative real interest rate of -0.8 percent in 2002, while in Thailand the rate was 1.4 percent and in Vietnam it

²⁰ In terms of the business environment, the banking sector in Cambodia has been obviously facing the same problems as other entrepreneurs providing production and services. For more details concerning private sector business in Cambodia, see Sok, H. & Acharya, S. (2002): Cambodia's Annual Economic Review - 2002, CDRI.

²¹ CDRI's Flash Report on the Cambodian Economy, May 2003.

²² Inflation rate in Cambodia in 2002 (in domestic currency) averaged 3.3% while prices in Thailand increased by 0.6% and in Vietnam by 3.8%. See International Monetary Fund-International Financial Statistics 2002.

was 2.7 percent.²³ As a result, there is little incentive to hold deposits in riel. The dominance of foreign currency deposits is likely to continue unless alternative monetary policies are implemented.

2.5.3. Inflation Rate

For the entire year 2002, Cambodia experienced a 3.3 percent increase in prices, compared with 0.3 percent in 2001. The main factor was a large increase in prices for "housing and utilities", which rose by 7.2 percent in 2002, compared to 0.98 percent in 2001. Food prices, which dominate the consumption basket, have continuously fallen since September 2002. In January 2003, food prices declined by 0.8 percent, but were still 2.7 percent higher than the year before. In contrast, prices for transport and communication have risen gradually, with a 3.8 percent difference between January 2002 and January 2003. The main reason was a 9 percent jump in the price of diesel between December 2002 and January 2003. This jump reflected increases in the price of petroleum products in international markets, which were closely related to the growing tensions between the US and Iraq and the ongoing labour strike in Venezuela at the time.

2.5.4. Exchange Rate

The Cambodian riel gained some value against the US dollar in 2002, appreciating by 0.2 percent. In 2002, one US dollar was priced at 3,918 riels, compared to 3,924 riels/dollar in 2001. Against the Thai baht, however, the riel depreciated by 3.7 percent, down from 88.4 riels/baht to 91.3 riels/baht.

There are two reasons why the riel gained some value against the dollar: (1) greater demand for the riel during the first half of 2002, and (2) the general weakness of the dollar. The commune council elections in February 2002 caused more demand for the riel. Since Cambodia's economy is highly dollarised, this implies a higher rate of exchange from the dollar to riel than from the baht to riel.

From 1999 to 2002, the annual average value of the Cambodian riel against the dollar changed very little (See appendix, table 1), either appreciating or depreciating by around 1 percent on average. Although the small change in the exchange rate is generally interpreted to mean stability of the riel, such a view is in fact debatable. The stability of a currency also depends on at least three additional factors:

- The role of the Central Bank in controlling the quantity of money, which is traditionally manifested by the level of reserves and interest rate policy;

²³ Assuming that inflation rates in the three countries do not change significantly between 2002-2003.

- The current account, which is strongly dependent on exports and capital inflows; and,
- The public budget, which basically represents the ability of the state to intervene in the economy.

Regarding the present context, the National Bank of Cambodia is unable to effectively manage the quantity of money due to dollarisation, with the following results:

- The NBC is largely unable to implement an interest rate policy. The NBC must rely on foreign reserves, which mainly depend on foreign assistance, in order to manage the amount of riels, which account for around 30 percent of the total liquidity. As a result, the NBC possesses only one main instrument, "the use of foreign reserves," for stabilising the riel/dollar exchange rate. Since the sources of foreign reserves have proven to be unstable, the monetary instrument of "using foreign reserves" is not a strong one. The buying or selling of dollars by the NBC may help calm the situation in the foreign exchange market, but it cannot solve the underlying weakness of the riel in the foreign exchange market.
- Foreign currency represents the largest portion of Cambodia's total liquidity at 70 percent. If the amount of dollars outside the banks is taken into account, the share of foreign currency would be higher. In other words, the NBC has little control over total liquidity. This highlights the weak position of NBC in conducting monetary policy.

Cambodia's current account, excluding official transfers, has always shown a negative balance (See Appendix, Table 8). In Cambodia, there is no financial market that could induce capital flow into the country. In the present context, Cambodia's exports are not generally competitive and continue to be fragile. Consequently, there are no stable sources of dollars for securing the value of the riel. Cambodia's public budget has also experienced deficits for years. The deficit has practically been financed by foreign assistance. As a result, the ability of the state to intervene in the economy in times of crisis is very limited.

2.6. Balance of Payments

2.6.1. Current Account

Cambodia's current account, which consists of the trade balance, service balance, income balance, and current transfers, has been positive since 2000 when taking official transfers into account. However, it is not positive if official transfers are excluded (See Appendix, Table 8).

The increase of imports overshadowed the increase of exports, led by

textile exports, in 2002, and expanded the trade balance deficit from US\$ 226 million in 2001 to US\$ 282 million US\$ in 2002. The positive development in the tourism industry in 2002 increased the income of domestic service providers to US\$ 289 million, up from US\$ 253 million in 2001. At the same time, Cambodia's use of foreign services rose to US\$ 305 million, up from US\$ 273 million in 2001. Consequently, Cambodia's service balance continued to face a deficit. However, the deficit was reduced slightly to US\$ 16 million, down from US\$ 20 million in 2001.

The income balance, which represents receipts from Cambodians working outside the country and payments to foreign workers inside the country, as well as interest payments, showed little progress. The deficit declined from US\$ 41 million in 2001 to US\$ 39 million in 2002.

In contrast to the trade balance, service balance and income balance, the balance of current transfers, which encompasses private transfers and official transfers, including foreign assistance in the form of grants, has been in surplus since 1993, thanks to the continuation of grants from outside. These grants increased to US\$ 353 million in 2002, which was 2.6 percent more than in 2001. Of this amount, US\$ 280 million was from net official transfers, and the remaining US\$ 73 million was from net private transfers.

The surplus in the balance of current transfers more than compensated for deficits in other sub-balances of the current account, with the result that the overall current account, including official transfers, showed a surplus. The surplus of US\$ 15 million, however, was 74 percent lower than the surplus in 2001. The main reason for this was a faster increase in the trade balance deficit as a result of an increase in imports and slower growth in exports.

2.6.2. Financial Account

Because of the slowdown in foreign direct investment in 2002, Cambodia's financial account has been gradually dominated by an inflow of official loans mainly for project support, excluding those of the IMF. In 2002, official loans of US\$ 150 million were paid to Cambodia, 58 percent more than in 2001. In the same year, Cambodia repaid US\$ 9 million. As a result, the net inflow of capital in the form of official loans reached US\$ 141 million, 62 percent more than in 2001.

Net non-official investments, which result from capital flows into and out of Cambodia, undermined the financial basis for Cambodia's international trade during 2002. Foreign direct investment, which is the first category of "non-official investments", dropped to an estimated US\$ 98 million, down from US\$ 113 million in 2001. Other private investment, which is the second category of "non-official investments", also declined, with the result being an estimated net outflow of US\$ 117 million in 2002.

Nevertheless, Cambodia's financial account, which includes official and non-official capital inflows and outflows, rose to US\$ 122 million in 2002, up from US\$ 94 million in 2001.

To sum up, as a result of the performance of the current account, including official transfers, along with those in the financial account, Cambodia's overall balance of payments showed a jump in the amount of surplus to US\$ 172 million, up from US\$ 73 million in 2001. Taking the use of IMF credit into account, the reserve assets of the National Bank of Cambodia increased by US\$ 187 million between 2001 and 2002, as compared to an increase of US\$ 90 million between 2000 and 2001.

Looking at previous trends, Cambodia's balance of payments has been in surplus since 1993. However, it has largely consisted of money from foreign grants and loans.

2.7. Poverty Situation

According to Cambodia's Ministry of Planning and the United Nations World Food Programme, the poverty rate in Cambodia was 36.1 percent²⁴ in 1999. At that time, the average consumption per capita per day was 1,629 riels in Phnom Penh, 1,214 riels in other urban areas, and 1,036 riels in rural areas. Compared to 1997, there was a decline in nominal consumption spending by people in all regions, including Phnom Penh, other urban areas, and rural areas between 1997 and 1999.²⁵

For the year 2002, there is no data available with which to assess the poverty situation in Cambodia. However, regular surveys conducted by CDRI give some, albeit limited, perspective on the poverty situation in recent years by looking at the daily earnings of vulnerable workers. According to the CDRI surveys, the poverty situation as reflected in the daily earnings of vulnerable workers was mixed during 2002.

The surveys conducted by CDRI in Phnom Penh and Kampong Cham during February 2003 suggest mixed development in the daily earnings of vulnerable workers. Compared to November 2002, some groups of workers improved their daily earnings, while others did not. For example, "cyclo" drivers could earn an average of 9,200 riels per day in February 2003, up from 8,878 riels three months before. This increase can be attributed to seasonal factors, such as Chinese New Year. Compared to the same period in 2002, however, the daily earnings of cyclo drivers fell by 4 percent in real terms. The main reason for this was that more migrants came to Phnom Penh because of

²⁴ Ministry of Planning and UNWFP (2002): Estimation of Poverty Rates at Commune-Level in Cambodia.

²⁵ See Table 2 in Ministry of Planning and UNWFP (2002).

the serious floods and drought in 2002. After improving in November 2002, motorcycle-taxi drivers suffered a drop in their daily earnings to 11,400 riels in February 2003, down from 12,075 riels in November. Compared to February 2002, their real income fell even more by about 21 percent, due to increases in the price of gasoline and diesel.

Compared to the November 2002 survey, porters improved their nominal daily earnings to 7,600 riels in February 2003. Compared to the previous year, however, their nominal income dropped by 7 percent.²⁶ This was mainly due to the fact that new or repaired roads provided alternative transport services to provinces. "Small vegetable sellers", most of whom come from the provinces, experienced an increase in real daily earnings in February 2003 of 1.1 percent over November 2002, and 17 percent over a year ago. An increase in vegetable consumption during Khmer New Year and Chinese New Year buoyed their daily income.

Waitresses earned 4,600 riels per day in February 2003, compared to 4,000 riels three months before. During the same period, the daily income of rice-field workers declined from 4,219 riels to 4,180 riels. Compared to February 2002, however, rice-field workers earned 5 percent more in real terms. This was related to the fact that many young people migrated to Phnom Penh or provincial cities, while the need for "rice-field workers" increased.

CDRI's survey in February 2003 indicated that garment workers continued to experience increased daily earnings at 10,127 riels/day, which was up from 10,097 riels/day in November 2002. The average monthly salary of "garment workers" in February 2003 reached US\$ 67.50, including overtime.

2.8. Conclusion and Prospects for the Future

The share of agriculture in total GDP continued to decline, falling below 30 percent in 2002. It appears that the agricultural sector may be losing its traditional dominance within the Cambodian economy. In the face of declining fish and forestry resources, crop production is assuming a more important role. In this context, two policies need to be highlighted: building rural infrastructure and diversifying agricultural production. It is encouraging that the Royal Government of Cambodia, with assistance from international organisations, has adopted measures for both improving physical infrastructure in rural areas (eg road and irrigation systems), and promoting the production of other crops, such as cassava and cashew.

In contrast to the declining contribution of agriculture to total GDP, the industry and service sectors have increased their contributions. This has come about mainly through rapid expansion in textiles, construction and tourism.

²⁶ In real terms, daily income of porters dropped by 9%.

Cambodia's textile industry has developed on the basis of quotas and preferential agreements, especially from the US and EU. After 2004, when the Multi-Fibre Arrangement regarding international trade in textiles will expire, Cambodia's textile industry, which accounts for the largest share of total exports, will have to compete with other countries on an equal footing. The negative impact of full competition on the Cambodian economy could be ameliorated to some extent by seeking ways to expand export markets. Ultimately, Cambodia needs to improve its competitiveness. This will require a comprehensive commitment from the Royal Government of Cambodia to strengthen the institutional and physical infrastructure in order to improve the investment and business climate.

In addition to the export-oriented strategy of economic development, domestic actors and markets should be given priority. It is encouraging that the Royal Government of Cambodia has begun to pay more attention to rural development by improving physical infrastructure, supporting micro finance, and creating new tourist areas so that a favorable climate for domestic entrepreneurs is established.

Significant public involvement in rural development requires large public investments. The Royal Government of Cambodia has stepped up investment since 1998, even though there appears to have been a slowdown in 2002. Raising public revenue is crucial in order to finance development expenditure. Therefore, it is important that relevant budget reforms are adopted, such as value added tax on diesel, use of visa stickers, creation of large and medium taxpayer units, and implementation of direct payment to the National Treasury.

The monetary system remains weak. The dollarisation of the economy continues to limit the ability of the National Bank of Cambodia to implement monetary policy. As a result, interest and exchange rate policies are not able to play a significant role in stimulating economic growth. The lack of confidence in the riel and the general use of the dollar for most important economic transactions means that Cambodia continues to face uncertainties and risks related to financing economic development.

Prospects for the Cambodian economy appear fragile. As long as there are no comprehensive commitments to promote domestic sources of growth, the economy will continue to remain deeply dependent on foreign direct investment and exports. It is often assumed that foreign direct investment will provide capital and technology for development, while the export sector represents markets for the country's products.

Unfortunately, relying solely on FDI and exports may limit the prospects for development of the economy. The core issue of economic development is not to evaluate or assess whether or not foreign direct investments or the export

sector can push economic growth, but rather to evaluate the dynamic capacity of a country such as Cambodia to attract foreign direct investment, and/or to secure export markets to stimulate economic growth.

A new policy direction is needed that would give priority to local entrepreneurs and local markets, even if their current potential is limited. An important first step would be to improve the climate facing domestic entrepreneurs by investing in institutions, infrastructure, and good governance. It is also important to move forward energetically with financial sector reforms in order to create mechanisms for effective financial intermediation for a pro-domestic, private sector development strategy. It is very likely that such reforms would also include accelerating the process of “de-dollarising” the economy.

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Chapter Three
Major Cash Crops: Production, Marketing
Export and Processing
A Preliminary Assessment

3.1. Introduction

The growth in Cambodia's industry and service sectors is unlikely to keep pace with labour force growth at the rate of 200,000 new entrants per annum in the medium term. Most Cambodians, therefore, will continue to rely on agriculture for their livelihoods. As a result, agricultural development is a top priority on the government's agenda as stipulated in the Socio-Economic Development Plan II (2001 - 2005) and the National Poverty Reduction Strategy (2003 - 2005).

Cambodia has made remarkable improvements in its agricultural sector. For instance, rice yield increased from 1.3 tons to 2.1 tons per hectare between 1994 and 2001 (MAFF Agricultural Statistics, various issues, and MAFF 2003). The vegetable sub-sector has also received considerable attention from both government and non-government institutions. Nevertheless, many studies have noted Cambodia's low productivity in light of regional comparisons and have identified a comprehensive list of problems and produced numerous policy recommendations (RGC 2002, MoC 2001; FAO, UNDP 1999; MAFF 1999; McKenney and Prum 2002). These include improvement of production techniques, infrastructure support, and crop diversification. Although considerable efforts have been devoted to getting Cambodia's agriculture moving and commendable achievements have been made in the past decade, Cambodia has remarkable potential to further improve and expand agricultural production. For example, Cambodia would be better off by: (i) diversifying away from rice, which is currently grown on about 90 percent of the total crop land; (ii) reducing marketing inefficiencies; (iii) promoting agro-processing; and (iv) expanding agricultural exports. Such moves that enhance competitiveness are crucial given the fact that Cambodia has embarked on market liberalisation and is integrating into the ASEAN Free Trade Area (AFTA) as well as joining the World Trade Organisation (WTO).

As a contribution to identifying ways to meet such challenges, CDRI is undertaking a comparative competitiveness study on major non-rice crops with

institutions from Thailand and Vietnam. Instead of re-examining the entire agricultural sector, this study focuses on questions related to "cash crops" that are grown on an increasing amount of Cambodia's "new lands". This study aims to identify ways to promote non-rice crops that have received less attention than rice, the dominant staple crop in Cambodia. The study specifically looks into major issues related to production, marketing, export and processing of four major cash crops: soybean, maize, cassava and cashew. The current report is based on a preliminary assessment of critical issues that will be further researched in the coming year. Though still in the initial phase, this report presents a useful overview of the cash crop sub-sector along with observations based on preliminary findings from fieldwork.

In order to assess production, agricultural statistics collected and compiled at the Ministry of Agriculture, Forestry and Fisheries (MAFF) will be analysed in the light of findings from fieldwork. District level production data were collected from three provinces: Kampong Cham, Preah Vihear and Battambang. Agricultural technical staff at MAFF and the provincial level were interviewed to verify the accuracy of the data and to solicit their views on the current challenges concerning the crops studied. Efforts were also made to review existing agricultural studies that may include relevant information concerning the four crops studied. In addition, international literature, mainly from settings similar to Cambodia, was reviewed in order to draw on common themes and issues relevant to the Cambodian situation.

In terms of the fieldwork, semi-structured interviews were conducted with 16 producers (4 for each of the four crops), 14 traders/wholesalers (12 trading raw products and 2 selling processed products), 4 processing enterprises, 3 exporters, and 8 officials (5 at the local and three at the national level). These in-depth interviews were conducted primarily to generate information and insights needed to address questions that could not be answered using secondary data.

3.2. Production of Cash Crops in Cambodia

3.2.1. Major Cash Crops in Cambodia

Cambodia's agriculture remains a large sector of the Cambodian economy, although its contribution has declined in percentage terms. In terms of 1993 prices, the value added from agriculture rose from \$590 million in 1985, to \$1,034 million in 1995 and to \$1,084 in 2001 (Sok and Acharya 2002). In terms of percentage contribution to GDP, the agricultural sector accounted for 59 percent in 1985, 42 percent in 1995 and 34 percent in 2001, indicating slower growth than in the industry and service sectors. Within the agricultural sector, paddy is the largest crop, producing \$240 million in 1985, \$426 million in 1995 and \$528 million in 2001. In the same years, "other crops" were valued at \$116

million, \$151 million and \$175 million respectively. This "other crops" category includes all crops other than rice that people grow for their own consumption.

Rice is by far the single most important crop in Cambodia. Grown on about 90 percent of the total cropped land, rice alone contributes to about 70 percent of protein intake (Murshid 1998, and Chan and Acharya 2003). It is no coincidence that "food security" has been traditionally regarded as "rice security". In 2002, the value added in rice production was \$420 million, or 11.7 percent of Cambodia's GDP. However, most rice cultivation is for subsistence as well as semi-subsistence. It helps people survive, but it does not contribute so much to the cash economy. For example, the Marketing Office of MAFF estimated that only about 15 percent of rice production is traded.

Crops in Cambodia have been categorised as paddy rice and other crops, or "subsidiary" crops, again reflecting the greater importance attached to rice. These "other" crops have received less policy attention compared to rice, and far fewer studies as well as development efforts have been directed to non-rice crops. However, as large parts of Cambodia's forests have been cleared and converted to farmland, the private sector, including peasant farmers, has seized the opportunity to expand into non-rice crops. In large parts of Cambodia, non-rice crops such as maize, soybean, mung bean, cassava, cashew, banana, and other fruits are not "subsidiary" crops, but rather the main crops on which people base their livelihoods.

In 2002, the officially recorded value added contribution of non-rice crops was \$175 million. This is less than 6 percent of GDP, but is still significant in terms of the Cambodian economy as a whole. The importance of cash crops should not be overlooked for various reasons. First, according to senior statistics officials at MAFF, figures on non-rice crops are poorly collected and are very likely grossly under-estimated. Second, the production of non-rice crops is increasing rapidly since large areas of land cleared from forests. Third, most of these cash crops are traded and exported, and, therefore, contribute substantially to the local cash economy, thus generating local employment. Fourth, numerous agricultural studies and experts have recommended that Cambodia should diversify away from rice as relying on a single crop is risky. Above all, Cambodia is endowed with an abundance of fertile land obtained from clearing forests that provides considerable potential for expanding the production, processing and export of cash crops.

Table 1 compares production and productivity of major crops in Cambodia based on production data compiled by MAFF and price data calculated with input from both MAFF and key informants. These eight crops are the major crops documented in the "Agricultural Statistics" of MAFF. In the Bulletin, there are also a number of smaller crops listed, which are much less

significant to the economy. However, vegetables and perennial crops seem to have a significant value in the Cambodian economy, but there are no precise statistics available for these crops except for some rough estimates concerning production area.

The gross values of the crops presented in Table 1 provide rough comparisons of profitability, or returns. An assessment of the returns to land and labour should also include an examination of net returns (gross margins minus costs). This will be done in the following section concerning the preliminary findings in the case studies of the crops.

In addition to soybean, which has the highest return of \$335 per hectare, rice and sugar cane production also received high gross returns per hectare of land at \$230 and \$333, respectively. However, in most cases, these two crops are harvested once per year. In other words, these are the gross returns to one hectare of land per a "one year period." The returns to maize, soybean, mung bean, and sesame are for six month periods only, as the soil in which these crops are cultivated generally permit a second crop during the year, whether it is the same crop or a different one giving similar returns. It is common that maize, beans and sesame are grown alternatively during the dry and wet seasons. In terms of land productivity and farmers' income, non rice-crops may therefore be somewhat superior to rice crop. Maize can be grown in rice land, but soybean requires certain types of soil with low acidity. Currently, no other crops are cultivated on most rice land, perhaps mainly because rice land is waterlogged or too dry, and therefore of poor quality.²⁷

Table 1. Production and Productivity of Major Crops in Cambodia in 2002

	Tons ^a	Tons/ha ^a	\$/ton ^b	\$/ha (Gross)	\$ million (Gross)
(1)	(2)	(3)	(4)	(5)	(6)
1. Paddy	3,822,509	1.92	120	230	459
2. Maize	148,897	2.08	80	166	12
3. Soybean	38,801	1.34	250	335	10
4. Mung Bean	23,925	0.68	240	163	6
5. Cassava	122,014	6.33	20	127	2
6. Sesame	10,157	0.51	370	190	4
7. Sugar Cane	208,819	22.23	15	333	3
8. Peanut	9,738	0.85	200	169	2
Total gross returns excluding rice					39

Source: ^a MAFF (2003), Agricultural Statistics, 2002 – 2003; ^b Based on MAFF statistics and interviews.

²⁷ A study of soil suitability for different crops is currently being undertaken by CARDI, which has technical expertise in the area.

This current study looks into four major crops other than rice, which has been widely studied. From the eight major crops in Table 1, three crops were chosen: maize, soybean and cassava. As can be seen in the Table, these crops have significant value following rice. Cashew was selected as the fourth crop for study, representing perennial crops which are not well accounted for in government statistics. In addition to their relative significance in the Cambodian economy, these four crops represent a variety of farm types in different parts of Cambodia and have significant potential for expansion.

3.2.2. Production of Soybean, Maize, Cassava and Cashew

3.2.2.1. Soybean Production

Soybean is one of the grains traded internationally for its high protein and low fat content. Given the increasingly popular shift to healthy protein foods, the future of the soybean market should be promising. Originating in China, soybean has been traditionally grown and consumed in East and Southeast Asia for thousands of years. It is now grown even in the United States in large volumes (FAO, 1994). Cambodia produces a considerable amount of soybean, most of which is exported. Not every area of Cambodia is suitable for soybean production, however, as soybean requires relatively more fertile soil with low acidity than any of the other crops presented in Table 1. Nevertheless, Cambodia appears to be relatively suitable for this crop, with an average yield of about one ton per ha, which is the highest yield in the ASEAN region (FAO, 2000). According to FAO statistics (2000), Cambodia is the largest exporter of soybean in the ASEAN region after Vietnam.

The annual production of soybean, as documented by MAFF, has decreased from about 35,000 tons in 1999 to 28,000 tons in 2000 and to 24,600 tons in 2001. Production in 2002 could continue to decline due to the bad weather that occurred then. However, this drop in production so far appears to be mainly due to a shift to other more profitable crops in the main producing provinces, though production patterns vary from one province to another.

Kampong Cham province is by far the largest producer of soybean (Table 2), although the yield there is sometimes lower than the national average. This is due to the fact that this province has the largest physical supply of red soil, which is suitable for soybean. However, soybean production in Kampong Cham declined by more than half from 33,000 to 14,349 tons between 1999 and 2001 before it bounced back to 27,872 tons in 2002 according to MAFF statistics. Based on our fieldwork, this was because there was a significant shift to other more profitable crops, mainly banana and rubber, which have expanded remarkably in the province.

Battambang province also produces a large amount of soybean, second only to Kampong Cham. Contrary to Kampong Cham, the production area in Battambang has increased more than four-fold between 1999 and 2002, and the yield is higher than the national average. Battambang also has the advantage of bordering Thailand, which has been one of the main export markets for Cambodia's grains. In this province, soybean is normally cultivated after maize on new land that has been cleared from forests at an increasing rate.

Table 2. Harvested Area, Yield and Production of Soybean

Province	Harvested Area (ha)			Yield (ton/ha)			Production (ton)		
	1999	2001	2002	1999	2001	2002	1999	2001	2002
Kampong Cham	32,950	20,210	19,272	1.00	0.71	1.45	33,000	14,349	27,872
Battambang	1,500	4,279	6,012	1.04	1.28	1.30	1,560	5,469	7,816
Kampong Thom	260	3,220	2,023	1.03	1.08	0.83	268	3,471	1,688
Preah Vihear*	-	539	771	-	1.50	0.54	-	809	413
Kandal	215	30	175	1.00	0.80	0.80	215	24	140
Other provinces	20	409	682	..	..	..	20	536	772
Total	34,945	28,687	28,935	1.00	0.86	1.34	35,063	24,658	38,801

* Data for 1999 is not available. Source: Ministry of Agriculture, Forestry and Fisheries, "Agricultural Statistics 1999-2000, 2001-02 and 2002-03".

Soybean production in Kampong Thom and Preah Vihear is also increasing for the same reasons as in Battambang. Large parts of forests have been cleared and most of the new land has been put under soybean cultivation. Although the remote province of Preah Vihear is at a relative disadvantage in terms of transportation costs, as compared to Kampong Cham and Battambang, the high average yield of 2 tons/ha can compensate for the extra transportation cost of about \$20 per ton. District level data obtained from the province shows that soybean production in Preah Vihear is mainly located in one district, Thbeng Meanchey. According to our fieldwork, the yield of soybean production in this district in 2002 was about 2 tons per ha on average, though MAFF data in Table 2 shows that the yield there was only 0.54 ton per ha. Our fieldwork in the province also revealed much higher production than what was officially recorded and found that soybean production was expanding as new land was cleared from forests. When transportation costs are reduced by future road improvements, soybean production in this province is likely to increase further.

Observations on Soybean Production in Bos Khnor commune, Chamkar Leu district, Kampong Cham province

In Bos Khnor, soybean is planted in July and harvested in October or November, which is during the wet season. The average crop life is 3.5 months. However, there are three types of soybean seeds categorised by length of life span ranging from 70 to 100 days. Bos Khnor produces 3,000 - 5,000 tons of soybean per year, depending on the weather. Although soybean production

does not require so much moisture, it still depends on the weather, as there is no irrigation in the area. For instance, due to drought in 2002, soybean yield in Bos Khnor decreased from 1.5 - 2.0 tons per ha to as low as 0.5 ton per ha. No fertilizer is used in the study area because the red soil is already rich in nutrients. Cultivation tasks are relatively simple, and include soil preparation, planting, weeding, harvesting and threshing.

Although almost all the farms are “small family farms” with 2 - 3 ha on average, it is common that all the cultivation tasks are performed by hired labour, mostly from other districts, and hired machinery. Soil preparation and threshing are done by machine, while planting, weeding, and harvesting are performed by hired labour. About 10 -15 people are hired to plant the seeds, do the weeding two times, and harvest. The average wage rate is 4,000 riels (\$1.00) per day, with about 15 percent variation depending on the demand for labour. Some degree of mechanisation has taken place, mainly in the past few years. Although ploughing by men and animals is cheaper at 40,000 riels/ha, most farmers now hire a tractor to plough and rake their farms at the rate of 60,000 - 70,000 riels per ha. The reasons cited for a preference for tractors over draft animals are that the quality of ploughing by tractors is better, and that tractors can complete the tasks in a timely manner, which is especially important for larger farms.

In Bos Khnor, many farmers have reportedly shifted from growing soybean to bananas in the past 7 years simply for more profit. One hectare of banana production yields a gross revenue of about \$500 per year, while one hectare of soybean gives only \$300 plus \$100 from another crop in dry season. Unfortunately, farmers must alternate growing soybean every three years because of an insect-borne disease that affects banana trees.²⁸

As in the case of other rural areas studied by Chan and Acharya (2003), land ownership in Bos Khnor is consolidated in the hands of a small number of households. It was reported that about 20 percent of households own about 20 to 30 hectares each, 50 percent have about 2 hectares each, and 30 percent of households are landless. A number of landless farmers rent land at the rate of \$100 per hectare per year, leaving a net return of about \$150. Details of production budgets are presented in Table 3. It is important to note that family labour is not included in the calculation in the table. Thus, net return in the figure is return to hired labour and assets such as land. MAFF (2003) counted family labour as part of cost and produced a lower net return rate of \$130 per hectare, while our figure is \$243.

²⁸ At the time of this study, there was no research to bring this disease under control.

Table 3. Production Budget of Soybean in Kampong Cham and Preah Vihear in 2002

Expenditure item (per ha)	Kampong Cham	Preah Vihear
Seed (2,500R x 50kg)	165,000	125,000
First soil preparation	75,000	120,000
Second soil preparation	50,000	-
Planting	50,000	52,000
First weeding	35,000	52,000
Second weeding	35,000	52,000
Harvesting	80,000	75,000
Threshing	40,000	50,000
Total expenditure in riels	530,000	526,000
Total expenditure in US\$	133	132
Average Gross Revenue (1.5 ton x \$250)	375	500
Net Income	243	368
Land rent/opportunity cost of land	100	80

Source: In-depth Interviews with Five Farmers in Kampong Cham and Preah Vihear, March 2003.

Bos Khnor is the oldest producer of soybean Kampong Cham. Productivity has therefore gradually decreased over time due to reduction in soil nutrients. For example, it was reported that average yields in 1995 were 2.5 tons, but decreased to 2.0 ton in 1998 and is currently 1.5 tons if there is no drought. Nonetheless, fertilisers are still not considered necessary for improving yields. It is not known technically how long it will be before the soil becomes uncultivable.

In Thbeng Meanchey district, Preah Vihear province

Soybean production in Preah Vihear is similar to that in Kampong Cham in many ways. It is cultivated from July to October or November, alternating with mung bean or sesame seed. As in the case of Kampong Cham, labour is hired from different districts to perform planting, weeding and harvesting tasks. The daily wage is 3,500 - 5,000 riels, which is the same range as in Kampong Cham. However, the soil in Preah Vihear is richer than in Kampong Cham because it is newer (i.e., soon after deforestation). Many farmers forgo ploughing to save costs. However, if the land is ploughed, one hectare yields about 2 tons, compared with 1.5 tons without ploughing. Ploughing costs are normally higher at the rate of 120,000 riels per ha, as compared to 75,000 riels in Kampong Cham. This is because the new land in Preah Vihear still has tree roots that make ploughing difficult.

Due to the richer soil, the average return on soybean in Preah Vihear is higher than in Kampong Cham, despite the fact that the area is remote and the transport of produce is costly. There is ample opportunity to expand soybean production in Preah Vihear, though this would be done at the expense of reducing forest area. Such opportunities have already been seized by a number of households. For example, 50 percent of the households in some villages have

recently migrated from other provinces. Several important questions at this point include: (1) Is it beneficial to convert forests to farms? (2) If the forests should be reduced to increase farming, how should the new land be distributed? At present, it is illegal to clear forests, even though it is happening anyway to the benefit of those who take the risk or have the power to do so.

3.2.2.2. Maize Production

Maize, another internationally traded grain, is a popular crop that is grown in every province of Cambodia. It does not require the same quality of soil as soybean, although better soil provides higher yields. Cambodia, Vietnam and Thailand are all net exporters of maize according to the FAO (FAO, 2000). Two types of maize are grown in Cambodia: white maize is for domestic consumption by humans, and yellow maize is mostly for animal feed production and export. Many Cambodian farmers also grow maize on a small scale as part of subsidiary crops.

According to MAFF statistics, maize production is significant in all the provinces and municipalities. Battambang province, however, stands out as it accounts for 74 percent of the total maize production in 2001 and 62 percent in 2002. As shown in Table 4, maize production in Battambang rose dramatically within a short period of time. The over three-fold increase in production from 1999 to 2002 was the result of a doubling of both the harvested area and yield per hectare. The average yield was up from 1.72 to 2.86 tons per hectare. Based on our fieldwork, the average maize yield in Battambang is 5 tons per ha. The recorded yield of 1.72 tons/ha in 1999 as well as the 2.86 tons/ha in 2002 could have been a mistake in administrative reports.

Table 4. Harvested Area, Yield and Production of Maize

Province	Harvested Area (ha)			Yield (tons/ha)			Production (tons)		
	1999	2001	2002	1999	2001	2002	1999	2001	2002
Battambang	14,025	29,648	32,409	1.72	4.63	2.86	24,077	137,152	92,778
Kandal	14,268	10,682	9,403	1.87	1.35	1.58	26,676	14,390	14,854
Kompong Cham	13,197	5,374	8,035	1.61	0.89	1.07	21,296	4,772	8,604
Banteay Meanchey	4,624	7,598	8,435	1.13	1.14	1.11	5,203	8,698	9,329
Prey Veng	2,246	2,190	1,684	1.59	1.51	1.60	3,582	3,310	2,690
Kratie	2,342	1,812	1,703	1.40	1.41	1.52	3,272	2,553	2,594
Other provinces	9,037	9,909	9,925	..	..	..	11,168	14,714	18,048
Total	59,739	67,213	71,594	1.59	2.76	2.08	95,274	185,589	148,897

Source: MAFF, "Agricultural Statistics 1999-2000, 2001-02 and 2002-03".

There was also a sharp jump in Battambang's maize production from 1999 to 2000 in the MAFF statistics, which are differently. Maize production in Battambang was recorded at 24,077 tons in 1999, but suddenly increased to 99,885 tons in 2000. The explanation of this phenomenon is that three districts, Kamreang, Phnom Preuk and Sampeou Loun, were still under Khmer Rouge

administration and therefore were not included in the provincial statistics until 1999. These districts have rich black soil and adequate moisture, which is ideal for maize production. In addition, there is direct access to the markets in bordering Thailand. Similar to Preah Vihear, there is rapid land clearing in these districts, and thus the potential for expanding maize production is high. For this study, fieldwork was conducted in the three main maize producing districts of Battambang to gain insights into production and marketing.

Table 4 shows some degree of contrast between other major agricultural provinces. For example, Kandal and Kampong Cham saw a sizeable reduction in maize production, accompanied by a sharp decline in yield. In Kandal, the harvested area in 2001 was down by almost 50 percent from 1999, while the yield dropped by 28 percent. Both factors pushed production down from 26,676 tons to 14,390 tons during this period. A more severe decline is observed in Kampong Cham, where maize production dropped by more than three times. According to interviews with wholesalers, the main reason is that farmers shifted to other more profitable crops as maize markets in Vietnam stagnated.

Observations on Maize Production in Battambang

Maize production in Battambang is concentrated in three districts, namely Sampeou Loun, Phnom Preuk, and Kamreang (Table 4). According to official statistics, the other 10 districts in the province have little maize production. These three districts border Thailand and were under Khmer Rouge administration until 1998. Most of the farms are on new land recently cleared from forests. Yellow maize is grown for export to Thailand. Only a small proportion of the total production is purchased by an animal feed production company, C.P., which is located in Phnom Penh.

As indicated in Table 5, the total production area of yellow maize in Battambang has increased from 12,274 ha in 1999 to 30,383 ha in 2001. This figure is not exactly the same as the figure recorded at the national level in Table 3 above. However, the discrepancy is small enough to ignore. At an average yield of 5 tons per ha, maize production in 2002 would be about 150,000 tons, which is worth about \$12 million at the farm-gate price of \$80 per ton. However, according to interviews with district officials, production areas officially reported at the provincial level in Table 4 are far smaller than the actual areas revealed by district officials. For instance, the Bureau Chief of the Agricultural Office of Kamreang District reported maize production of 19,000 ha in 2002, as compared with 12,713 ha recorded in the Battambang Provincial Office. The actual production of maize should therefore be far higher than the recorded statistics.

Table 5. Yellow Maize Production Area in Districts of Battambang Province, 1999 - 2002 (ha)

District	1999	2000	2001	2002
Sampeou Loun	8,000	10,598	12,472	12,713
Phnom Preuk	585	3,308	9,500	8,600
Kamreang	3,615	6,596	8,357	8,221
Other districts	74	299	54	139
Total	12,274	20,801	30,383	29,673

Source: "Statistics of Subsidiary and Industrial Crops", various issues 1999 - 2002, Department of Agriculture, Forestry and Fisheries, Battambang Province.

In Battambang, maize is mainly planted in March-April and harvested in July-August. It can also be grown between August and December, when there is still adequate moisture at the end of rainy season. It takes about 120 days for maize to be harvested. In the dry season, farmers normally cultivate other crops that require less water, such as mung bean, peanuts or soybean. Farmers then face the challenge of choosing which crops to grow from among maize, cassava, soybean, and mung bean. Our research found that to a certain extent, a number of farmers have switched around among various crops in search of more profits in response to "market signals" or shifting relative prices. For example, in the 2003 dry season, more farmers started growing cassava instead of maize.

Until recently, maize seeds were purchased from Thailand. However, in the past two years, C.P., which is also a Thai owned business, has been promoting its seeds and many farmers in Battambang have tried them. A small sack of 14 kg of seeds cost 1,200 Baht or 114,000 riels. According to interviewees, this cost has been quite stable over the past few years.²⁹

Most cultivation tasks are now performed by machinery and hired labour. Ploughing by tractors starts in March soon after bean or other crops are harvested. The cost of ploughing one hectare of land was reported to be between 250 - 280 Baht per rai.³⁰ This is about 70,000 riels, or \$17, per hectare. Ploughing is required twice. The first time is with a tractor using 7 blades, and the second time is with 3 blades. For new farms that still have many tree roots, farmers tend to forgo ploughing because the soil is still very fertile and ploughing costs are about double that of ploughing farms without tree roots.

²⁹ In most parts of Battambang, the Thai Baht is used more widely than the Cambodian Riel. All prices were quoted and reported in Thai Baht.

³⁰ "Rai" is a size measure commonly used in Thailand. One Rai is equal to 40m x 40m or 1,600m². Thus, one hectare equals to 6.25 rais.

Table 6. Production Budget of Maize in Three Districts of Battambang Province in 2002

Expenditure Items	Baht per ha*	Riels per ha	US\$ per ha
Seed (2,500R x 50kg)	1,875	178,125	45
Soil preparation	3,125	296,875	74
Planting	750	71,250	18
Weeding	1,250	118,750	30
Harvesting	2,500	237,500	59
Total expenditure in Baht	9,500	902,500	226
Average Gross Revenue	15,000	1,425,000	356
Net income	5,500	522,500	131
Land rent/opportunity cost of land	1,500	148,438	37

* In the study area, all prices were quoted in Baht. Source: Interviews with four farmers in Battambang, March 2003.

A small number of farmers now use chemicals instead of labour for weeding. However, most farmers realise the danger of chemicals and continue to employ labour to do the weeding. The daily wage rate for labour is about 50 Baht, or 4,500 riels, per day. Most labourers are migrants from other parts of the country. They work both in Cambodia and in Thailand, doing mostly farm work. Details for maize production budgets are presented in Table 6.

Overall, the three maize producing districts in Battambang are better off. The main reason is that land is relatively abundant and very fertile. An average household holds about 6 hectares of land, which provides a net income of about \$1,500 per year from two crops. In most other provinces, most households live on \$1,000 per year (Chan and Charya, 2003). However, an income gap is now emerging following the low incomes that characterized the Khmer Rouge administration before 1998. Those with more power have acquired more land and have become relatively rich, each holding 20 - 30 hectares. In certain villages, such as Sralao Chrum, there are about 10 to 50 tractors, each worth \$5,000 - \$6,000. This is far better than many other villages in Cambodia. Future prospects for these areas look good, despite the fact that all the forests may be gone.

3.2.2.3. Cassava/Tapioca Production

'Cassava' (in Khmer *Damlong Chheu*) is produced mostly for domestic consumption as a snack or rice supplement in every province in Cambodia. It is easy to grow cassava, and many households grow it in their home gardens. 'Tapioca' is part of the same family, but it is used for processing into flour for human food and animal feed. The terms 'cassava' and 'tapioca' are used interchangeably in some countries. In the government statistics, the word 'cassava' is used to refer to both cassava and tapioca. For simplicity, 'cassava' is used in this report to refer to the production data in Table 7. However, the current study focuses on tapioca and the term will be used in discussing details of the crop.

Tapioca has a low value of about \$20 per ton. However, one hectare of good land may yield 30 tons of raw tapioca for a gross margin of \$600. This is much higher than rice, which yields on average \$220 per ton. Total cassava/tapioca production in Cambodia in 2002 was about 122,014 tons. At \$20 per ton, this would be worth \$2.4 million of gross revenue to the Cambodian economy, which appears rather small in the context of the Cambodian economy as a whole. However, the statistics appear to be grossly under-estimated based on our field inquiries. For example, in certain areas of Kampong Cham and Battambang, cassava production was reported to be twice the amount that was reported in the official statistics.

Due to limited processing capacity in Cambodia, most of the raw tapioca produced in Cambodia is exported to Vietnam and Thailand for processing. According to the MAFF statistics presented in Table 7, the main producing provinces are Kampong Cham, Kampong Thom and Siem Reap. Total cassava production decreased from 228,622 tons in 1999 to 142,262 tons 2001 and to 122,014 tons in 2002. This dramatic decline is due to the drastic drop in yields, which were down from 16 tons per ha in 1999 to 10 tons per ha in 2001 and 4.7 tons per ha in 2002. The reasons for such a drop are unclear and could not be explained by MAFF officials. It could be simply a statistical or typing error in the administrative channel. For example, our fieldwork in Kampong Cham found that the average tapioca yield was still around 20 tons per ha in 2002 and 2003. Similar errors were observed in the Battambang and Kratie data. The drop in 2001 was likely to be 'statistical' rather than actual.

Table 7. Harvested Area, Yield and Production of Cassava and Tapioca*

Province	Harvested Area (ha)			Yield (ton/ha)			Production (ton)		
	1999	2001	2002	1999	2001	2002	1999	2001	2002
Kampong Cham	4,855	4,740	8,532	21.36	14.15	4.74	103,700	67,051	40,421
Kampong Thom	940	1,880	1,321	11.83	10.46	7.66	11,120	19,660	10,125
Siem Reap	845	865	1,060	14.64	11.84	15.62	12,375	10,243	16,555
Battambang	619	146	949	19.04	6.18	11.43	11,785	903	10,847
Kampot	1,059	770	800	16.53	5.18	7.71	17,510	3,990	6,169
Stung Treng	943	150	223	11.86	4.00	4.34	11,180	600	968
Kratie	607	334	120	16.84	9.03	15.13	10,220	3,016	1,816
Other provinces	4,135	4,705	6,279	..	..	..	50,622	36,799	33,113
Total	14,003	13,590	19,284	16.32	10.47	6.33	228,512	142,262	122,014

* According to Chief of Statistics Bureau of MAFF, tapioca is included in cassava data. Source: Ministry of Agriculture, Forestry and Fisheries, "Agricultural Statistics, 1999-2000, 2001-02 and 2002-03".

Given the relatively abundant land in Kampong Cham, Battambang, Ratanakiri, and Mondul Kiri, the potential for expanding cassava production is very high. In certain districts of Battambang, the tapioca yield was 50 tons per

ha in 2002 according to our fieldwork. However, the officially recorded average yield for Battambang is only 6.18 tons per ha, which is a significant discrepancy. The dramatic drop in yields in other provinces, such as Kampot, Stung Treng and Kratie, is also very questionable and should be viewed with caution.

There is some indication that tapioca production in Kampong Cham is increasing because there is now a factory that processes raw tapioca in the province. The factory absorbs about one third of the production in the province. The other two-thirds must find markets in Vietnam, generally through informal channels. Since raw tapioca is a heavy, low value product, reliance on unprocessed exports to Vietnam may not be viable. Setting up processing factories and improving the transportation infrastructure would provide the right incentives for tapioca production to expand. Because it is the largest producer of tapioca in the area, Kampong Cham province was chosen for fieldwork to provide insights into production, marketing, export and processing of tapioca.

Observations on Production of Tapioca, Memut, Kampong Cham

The red soil in Kampong Cham is very suitable for tapioca production. Most farmers have 2 -3 hectares of farm land.³¹ In certain areas, the yield is as high as 35 tons per ha provided there is good soil and cultivation management. However, the average yield in Kampong Cham is about 20 tons per ha without the use of any fertilisers. The number of farms whose owners cannot afford to have them ploughed reduces this average yield. The yield from these farms is about 15 tons per ha. Nonetheless, the yield is still much higher than in other areas, except in Battambang where the soil is better. For example, in Sihanouk Ville and Kampong Speu, where the tapioca processing factory of the Mong Reththy Group has shut down because of an inadequate supply of raw tapioca, the yield is only around 8 tons per ha.

Tapioca is planted in April-May and harvested in December - March. Though the harvest can be delayed, the ideal life span for yielding the maximum amount of flour is 10 months. As a result, only one crop per year is possible. The trees were originally bought from Vietnam at a cost of 150 riels per 2-metre length of tree. The original trees were then eventually used to produce additional trees.

It is quite simple to cultivate tapioca. The tasks include land preparation, planting, weeding and harvesting. In the past 5 years, tractors have replaced draught animals on many farms for land preparation. Weeding is done twice during the cultivation period and requires hired labour at a cost of about 3,500

³¹ Many farmers, most of whom were new settlers in the study area, were also reported to be landless.

riels per day for each worker. Harvesting is also performed by labour. Total expenditure is about \$170 per ha, or about 30 percent of gross revenue for those farms that plough. Crop budget details are presented in Table 8.

Table 8. Production Budget of Cassava in Kampong Cham Province in 2002

Expenditure Items	Riels per ha	US \$ per ha
Seeds	40,000	10
1 st soil preparation	70,000	18
2nd soil preparation	70,000	18
Planting	50,000	13
1 st weeding	105,000	26
2nd weeding	105,000	26
Harvesting	200,000	50
Total expenditure	640,000	160
Total expenditure including Land rent	940,000	235
Average Gross Revenue	2,250,000	563
Net Income excluding land rent	1,610,000	403
Land rent/opportunity cost of land	300,000	75

Source: In-depth Interviews with three farmers in Memot, Kampong Cham Province, March 2003
Note: The above figures are cash costs only, excluding family labour use.

The poor are disadvantaged in terms of profitability. They do not have enough available cash with which to hire a tractor to plough their farms, which costs about \$40 per ha for two rounds of ploughing. Informal credit, which may be available at an interest rate of 120 percent per year, is too expensive for them. On their farms, one hectare of land only produces only about 15 tons, compared with an average of 23 tons per ha for those who can afford to have their farms ploughed. The difference between ploughing and not ploughing the land is about 8 tons of yield, or \$160 per ha. Based on our preliminary fieldwork, it appears that poor farmers could make about \$100 per ha if affordable credit was available to them.

3.2.2.4. Cashew Production

Cashew is a perennial crop, which is different from the above-mentioned three crops. Cashew nuts are among the healthy foods that have gained popularity in the world. India, for instance, has a long history of growing, processing and exporting the nuts. The crop generates considerable employment in both production and processing sectors (Kannan, 1983). The young trees are generally grown in the wet season and can live for up to 30 years. It requires about \$100 to plant cashew on one hectare of commercial farm land. Cashew trees begin to bear fruit after three years. However, the amount of fruit will gradually increase with the size of the tree. One hectare of cashew trees can produce 500kg to 2,000kg of nuts in shell, which are currently sold at \$530 per ton. As a result, one hectare can yield an average gross revenue of about \$300.

Cashew has been grown in Cambodia for a long time, although production has been only commercialised in recent years. During the past decade, production has been significantly expanded for export, bringing millions of dollars to the Cambodian economy. Many new farms have been planted with cashew recently, and this is likely to increase in the future. Given the high prices in the international market, Cambodia has the potential to expand this crop further for export. In the past three years, the total annual production in Cambodia was estimated by traders and wholesalers at somewhere between 10,000 to 15,000 tons of nuts in shell, most of which has been for export to Vietnam.

Almost no official statistics exist for cashew production. MAFF only has data on planted areas, which are rough estimates that are likely to be too low. This is because many of the cashew trees are grown on homestead land or in orchards where it is difficult to measure the actual area. Nonetheless, MAFF data presented in Table 9 below help provide a broad picture of the scale of this perennial crop.

Table 9. Planted Area of Cashew in Cambodia from 2000 to 2002

Province	Planted Area (ha)		
	2000	2001	2002
Rattanakiri	917	15,848	16,485
Kampong Cham	10,872	10,872	10,758
Kampong Thom	4	1,016	2,744
Koh Kong	840	873	894
Kampong Speu	162	236	1,086
Kratie	228	228	1,295
Takeo	207	207	970
Bantey Meanchey	427	427	1
Siem Reap	416	416	390
Mondulkriri	380	380	380
Kampong Chhnang	376	379	226
Pursat	0	326	334
Kampot	319	5,796	305
Svay Rieng	248	312	136
Other provinces	257	357	281
Total	15,653	37,673	36,285

Note: There was no data on cashew in 1999 although it was being grown at that time.

Source: Ministry of Agriculture, Forestry and Fisheries, "Agricultural Statistics 1999-2000, 2001-02 and 2002-03".

Cashew can be grown in a variety of conditions, and every province has some land under cashew cultivation according to MAFF statistics. However, among the total area of 36,285 hectares of cashew planted, the majority is in Rattanakiri, Kampong Cham, and Kampong Thom provinces. While many trees are grown on family farms or orchards, large numbers are also planted on company plantations. In Kampong Cham, the largest plantation, which is about 2,000 ha, belongs to a private company called Agrostar. This plantation is

jointly owned by 10 people, and accounts for almost 20% of the total cashew planted area in Kampong Cham. In Rattanakiri, where there is a great potential to expand cashew production because the land is rich, most cashew trees reportedly belong to company plantations. However, questions concerning land tenure must also be addressed.

Not all the trees in the total planted area in Table 9 bear fruit, since it takes 3 to 4 years for newly planted trees to mature.³² According to our fieldwork, one hectare of land yields between 0.5 - 2 tons of cashew nuts in shell, depending on soil quality and stage of growth. If the average yield is 1 ton per hectare, then 36,285 ha of mature trees can potentially produce about 36,285 tons of nuts in shell. Given an average price of \$500 per ton over the past three years, Cambodia could potentially earn about \$18 million per year from this crop. Meanwhile, the value of cashew exports is estimated between \$5 million and \$7.5 million, since annual production has been estimated between 10,000 and 15,000 tons in the past four years.

3.2.3. Main Issues in Production

Commercial production of non-rice crops is relatively new. There are a few critical issues that were identified by our fieldwork, along with general issues such as improving yields, input availability, and price movements. The major issues that deserve mention are:

3.2.3.1. Credit

It appears that a lack of credit is an obstacle to expanding maize, soybean, and cassava production. The lack of credit also widens the gap between the better off and poor farmers. There are no special credit schemes to promote cash crop production in Cambodia. The limited number of creditors may view some of the emerging remote production areas, such as Preah Vihear and former Khmer Rouge districts in Battambang, as too risky.

3.2.3.2. Expansion of Farms and Deforestation

The ongoing expansion of the four crops studied is occurring at the expense of deforestation. This raises an important question: "Is it viable to convert forests to farms"? Clearly, high population growth has put great demographic pressure on land utilisation in the absence of adequate jobs created outside the agricultural sectors. In this sense, how much forest can Cambodia afford to maintain? At present, land clearance is occurring in an anarchic way, much to advantage of the powerful who can obtain certain forms of tenure and to the disadvantage of the poor.

³² The trees can last for 40 years, although they are most productive from years 10 to 20.

3.2.3.3. *Absence of Technical Support:*

There has been little support from the public sector for non-rice crops beside vegetables because so much effort has been put into increasing rice production. Such efforts have included a focus on high yielding rice varieties and appropriate application of fertilisers. There seems to be a lack of expertise among the government's technical and extension staff concerning production issues associated with non-rice crops.

3.3. Marketing and Export

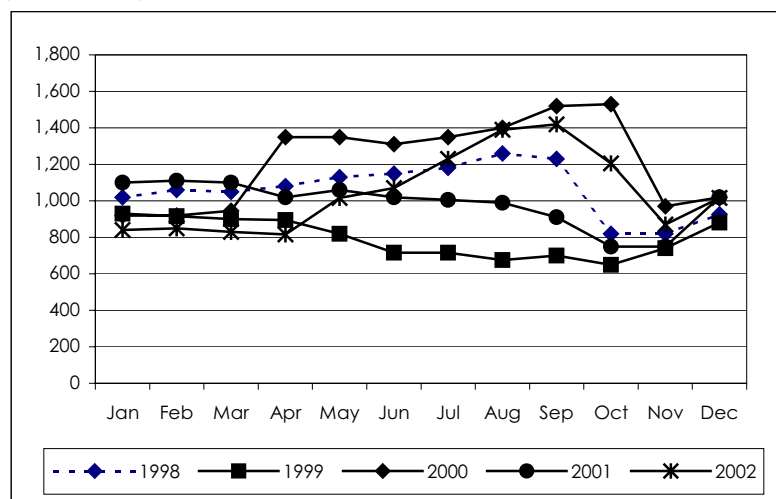
3.3.1. *Marketing and Export of Soybean*

Marketing plays a crucial role in determining prices and production prospects of commodities. There would be little to do with products and no incentives to produce without marketing. "Marketing transforms products over time, space and form through storage, transportation and processing. Through marketing, goods are exchanged and prices are set. Markets communicate signals to producers, processors, input suppliers and consumers about the costs of buying, selling, storing, processing and transporting". (Norton and Alwang 1993:251). As in the case of many least developed countries, Cambodia has serious marketing deficiencies due to a lack of infrastructure, a lack of information among producers, and government induced market distortions. However, considerable efforts have been made to develop the marketing systems in Cambodia, and have resulted in a reduction of marketing deficiencies and enabled a competitive market structure to emerge (MAFF 1997 and PRASAC II 2003).

The majority of the soybean produced in Cambodia is exported to Vietnam and Thailand, most of which is done informally. Vietnamese and Thai traders, who follow the world market price, therefore determine the price for soybean in Cambodia. Soybean markets in Cambodia face considerable price variations throughout the year, as can be seen in Figure 13. For example, according to our field interviews, the top quality soybean was sold for about 1,200 riels per kg in November 2002 immediately after early harvest, but then the price suddenly fell to 900 riels per kg in December before rising back to 1,300 riels per kg in March 2003. It is, however, interesting to note that during the period of November - January, which is soon after harvest, prices do not vary considerably, as compared to the periods before harvest. During the past five years, when price statistics have been compiled by MAFF, there have been no clear patterns of price movements. In 1999 and 2001, prices were higher in December and January, and caused wholesalers who stocked soybeans to loose money. The opposite is true of the experiences of 1998, 2000 and 2002. As far as the interviewed wholesalers could explain, the reasons for drastic price movements had more to do with the Vietnamese markets, rather than market forces in Cambodia.

Our fieldwork found that the local soybean market structure is quite competitive, as there is tough competition amongst middlemen. This has apparently led to competitive farm-gate prices received by farmers. Except in remote areas, farmers in general have several traders from whom to choose. In Bos Khnor commune, for instance, there were seven wholesalers in addition to three middlemen from district markets who came to buy soybean produce directly from farmers. However, a number of poor farmers are obliged to sell their products to certain traders who are also their creditors. Otherwise, there seem to be too many layers of middlemen, which reduce the value added that could accrue to farmers.

Figure 13. Wholesale Price of Soybean in Kampong Cham 1998 - 2003 (1998 - 2003)



Source: Wholesale Price Bulletins, Marketing Office, MAFF, issues 1998 - 2002.

At the village level, there are two levels of traders. The first level of traders collects produce directly from farmers to sell to the second level, which in turn stocks the produce to sell in bulk to outside traders. In the case of Bos Khnor village, there is also a third level of traders from the district town of Prey Torteung, where there is a larger market on National Road 6. These third level traders may buy the soybeans to stock or sell to wholesalers in Phnom Penh or Neak Loeung (Kandal Province). The wholesalers or traders in Neak Loeung then sell the products to Vietnamese traders who take them all the way to Vietnam. If the soybean is for re-export, a couple of levels of traders are added in Vietnam.

The margins gained by each trader are difficult to estimate. They can be remarkably high or even negative depending on uncontrollable market forces. The estimates in Table 10 below are based on several traders who reported that they would be satisfied with a \$5 margin for buying and selling one ton of produce, which is a typical gain from trading agricultural products immediately after their purchase. Of this \$5, \$1 is for loading and unloading labour. Based on this estimate and transportation costs, the costs in the marketing chain for soybean along one route from Bos Khnor to Vietnam can be worked out as presented in Table 10.

In March 2003, farmers sold one ton of soybean for \$230. Taking into account all the modest marketing margins and transportation costs, one ton of soybean would arrive in Taing Chov in Vietnam at the cost of \$291. The marketing cost is, therefore, \$61 per ton, or 27 percent of the farm-gate price. This does not include any of the informal fees, which were reported to be not significant along this particular route.

Table 10. Price of Soybean in the Marketing Chain (\$/ton) along a trade route from Bos Khnor commune, Kampong Cham Province to Taing Chov, Vietnam

Trade route	US \$ per ton				Selling price
	Average Margin	Transport	Load and unload	Total	
	(1)	(2)	(3)	(1+2+3)	
Farmers					230
1 st level middlemen (in village)	5	2	0	7	237
2 nd level middlemen (in village and market)	5	0	2	7	244
3 rd level middlemen (outside village: Prey Tortoeung)	5	2.5	2	9.5	253.5
4 th level (Neak Loeung)	5	7	2.5	14.5	268
5 th level (Vietnam – Taing Chov)	5	15	3	23	291
Total	25	26.5	9.5	61	

Source: Interviews with wholesalers and transporters in Kampong Cham, Neak Loeung March 2003

Cambodia is a small country, and is a price taker rather than a price determiner. In order to increase farm-gate prices, transportation costs and the layers of middlemen will have to be reduced. It is widely acknowledged that transportation costs in Cambodia can be reduced considerably through road construction and improvements, as well as lowering the tax on fuel. The fact that most Cambodian farms are small suggests that forming farmers' cooperatives would reduce the layers of middlemen.

3.3.1.1. High Discount Rate for the Poor

A significant problem is that about 40 – 50 percent of farmers, almost all of

whom are poor, reportedly sold their soybeans before harvest time. As a result, they received only about 400 - 600 riels per kg, depending on the length of time before harvest. The price they received was only about 40 – 60 percent of the post-harvest price, which is often around 1,000 riels. This is a serious problem that perpetuates poverty, and occurs mainly because of a lack of credit at a reasonable cost for the poor.

There are also middlemen involved in this type of “futures” market. Small traders take money from wholesalers and lend it to farmers, thus taking some potential gain away from farmers. On average, a household in Bos Khnor sells about 400 kg of soybean, which is about 20 percent of their total production, before harvest time. Among other needs, farmers especially need cash for consumption and contributions to the temples during the religious ceremony of Phjum Ben.

There were no formal credit schemes in the villages, perhaps due to their remoteness. As a result, informal moneylenders play a major role in providing credit. Households that own more than 3 ha of land can obtain cheaper loans from moneylenders at a flat rate of 5 percent per month. However, those households with little or no land must pay much higher interest rates of at least 10 percent per month. This is the case in all the areas that were visited in Kampong Cham, Preah Vihear and Battambang.

One reason why there is such a low price given to farmers before harvest time is that “transactions costs” are high. Poor farmers are likely to default by selling their products to other traders while remaining in debt to the original lender. In order to enforce the agreement, the lender must monitor their borrowers closely and immediately collect products from them on the spot once the crop is harvested. This is not efficient because sometime there is no time to dry the grains. When a creditor dries the soybeans, there is a significant reduction of about 10 percent in weight.

In Bos Khnor, farmers wished to have price guarantees from prospective buyers in order for them to increase soybean production. At present, it seems more profitable to grow bananas, which yield an annual income of about \$600 per ha for local markets. Farmers suggested that if one hectare of soybean were to provide gross revenue of \$400 - 500, they would shift from growing banana to soybean. At the moment, many farmers prefer growing bananas, even though banana trees deteriorate after three years due to disease and must then be rotated with other crops.

3.3.1.2. Cheating in Weighing

Another important issue is cheating in weighing by middlemen. There was a general belief by all the traders and farmers who were interviewed that there was cheating when products were weighed. A former trader admitted that in

1996, middlemen, including himself, gained 70kg from cheating in weighing 500 kg of soybean. However, farmers gradually learned to take a sample of their product to village wholesalers and tried to sell to them directly. This helped avoid cheating by first level traders. A number of farmers also obtained their own scales. However, farmers still lost about 5 kg as middlemen still managed to cheat by offering farmers an opportunity to compare their scales with those of the farmers. After testing the first sack, farmers believed that the trader's scale would be better for them and decided to use that one for weighing the rest of their sacks. The trader was able to "somehow" manipulate his scale in favour of the farmer for just the first sack, but was able to gain about 3-5 kg per sack by rigging the scale in his favour for the rest of the sacks. This is according to a report by a first level middleman who admitted so doing.

Small traders in the village try their best to arrange transactions from which they can benefit, though many farmers have learned to bypass them in order to sell their products directly to the wholesalers in the village. The small traders, however, offer higher prices to farmers than wholesalers do. They expect to gain from cheating in weighing to make up the loss in offering higher prices to farmers. For instance, it was reported and confirmed by a few traders that a first level trader offered a price of 920 riels per kg to farmers in January 2003. They, however, sold the soybean at 900 riels per kg to the wholesalers in the village. It seems as though the trader may have made a loss, but in fact he still made some gain. The only way to make such a gain, as admitted by the traders who were interviewed, is to cheat in weighing. The gain achieved by the small trader is not extraordinary, but they still take revenue away from farmers who would not sell the products to them.

3.3.1.3. Transportation costs

The road to the village remained bad during the study, although people appreciated certain repairs that had taken place earlier. It costs 10,000 riels to transport one ton of soybean from Bos Khnor village to Prey Torteung market, located 26 km away. Transportation costs have been reduced over time mainly due to increased competition among transporters, as more second-hand trucks from Korea are now available in Cambodia. Road conditions are also a factor in reducing transportation costs. Better roads enable more middlemen to travel to the village, thus increasing competition for farmer's products, which in turn tends to increase farm-gate prices. Within the village, horse carts are used to transport the soybeans to the wholesaler's location. The cost for this traditional mode of transportation was 2,500 riels per sack in the wet season and 500 riels per sack in the dry season.

3.3.1.4. Fees along the roads

It was reported that fees along the roads were currently not a problem. However, before 1997, it cost \$22 per ton from Bos Khnor to Neak Loeung,

compared with \$8 per ton now. The sharp reduction in transportation cost was obviously conducive to soybean marketing. One reason why transportation costs were so much higher in the past was because there were anarchic armed forces along the road demanding money from transporters. Also, there were fewer trucks available to compete freely.

Box 1. Mr. Ee Sophal, a wholesaler/trader in Bos Khnor, Kampong Cham Province

Mr. Ee Sophal is one of the seven agricultural wholesalers in Bos Khnor Commune, and is believed to be the largest one among the seven. About 1,000 tons of soybean are traded through him. Of this amount, about 30 percent goes to a nearby district market in Prey Torteung, 50 percent to Neak Loeung, and 20 percent to Phnom Penh.

Sophal followed his mother who had been in the trading business for more than 20 years. He knows many traders in both Cambodia and Vietnam. He also claimed to know about 10 Vietnamese traders through his clients in Neak Loeung, who trade between him and the Vietnamese traders. The Vietnamese traders are a main factor in his decisions concerning whether or not he should stock additional produce. He said that he would only believe the majority of the 10 middlemen, and had never been cheated by the Vietnamese. It is interesting to observe that it would not be easy for a new wholesaler to build up strong personal ties with Vietnamese traders over the years. Though such relationships have helped facilitate trade, they also act as a kind of entry barriers.

Mr. Ee Sophal would be satisfied to make a margin of \$5 per ton. Of this, \$1 is for labour to load and unload the produce, and \$1 is for the sacks. Immediately after harvest, he buys the product directly from farmers. He later buys from small traders who go around to collect from stocks maintained by farmers who can afford to stock soybean for better prices. He believes that the prices of soybean and mung bean offered to him is indirectly determined by the Vietnamese traders, and is not a function of supply and demand in Cambodia. He was told that his soybean went all the way to China.

Sophal has never lost any money from trading soybean during his past 10 years of independent business. However, he did lose about \$10,000 in 2002-03 when the price of mung bean fell drastically. He had purchased mung bean at \$320 per ton to stock, but the price later fell to only \$120 per ton. Then in March 2003 the price increased to \$210 per ton, and he was considering selling some of the 100 tons in his stock.

As someone who has considerable capital in the commune, there is demand for credit from him. He joins others in acting in the 'futures' markets (locally known as *bandak*). He lends money for about 20 tons in return every year. Many of the transactions were through smaller traders who take 50 - 100 riels per kg from borrowing farmers. He believes there would be demand for 100 tons if he wanted to do that much. Before Phjum Ben, or about two months before harvest, the price of soybean sold to him is 400 riels per kg. Then during Pjum Ben, or one month before

harvest, the price goes up to 500 riels. After harvest, it is 900-1,000 riels per kg. However, he said that every year about 20 percent of his clients could not deliver the contracted amounts, so they must wait until the following year without carrying over the same terms. He believes that it is difficult for poor farmers in this commune, saying that "The poor farmers become poorer. This creates more theft than before."

3.3.1.5. In Thbeng Meanchey, Preah Vihear Province

In this remote area, there are 7 traders competing for an estimated 2,000 tons of soybean.³³ They do not stock the product for long because they are not willing to take the risks of possible falling prices. They usually transport the soybean to Kampong Thom at the cost of \$10 per ton in order to sell the product to wholesalers there and in Kampong Cham.

As in Kampong Cham, a trader is usually satisfied with a margin of about 15 - 20 Riels per kg, or \$4-5 per ton. There were five middlemen in Kampong Thom who bought soybean from Preah Vihear. These traders advance the money to the middlemen in Preah Vihear because the latter are often short of cash. As a result, traders in Preah Vihear are bonded to traders in Kampong Thom to a certain extent. However, from the viewpoint of the traders who were interviewed in Kampong Thom, there is considerable competition among traders there. Traders who bring soybeans from Preah Vihear have a choice of selling their products to wholesalers in Phnom Penh, Neak Loeung or Kampong Thom. They often make a phone call to all the traders before making their decision. However, many traders in Preah Vihear take loans from wholesalers in Kampong Thom and tend to be obliged to sell their stock to them.

Competition among middlemen in Thbeng Meanchey is not very tough. The traders appear to have made high returns from their trading and lending activities. After one interview, one trader revealed that he had started his business four years ago with only \$3,000 in hand. Of this amount, \$1,000 had been borrowed from relatives. He was currently using his own \$20,000 as working capital. More profit may come from his lending activities than from the actual trading itself.

The majority of farmers in Preah Vihear reportedly take loans with an interest rate of 5-6 percent per month, mostly from the traders. They need cash to pay for labour hired for planting, weeding and harvesting. They are then under pressure to sell their produce to the creditors at prevailing market prices. However, in practice there is an implicit threat of a penalty by denying future loans if farmers are disloyal by selling their products to other traders for better

³³ Traders estimated that soybean production in their district was about 2,000 tons in 2002, whereas the official statistics show only 413 tons in 2002.

prices. This practice is different from that of Kampong Cham, where about 20 percent of farmers reportedly sell in advance as in Kampong Cham. They receive a price of only 400-500 riels per kg fixed at the time of the credit advance, as compared to 900 riels per kg after harvest, which represents a large discount over a period of two months or so. The default rate, for at least one trader who had about 200 borrowers, was about 20 percent.

3.3.2. Marketing and Export of Maize in Battambang

Maize production in Battambang is almost totally dependent on Thai markets, as the domestic market absorbs only a small proportion (less than 10%) of total maize production in Battambang. For example, the interviews revealed that most maize farmers were quite worried when the Cambodian-Thai border was closed following the anti-Thai riots in Phnom Penh on 29 January 2003.

Even though there appeared to be no major barriers to entry, there were a few middlemen. This could result in an oligopolistic market. In Kampong Reang district, a few Cambodians work for Thai traders by collecting maize for them. In return, they receive a payment of 2 Baht per sack of 120 kg. These local collectors gather maize from farms after it is harvested, sack it, and then store it in warehouses on the farm. The Thai traders only do business with those they know and trust. There is only one Cambodian who has become a trader on his own after working for a Thai businessman for 4 years.

However, in Sampeou Loun district, the largest producer of maize in Cambodia, there are more trader-exporters of maize. Some of them are from Battambang town because people in the local area are reportedly hesitant about doing trade. As a result, there seemed to be more competition there, although farm-gate prices did not differ very much.

In general, farmers in these districts seem to pay great attention to the problem of cheating in weighing, as do soybean farmers in Kampong Cham. According to one interviewee who was suddenly interested in this problem, there is a good possibility that cheating takes place. However, given that maize is relatively cheap and the yield is high, weight cheating may not matter much to other farmers in general.

There is a clear opportunity for “Cambodianising” maize trade, even though the Thai businesses now have better bargaining power to act as a sole buyer of maize in the area. There have been some efforts to set up markets for maize on the Cambodian side, or create associations, in order to increase the bargaining power of the Cambodian farmers. But this has not been successful so far due to various reasons.

In 2002, there was an initiative to create a farmers’ association and a market in order to strengthen the bargaining power of farmers. However,

according to district officials, "Thai businessmen did not agree with the idea," and threatened to close the border if the Cambodian side were to go ahead with the idea. On the Cambodian side, there was also concern about the speed of transactions if the maize had to go through the association before reaching buyers in Thailand. Rapid cash flow is of great concern to farmers, since credit is very expensive for them.

In the past seven years, the farm-gate price of maize has been quite stable, fluctuating by only 2.8 - 3.2 Baht per kg, or about \$70 per ton. Thai wholesalers, who are about one hour away from the border, offer 3.8 - 3.9 Baht per kg. Transportation cost is 150 Baht per ton, or 0.15 Baht per kg. Thai farmers reportedly receive 3.6 Baht per kg even though their maize is not as good. Thai farmers use chemicals for maize production, while Cambodian farmers do not because the new land is already very fertile.

Table 11. Margins along the Marketing Chain of Maize in 2003

	Baht per ton	Riels per ton	US\$ per ton
Farm-gate price	2,900	275,500	69.05
Fees along the road (30-40 Baht each place)	10	950	0.24
Fee imposed on truck	20	1,900	0.48
'Pheasy' imposed in Cambodia	100	9,500	2.38
'Pheasy' imposed in Thailand	183	17,417	4.37
Fee for border police	10	950	0.24
Road contribution to Transport Authority	15	1,425	0.36
Total fees	338	32,142	8.06
Threshing	167	15,833	3.97
Loading and unloading in Cambodia	125	11,875	2.98
Transportation from farm to main road	167	15,833	3.97
Transportation Cost in Thailand	150	14,250	3.57
Total marketing costs	947	89,933	22.54
Net benefit for trader	100	9,500	2.38
Price offered in Thailand	3,947	374,933	93.97
Farm-gate price as % of price offered in Thailand			73.5%
Total fees as % of farm gate price			11.7%
Total fees as % of net benefit for farmer			31.4%
Total fees as % of net benefit for trader			336%
Net benefit for trader as % of farm gate price			3.4%

Source: Based on in-depth interviews with two traders and two districts officials in Battambang in March 2003; Note: The purpose of presenting in three currencies is for ease of calculation for different audiences.

District and border authorities also demand high fees, which in effect suppresses farm-gate prices. Details of costs and margins in the maize trade are presented in Table 11.

3.3.3. Marketing and Export of Tapioca in Kampong Cham

In terms of weight, tapioca is the cheapest among the four study crops. The price in 2003 was 80 - 90 riels per kilo, or \$20 - \$22 per ton. Most of the

tapioca, either raw or chopped, peeled and dried, is exported to Vietnam. As a result, there is a high dependency on Vietnam's markets. The trade is informal in nature, which is a disadvantage for Cambodian traders and farmers. For example, in March 2003, the Vietnamese authorities abruptly decided to stop buying raw tapioca from Cambodia, reportedly due to the adequacy of local production in Vietnam. This caused Cambodian farmers significant trouble because they could not sell their products in large quantity anywhere else. In addition, according to the farmers and traders interviewed, they did not know about the decision beforehand and therefore suffered considerable losses when they transported the product all the way to the border. Fortunately, Vietnam still allowed the peeled, chopped and dried tapioca to enter their markets. Thus, people had to undertake this processing on their own. Though there was some value added gained from this processing exercise, the total revenue for the products was lower.

There is limited local processing capacity to absorb tapioca produced in Kampong Cham. Only about one third of the total product can be processed in a newly set-up factory in the province. People compete to sell to the factory, though some are not happy when their product is not bought. They believe they are discriminated against as a result of not having any relationships with anyone in the factory. However, farmers must register first before the factory can purchase their products. It may take some time for everybody to be clear about such rules and procedures.

There are also traders who buy raw tapioca from farmers and export it to Vietnam. It is common for farmers to sell their crops in bulk on a rough estimate of the total product. However, this is probably to the disadvantage of farmers because traders are more experienced in estimating the amount of produce.

Although there are no official fees required from tapioca trade, traders still have to expend a significant amount of money and time to deal with unofficial fees along the road. One trader who was interviewed reported that he had to pay fees at nine places within a distance of 12 km while sending his product to Vietnam. Most of the checkpoints are illegal and mobile. They demand small amounts of money, such as 500 riels or 1,000 riels per truck carrying 7 tons. This makes the journey slow and bothersome. In Battambang, raw cassava is also exported to Thailand. No export fees are required from this crop, though a truck load is charged 200 Baht by Cambodian border authorities.

3.3.4. Marketing and Export of Cashew

Prices for cashew can vary dramatically. For example, the price of cashew nuts in shell has changed significantly from more than \$1,000 per ton in 1999 to \$400 in 2001 and then to \$450 in 2002 and \$530 in 2003. The dramatic fall in

price between 1999 and 2001 could be attributed to both the fall in world prices and problems in the domestic market structure. Given its low production compared to the world production of about 1 million tons, which is about one percent of the world production, Cambodia is a price taker and has almost no influence on world market prices (Table 10). However, the drop in price from 1999 to 2000 was perhaps not so much the result of the slide in the world price of cashew, but the result of higher levels of demand than usual from Vietnamese processors in 1999. They were therefore willing to pay the extraordinarily high price.

There is a high degree of competition among middlemen. For example, in Kampong Thom, farmers and traders have quite a few choices of wholesalers in the Kampong Thom market, since there are 7 of them. The wholesalers in Kampong Thom also have a choice to sell to traders in Neak Loeung, Phnom Penh or Kampong Cham. Bargaining is done via mobile phones before transactions take place.

However, within the village, farmers - especially those having fewer trees and far from the market - are faced with a limited number of traders who buy their produce. Moreover, farmers often do not know the prevailing market price.

Many farmers borrow money from traders before harvest time. Although they are supposed to sell their produce at market price, their bargaining power is reduced. In this case, middlemen may dictate prices to their bonded clients.

There are several layers of middlemen in the marketing chain for cashew. Basically, a trade route from Kampong Cham goes from farmers to the first level of middlemen (in Khmer called *Kon Day*) within the village to the second level of middlemen at the district market, and then on to Phnom Penh, or Neak Loeung before going to Vietnam. Another trade route is from Kampong Cham to Suong, a district of Kampong Cham close to Vietnam, and then to Vietnam.

Since agricultural production, and thus agricultural prices, fluctuate according to the weather, prices received by Cambodians are also volatile. Moreover, Cambodia is like a buffer market for Vietnam, which receives contracts directly from consumer countries and collects cashew products from Cambodia if its domestic supply does not meet the quantity stipulated in the contracts. Cambodia has yet to export any significant amount of nuts without shells to final consumer countries. A processing factory has been set up very recently and is processing about 5 percent of the total cashew production in Cambodia (see more details under the processing section). As a result, the market price for cashew in Cambodia may continue to be dictated by Vietnam, unless there is competition among Vietnamese buyers. On the other hand, the Cambodian market for cashew is very informal and faces many distortions that

can also substantially affect farm-gate prices. Meanwhile, Vietnam, which exports about 100,000 tons of cashew nuts per year, remains a critical market for Cambodia. Our field inquiries reveal that since 2001, the majority of cashew nuts go to Vietnam through Smach, a border area in Kampong Cham province. Such exports are informal and unrecorded.

There appears to be great potential for further expansion of cashew production. Cashew is suitable for many types of soil, and there is more land available for production. The demand for cashews in the world market also looks promising given the nutrients the nuts contain. As far as land is concerned, it appears that cashew production can be substantially expanded in Rattanakiri, Mondulakiri and Steung Treng, where produce can be exported to the Vietnamese markets over relatively short distances, as well as in Kampong Thom, Siem Reap and many other provinces. Due to marketing constraints, the farm-gate prices for cashew have been low, which has reduced incentives for farmers to make or expand investments. It is very likely that more production will be achieved when marketing costs are reduced.

Table 12. Export of Cashew Nuts in Shell Estimated by Wholesalers

	1999	2000	2001	2002	2003
Cashew nuts in shell exported (tons)	11,000	12,000	10,000	12,000	15,000
Average price received by farmers (US \$/ton)	\$1,000	\$600	\$400	\$450	\$530
Export value accrued to farmers (million US\$)	\$11m	\$7.2m	\$4.0m	\$5.4m	\$7.9

Source: Based on interviews with farmers in Kampong Cham and Kampong Thom, and wholesalers and traders in Kampong Cham, Kampong Thom and Neak Loeung in March 2003.

Table 13. World Raw Cashew Production 1997-2001 (000 MT) In-shell Basis

	1997-98	1998-99	1999-00	2000-01
India	430	360	300	325
Brazil	185	175	115	180
Vietnam	140	110	70	100
Tanzania	80	110	80	100
Mozambique	30	40	40	40
Indonesia	20	40	20	30
Cambodia*	11	12	10	12
Others	104	58	60	138
Total	1,000	905	695	925

Source: International Tree Nut Council, *Global Statistical Review*, April 2001, Spain. Obtained at http://inc.treenuts.org/stats_cashew_apr01.html

* Estimated based on fieldwork.

Another factor concerning potential production is that farm-gate prices may be higher when peeling facilities are installed in Cambodia. Cambodian cashews could then find markets directly in large consumer countries such as

Japan and the US. Such a scenario would induce more investment in plantations, and would create more value added within Cambodia. Currently, one enterprise is being set up in Kampong Cham to peel cashew nuts. It remains to be seen whether or not the factory will be efficient and viable, as it is unlikely to enjoy the same economies of scale and low fuel costs enjoyed by those in Vietnam.

3.3.5. Assessment of Current Exports of Agricultural Products

It is generally agreed that Cambodia is endowed with good natural resources and weather conditions and, therefore, has a *potential* comparative advantage in agriculture. However, its *actual* comparative advantage in agriculture has yet to materialize (Kato, *et al*, 1998 and Chan, 2000). A number of studies have identified the obstacles to expanding agricultural exports. The most commonly cited impediments include post harvest inefficiency, inadequate information flows, high transportation costs, illegal checkpoints and a lack of external markets.³⁴ This study attempts to assess whether or not the potential for Cambodia's agricultural exports can be expanded without duplicating other studies that has been done recently, such as the comprehensive study completed by the Ministry of Commerce entitled "Integration and Competitiveness Study". While new findings from the analysis of existing data and the field inquiries are the main focus of the discussion, a number of critically important problems still deserve reiteration.

Table 14. Export of Products in Agricultural Sector Based on Official Data

Chapter of Goods HS		Value of Exports (\$ million)	
		2000	2001
01	Live animals	0.05	1.07
03	Fish and crustaceans, and other aquatic invertebrates	5.90	6.07
10	Cereals	0.96	2.39
40	Rubber and articles thereof	31.99	25.83
44	Wood and articles of wood; wood charcoal	34.07	23.10
	Total (excluding wood..)	38.90	35.36
	Total (including wood..)	72.97	58.46
	Garment	985.00	1112.00
	Total exports	1408.00	1438.00
	Agricultural export excluding wood to garment exports	3.9%	3.2%
	Agricultural import excluding wood to garment exports	7.4%	5.3%
	Agricultural export excluding wood to total exports	2.8%	2.5%
	Agricultural import excluding wood to total exports	5.2%	4.1%

Source: Ministry of Commerce, Exports 2000 and 2001

³⁴ See for instance, MoC, 2001, Integration and Competitiveness Study, and MAFF, MAFF (1999) "Cambodia: Agricultural Strategies and Policy Framework for Sustainable Food Security and Poverty Alleviation", Ministry of Agriculture, Forestry and Fisheries, FAO, UNDP (Phnom Penh: January 1999)

As can be seen in Table 14, which shows official figures compiled by the government, total export of products including wood in the agricultural sector was recorded at \$58.5 million in 2001. This is very small compared to total garment exports, which reached \$1,112 million in the same year. In other words, agricultural exports, excluding wood, accounted for only 3.2 percent of garment exports, or 2.5 percent of total exports, in 2001.

Table 15. Export Value of Key Agricultural Commodities/Products Based on Estimates by Wholesalers and Traders and on Official Figures

Commodity/Product	Estimated export value in 2002 (\$ million)	Potential for export expansion*
Grains		
Rice	7.0	High
Soybeans	8.0	Very High
Cashew	5.4	Very High
Mung beans	1.5	Very High
Maize	12.0	Very High
Sesame seeds	3.5	High
Cassava and tapioca	2.0	Very High
Sugar cane	0.5	High
Subtotal Grains	39.9	
Fish	6.0	Very High
Live cattle and buffaloes	2.0	Very High
Rubber	25.8	Very High
Subtotal	33.8	
Total	73.7	

* This is judged by the information gathered in this study.

Source: Based on interviews with farmers in Kampong Cham and Kampong Thom, and wholesalers and traders in Kampong Cham, Kampong Thom, Neak Loeung and Sihanouk Ville in Mar 2003.

However, judged from information gathered during our field inquiries, real agricultural exports should be much higher. Senior statistics officials at MAFF also acknowledge that their figures underestimate the actual amounts. Based on interviews with wholesalers and traders, total non-wood agricultural products exported in 2001 should be about \$70 million, not \$35 million as recorded in government statistics, which is in fact good news. The main difference comes from cereals, which the government reported at \$2.39 million, while our estimate is about \$40 million. Nonetheless, even optimistic figures in Table 15 suggest that agricultural exports are still very low compared to garment exports. Table 15 also assesses the degree of potential for expanding production and export of crops and certain sub-sectors in agriculture.

Box 2. Transportation Costs on Certain Trade Routes

Paddy, soybeans, cashew, mung beans, maize, sugar cane, sesame seeds, lotus, tapioca, and even cattle and buffalo are currently exported absolutely raw. Compared with other countries, where roads are much better and fuel taxes are much lower, there must be remarkably high transaction costs given the very poor infrastructure and small-scale nature of Cambodian farming. Relative transportation costs will be addressed in the second phase of the study. Cambodia is a small country, and thus a price taker for any product. As a result, high transportation and transaction costs substantially suppress farm-gate prices. For heavy, low-value commodities such as sugar cane and tapioca, transportation costs practically prohibit certain areas from receiving profitable farm-gate prices. The findings of transportation costs along certain routes covered by the fieldwork follow.

From Bos Khnor commune, Kampong Cham province, to Neak Loeung, Kandal province, through Prey Veng provincial town, the cost of transporting agricultural products was \$8 per ton. It took about 6 hours for a truck carrying 18 tons and consuming about 100 litres of diesel (\$40) to travel the distance of 120 km between the two locations. The rate of \$8 per ton was inclusive of all the fees along the roads, which were about \$1 at present, but not the loading and unloading costs, which were another \$1. During periods of insecurity prior to 1998, the cost was \$22 per ton.

Another route from Bos Khnor to Neak Loeung is through Phnom Penh. The length of this route is 180 km and it takes approximately 8 hours, while using about 120 litres of diesel. The total amount of informal fees along the route was about 80,000 riels, or \$20. According to one transporter, the fees included payments to avoid being weighed.

It cost \$10 per ton to transport soybean by truck from Thbeng Meanchey district of Preah Vihear province to the Kampong Thom provincial town. Then, from Kampong Thom to Neak Loeung, the costs were \$10 per ton by small truck or \$8 per ton by larger truck. Payment along the road between Preah Vihear and Kamong Thom was about 5,000 riels per truck at one place. There could be two or three such places, all of which are illegal.

3.3.6. Major Deficiencies in Marketing Systems and Exports**3.3.6.1. Poor Information Flows**

Enough has already been said about poor information flows in agricultural markets. Efforts and plans have already been made by the Ministry of Commerce to improve the flow of information, mainly to farmers. This will no doubt help reduce the exploitation of farmers who have inadequate information about their products. However, less attention has been paid to information flows at the international level. The field inquiries found that most important wholesalers in Cambodia do not have reliable sources of information with

which to predict changes in production and prices. Wrong decisions concerning the amount of product to stock are often made because of false information received from other rivals. The uncertainty by wholesalers that arises from false information has direct consequences for producers, including poor farmers. In Cambodia, buyers in remote areas are monopsonists, and can dictate prices in the local market. The majority of wholesalers or traders do not use the Internet, which could provide information helpful to their businesses.

3.3.6.2. High Transactions Costs

It is well recognised that high transactions costs impede trade and discourage production. In the case of Cambodia, it is clear that transaction costs are higher than those in neighbouring countries as a result of inferior institutional and physical market infrastructure. A number of key factors that push up transactions costs deserve mention.

- **Poor Roads.** This problem has been cited already, but deserves reiteration. Despite rehabilitation efforts made in the past two decades, both the quantity and quality of roads, and in certain cases bridges, in Cambodia are far from adequate. The state of the roads is so poor that both products and people are costly to transport. This is a fundamental obstacle in the agriculture sector as it progresses beyond a subsistence level. Poor roads discriminate against heavy products with low value, such as tapioca and sugar cane. Speedier action is required to build roads and bridges if agricultural production and trade is to be expanded.
- **High Transportation Costs.** In addition to poor roads, there are other factors that increase transportation costs. First, the high tax on petrol is the most costly component of transportation. The "Integration and Competitiveness Study" of the Ministry of Commerce clearly points out that the tax on petrol in Cambodia is the highest in the region.³⁵ This seriously erodes Cambodia's competitiveness in the region. As in the case of poor roads, high petrol taxes increase the costs of transporting goods and people, impede trade, push down farm-gate prices and, as a result, discourage production. Second, transport vehicles in Cambodia are not efficient compared to those in neighbouring countries, due largely to the poor quality of roads and bridges. This also adds to the unit costs for transporting agricultural products by increasing transaction costs associated with maintenance and repairs.
- **High Bureaucracy Costs.** Formal exporters of agricultural products complained about the costs of moving products through authorities, such as customs offices and the police. They maintained that such

³⁵ MOC (2001)c, *Integration and Competitiveness Study - Part C*, Phnom Penh

“bureaucracy costs” are a major constraint to doing competitive business and that such costs are passed on producers. However, informal exporters of agricultural products do not complain much about these costs. They do not require papers from relevant authorities, although they make informal payments to officials on the roads and at checkpoints.

- **High Collection Costs.** Cambodian agriculture is characterised by small-scale farms. Because there are many small farms, the collection of products or buying in bulk is costly. There are too many layers in the intermediary sector of the market chain. For instance, for certain grain markets, there are collectors (called in Khmer *Kon Kamchreng*) who directly buy produce from farmers. Then, these collectors sell the produce to district market traders (called *Me Kanchreng*). These traders do not stock for long but re-sell the produce to larger provincial traders who can afford to stock longer if they wish. These provincial traders sell their goods to the larger wholesalers who deal directly with foreign buyers. This kind of structure, which is common in long life grain markets, has four layers in the intermediary level. This increases the transaction costs enormously for farm products to reach final consumers, especially those in other countries. When one country with so many small farms competes with another country with fewer yet larger farms in exporting a particular product, the country with smaller farms will be less competitive, other things being equal. This is because the high collection costs associated with small-scale farming pushes down market farm-gate prices.

3.3.6.3. Lack of Quality Standardisation or Long Term Thinking

A number of wholesalers who were interviewed revealed certain “bad” practices in the trade of several agricultural products that have led to the failure to capture certain markets. One common problem is that produce such as soybeans and lotus are soaked in water to add weight. For a few weeks the grains look fine, but afterwards they spoil. Although such short-sightedness is not widespread, it did in fact help eliminate a number of wholesalers who lost certain markets. For example, it was reported that in the early 1990s, Thailand was a large market for Cambodia's soybeans. However, Cambodia has since lost this market because of the above problem. Also, in the late 1980s, lotus grains no longer found markets in Singapore or elsewhere because of such practices. It is unclear why such practices started, though poverty induced short-sightedness may be one reason. A free rider problem may also be one of the reasons. In any event, this kind of cheating is believed to still exist in certain agricultural markets. Further examples of bad practice include the fact that ripe cashew nuts are mixed with unripe ones when prices are higher. Sesame is mixed with sand. Slaughtered chickens are injected with water. Nails

or other metals are inserted into prawns. All of these practices are of course intended to add weight to the product. While such practices may eventually disappear in the long run as markets stabilise, public education is vital for speeding up their elimination. The costs are also much too high when one considers the potential for exports. In this sense, phyto-sanitation is critically important if Cambodia wishes to enter European markets and those of other developed countries.

3.3.6.4. "Thin Markets"

It was interesting to learn from wholesalers that when there is large demand from outside Cambodia for certain products, farmers or retailers who have heard about it will then demand superficially higher prices. The new prices that they demand are higher than prevailing market prices to such an extent that wholesalers cannot collect enough products to meet export contracts. It is generally true that higher demand leads to high prices, other things being equal, and there is nothing necessarily wrong with farmers or retailers asking for higher prices. However, it is the excessive level of speculation by those who demand such high prices that cause transactions to fail. The way it works can be summarised as follows. Demand from outside the country is based on prevailing prices in the Cambodian markets. When prices are increased, the transactions cannot be completed. Of course, prices must come down eventually, but if it is too late it will pose additional transactions costs to wholesalers. This is one of the main problems in terms of securing large contracts from overseas. Currently, wholesalers simply buy products at market price without causing any shock in demand, and stock them while waiting to sell to Thai or Vietnamese traders who come to buy in Cambodia for re-export. This is a good example of "thin" or small volume markets for certain crops other than paddy.

3.3.6.5. Contract Farming Difficult to Establish

One way to deal with the "thin markets" problem would be to establish "contract farming". Wholesalers reported that they have tried it already, but it did not work. They have even provided cash inputs and other means to farmers to produce a desired crop. They also agreed to buy the product at a fixed price, which of course should be lower than the market price. However, even when everything is agreed, farmers often do not follow the contract. They may sell a portion of their product to the contractor, and then sell the rest secretly to the market at a higher price. Futures markets, therefore, do not seem to work in the current context of Cambodia, which is characterised by severe poverty and a lack of effective enforcement of contracts. Nonetheless, such markets should be established if wholesalers are to export large amounts of product directly to other countries beyond Vietnam and Thailand, which simply take away a degree of value added from Cambodian farmers.

3.4. Agro-processing

Promoting the production of cash crops goes hand in hand with promoting agro-processing enterprises. Most of Cambodia's raw agricultural products are currently exported for processing and re-export elsewhere. A large proportion of paddy, soybean, cashew nuts, mung bean, maize, sugar cane, sesame seed, lotus, tapioca, cattle, buffalo, fish and resin are exported raw to Vietnam, Thailand and Malaysia. While this contributes to raising demand for Cambodia's products, it reduces potential value added that could be created by setting up processing factories in Cambodia. There should not be any reason why Cambodia cannot develop an agro-processing industry, which is not necessarily high-tech. As a result, there is considerable potential to develop this sector.

In fact, modern agro-processing has just recently emerged in Cambodia. A small number of processing factories have been established and operated over the past few years. If this new industry were to expand, the direct benefit would be more jobs and value added created within the sector. It would also absorb at least some of the 200,000 new labourers that enter the labour force each year. The indirect benefit would be an increase in crop production to meet the demand for inputs by the enterprises. Moreover, the locally processed products could substitute for imported ones, many of which are sold in Cambodian markets. This would save a considerable amount of foreign exchange used to import processed food.

Setting up processing factories near farming areas, rather than in another country, would at least save transportation costs and could potentially push up farm-gate prices. Such incentives are badly needed for farmers to expand agricultural output and to reduce poverty. Due to the limited processing capacity at present, most of Cambodia's raw produce must travel all the way to Vietnam and Thailand. The trade costs incurred along the way effectively reduce farm-gate prices, as factory-gate prices in Thailand and Vietnam are unlikely to be raised for Cambodia's products, which apparently account for just a fraction of total inputs.

It is therefore important to assess the development of the infant agro-processing factories in Cambodia. Four enterprises were interviewed for this purpose, since there is really only a small pool of agro-processing enterprises in Cambodia. In fact, there are no other significant agro-processing enterprises. One purpose of the inquiries was to assess the potential for profitable expansion in this new sector.

In this regard, efforts have already been made with mixed results. Overall, it can be said that the private sector has taken some initiatives in the processing sector already. However, it remains to be seen if all these ventures will be successful. The advantage of location gained by being near the farms is

only one of the many factors that determine the profitability of businesses in this sector.

3.4.1. Mong Reththy Investment Cambodia Tapioca Flour Co., Ltd (Sihanouk Ville)

The Mong Reththy Group invested \$2.8 million to install a tapioca-processing factory in Sihanouk Ville in 1999. The factory was imported from Thailand and has the capacity to process 200 tons of raw tapioca per day to produce 50 tons of tapioca powder. It was the first factory of this kind in Cambodian history. To run at full capacity, the factory requires 52 people including guards and daily workers. A daily wage for a worker in the factory is 7,000 riels (\$1.75), and there would be 24 of them working several days a month when the factory is operated. A salaried worker earns \$50 to \$80 per month. Most of the staff and workers were recruited from the home village of Mr. Mong Reththy.

The Mong Reththy Group allocated 1,800 ha, out of 11,000 ha that it received as a concession from the government, for growing tapioca. However, only 387 ha was suitable for cultivating the crop, producing an average yield of 12 tons of raw tapioca per hectare. This was not enough, and the company had to rely on nearby farmers to supply the raw tapioca for them.

The raw tapioca produced by the company together with the raw tapioca that was bought externally was still far from sufficient to run the factory at full capacity. Ideally, the factory provided a market that motivated farmers to produce more tapioca and earn more income. The availability of land for growing tapioca seemed great, and to encourage more tapioca production, the company offered seedlings (originally imported from Vietnam and Thailand) free of charge to prospective farmers or other investors. The company would also do the land preparation work and collected the fee only after the harvest, which serves effectively as an interest-free loan of \$90 per hectare. The company also guaranteed to buy tapioca from producers at the rate of \$20 per ton at the factory gate. However, the company's incentives seemed too small to trigger much response by landowners.

In Kampong Speu province, the farm-gate price was \$17 to \$18 per ton. With an average yield of 12 tons per ha, the gross revenue would be about \$150 per ha. The cost of land preparation and labour was already over \$100 per ha. It seems clear, then, that the compensation was not sufficient for producers in provinces such as Kampong Speu and Kampot with relatively poor soil. Either the price or the yield had to increase in order for them to benefit from growing the crop. As for the price, the company said it could not offer a higher rate because the world price continued to be low. The company sold about 40 percent of its product domestically at the price of \$170 per ton of tapioca powder, and exported 60 percent of production to Korea.

Since there was not enough tapioca nearby, the company went further away to collect raw tapioca in Kampong Cham where the soil is rich. Various farmers were selling their tapioca to the company before another factory of a similar type, called T.T.Y., was established in the province. Mr. Mong offered \$15 per ton to middlemen and the company transported the produce to the factory, which cost more than \$5 per ton. Fuel prices were the most expensive input for transportation, although the trucks were also sometimes stopped at checkpoints. The yield is as high as 25 tons per hectare in the red soil of Kampong Cham. With a farm-gate price of approximately \$14 per ton, the gross revenue for producers there could be as high as \$350 per ha, as compared to \$150 in Kampong Speu. The factory would be better off moving there because most of the raw tapioca produced in Kampong Cham was being exported to Vietnam.

As of 2003, the factory suspended operations due to the lack of raw tapioca. In fact, tapioca production can only be expanded if the price is high enough. The company maintained that it could not raise the price because the price of the processed product could not be raised. However, the price of raw tapioca could be increased if production costs, primarily fuel, could be reduced. In Cambodia, the tax on fuel is by far the highest in the region. Mr. Mong Reththy observed that agro-processing enterprises in Thailand can claim tax refunds for fuel, which is a significant incentive needed to promote this particular sector.

3.4.2. T.T.Y. Agricultural Plant Development and IMEX. Co. Ltd (Memut District, Kampong Cham Province)

T.T.Y., with an investment of \$6 million by a Cambodian, started operations in December 2001. It has a factory to process 200 tons of raw tapioca to obtain 50 tons of tapioca powder per day. When running, the factory employs a total of 108 workers, working in three shifts of 8 hours each. Each worker earns an average wage of 8,000 riels, or \$2 per day. T.T.Y. also employs 31 additional staff to take care of non-production work. Most workers come from nearby areas.

The factory was purchased from Thailand and installed in Memut district of Kampong Cham province. It was the second of this type existing in Cambodia after the one installed by the Mong Reththy Group in Sihanouk Ville in 1999. The T.T.Y. factory was located in a strategic position and does not face a supply shortage of raw tapioca, as did the Mong Reththy factory.

From December 2001 to March 2002, the factory could not procure sufficient raw tapioca to process because it was too expensive. A Vietnamese trader was buying raw tapioca at the price of 105 riels per kg from farmers, or about \$27 per ton. The company thought it could not make profit at that price,

so it operated for only one month, processing 6,000 tons of raw tapioca and producing 1,500 tons of tapioca powder. In 2002-03, the factory was able to run at full capacity for 5 months between December 2002 and May 2003, procuring 30,000 tons of raw tapioca to produce 7,500 tons of tapioca powder. The price of raw tapioca was about 87 riels per kg, or about \$22 per ton.

In Memut District alone, production of raw tapioca in 2002-03 was estimated at about 90,000 tons, according to a study by the company. The intake by T.T.Y. was therefore only one third of the total production in the district, not to mention the entire province. The company therefore faces no shortage of raw tapioca supply unless Vietnam offers a higher price that the company cannot meet. In March 2003, Vietnam abruptly banned imports of raw tapioca from Cambodia, apparently due to sufficient domestic supply. This certainly helped T.T.Y. to enjoy monopsony power in buying the raw tapioca. The rest of the raw tapioca was peeled, chopped and dried and then sold at a cheaper rate to Vietnam.

Vietnam has been buying tapioca from Kampong Cham to supply its processing factories for export. A company official who visited the bordering Tai Ninh Province of Vietnam reported that in the area near Kampong Cham, Vietnam had 7 medium-sized factories that were each processing 100 - 200 tons of raw tapioca per day, and more than 100 factories that were each processing 5 tons. The processed product is mainly for export. Vietnam reportedly produces large amounts of tapioca to supply the factories. Kampong Cham, therefore, is like a buffer supply area for Vietnam. When there is a shortage in Vietnam, then raw tapioca is purchased from Kampong Cham by Vietnamese traders, and when there are sufficient amounts of tapioca, then the Vietnamese traders do not buy tapioca from Kampong Cham. The March 2003 ban is a case in point. However, most of the products have somehow found markets in the recent past, although at low prices.

T.T.Y. is the only factory in Kampong Cham, and one of the two existing in Cambodia, that processes tapioca. The crucial question here is that while factories in Vietnam can purchase raw tapioca from Cambodia to process and export to Malaysia and Korea, why cannot factories in Cambodia do the same? They at least enjoy a location advantage over those Vietnamese factories, which pay larger transportation costs and fees along the road.

T.T.Y. reported that it was not as competitive as those factories in Vietnam, although technology and production efficiency were comparable. Orders from Malaysia offered the same price (f.o.b.) in Sihanouk Ville Port as that in Ho Chi Minh Port. However, delivery costs from the factory in Kampong Cham to Sihanouk Ville Port push down the factory-gate price to the extent that it is not profitable for T.T.Y. Transportation cost from the factory site in Memut to Sihanouk Ville was \$20 - 25 per ton. In addition to this, the

company had to incur significant costs associated with paying various formal and informal fees at the port. The amount was not revealed, but the point was made that the total cost worked out to be higher than sending the product through Ho Chi Minh Port, passing through border checkpoints and middlemen in Vietnam. The other reason given was that the costs of shipping from Sihanouk Ville to any port in the region are high as it is the most expensive port in the region.

The company exported 500 tons of tapioca powder to Malaysia in 2002. To send the product from the factory to a border check point in Smach cost \$8 per ton, including \$5 for transportation and \$3 per informal fees. Then from Smach to Ho Chi Minh Port it cost \$37 per ton. The total delivery cost worked out to be \$45 per ton. The company claimed that it did not make any profit, but wanted to publicise its product in the international market. According to the interviewed officials, potential customers from Vietnam, Thailand, Malaysia, France, and England have explored their interests with the company. They reported that these visitors considered the quality of their tapioca powder to be the best due to better land and water quality in the area.

Nevertheless, T.T.Y. does not have to worry too much about exports because there is considerable local demand for tapioca powder. Local consumption is estimated at 700 tons per month, higher than current factory output. T.T.Y. has sold 1,000 tons of powder at the factory-gate price \$150 per ton. In fact, domestic demand is met by imports as well, according to T.T.Y. estimates. The future prospects for T.T.Y. look good, and as a result, the company intends to double its processing capacity. However, the company complained about the high costs of fuel, much of which is due to high taxes. With higher marketing costs, the company did not expect to do well in competing with Vietnamese enterprises in terms of expanding its export share.

3.4.3. Animal and Animal Feed Production Company (AAFP)

AAFP is a Thai owned agro-processing enterprise that employs 230 staff and workers. It was established in December 1997 in Kandal Province, 25 km west of Phnom Penh. AAFP produces animal feed primarily for pig production, and secondly for poultry. Along with this processing activity, AAFP has a programme to promote yellow maize production in downstream sectors, and to promote pig and poultry production in upstream sectors.

AAFP absorbs a significant proportion of Cambodia's agricultural production for its inputs. Local input contents for the enterprise include maize, soybean, paddy, broken rice, rice bran, weed bran, dried fish, oyster shells, and lamb stone. In 2002, the company purchased 8,000 tons of yellow maize, 1,000 tons of soybean, 3,000 tons of paddy, broken rice and rice bran, and about 1,000 tons of dried fish. Although the amounts of these purchased intermediate

goods were significant, they accounted for only a small proportion of total production in Cambodia. Based on official 2002 production data presented in Table 1, which are likely lower than actual production as discussed above, AAFP purchased only about 5 percent of total maize production, 3 percent of total soybean production, and 3 percent of total tapioca production.

In addition to local inputs, AAFP must import a number of intermediate products, such as soybean meal, protein and vitamin content, and equipment for poultry and pig production. It was revealed in the interview that these imported intermediate goods and equipment are subject to import duties of 7 to 35 percent. Since 1999, AAFP has imported 5,000 tons of soybean meal from India through Vietnam. One ton of soybean meal costs around \$210 (c.i.f. in Phnom Penh), and as a result the total value spent on import was \$1.05 million. An import duty of 35 percent was charged, amounting to \$367,500. This was treated as a high cost that was passed on to farmers buying animal feed from the enterprise, and eroded the competitiveness of the AAFP products. Other intermediate inputs were also charged import duties of 7 to 15 percent.

AAFP is the only animal feed production enterprise in Cambodia, and one may think it enjoys a monopoly power in Cambodia. However, according to the company, its animal feed products must in reality compete with Vietnamese and Thai products, most of which enter the Cambodian market informally or through smuggling. The imported products are sold at lower prices compared to the AAFP products. This seems to be a common case reported by domestic enterprises, and it raises serious questions as to why it is so, since local enterprises should at least have a location advantage, while other factors may be comparable.

The main reason given concerned a combination of factors that cause production costs to be higher than in Thailand and Vietnam. First, certain inputs, such as soybean meal and vitamin and protein content, are not available in Cambodia due to a lack of processing capacity. They must be imported and face high import duties. Second, fuel, which is a major input for running a factory, is more expensive than in neighbouring countries due to higher tax rates imposed by the Cambodian government. Third, enterprises in Cambodia normally pay higher hidden costs as a result of slow improvement in governance. Fourth, the economies of scale do not seem to prevail for AAFP relative to Thailand and Vietnam, both of which are much larger economies. All of these factors combine to erode the potential competitiveness of AAFP and constrain its growth.

In terms of future prospects, it is arguable that demand for animal feed could potentially be much higher if there were credit schemes for farmers who wish to produce more pigs and poultry. Currently, micro credit, if available, is too expensive for agricultural projects to be profitable. The interest rates of 40 -

60 percent per annum currently charged by Micro Finance Institutions and some NGOs are unaffordable for farmers willing to raise pigs or poultry. Farmers in Thailand and Vietnam reportedly have access to cheaper credit through special support programmes of their respective governments.

AAFP has nevertheless grown amid the problems cited above. When it started in 1997, animal feed production was much lower than now, totalling about 2,000 tons per year. In 2003, the production rate is 300 tons per day, potentially amounting to more than 10,000 tons per year. However, the argument here is that the potential for growth is much larger. First, there seem to be no major constraints for the supply of intermediate goods to AAFP, which currently absorbs only about 5 percent of some major grains used as inputs. Second, demand for poultry and pig production may be higher if the prices for animal feed can be lowered. An analysis of pig production shows that profit is low due to expensive credit and the high price for animal feed.

3.4.4. Khmer Agricultural Product (Cheung Prey District, Kampong Cham Province)

Established in 2001, Khmer Agricultural Product (KAP) is a company that processes cashew nuts, mainly for export. The company has a factory located on National Route 7 in Kampong Cham province. It is the only enterprise to have undertaken this business in Cambodian history, despite the fact that Cambodia has grown cashew for many decades. Cashew nuts are peeled and packed for export, using labour intensive technology. It employs about 280 workers, who are mostly young women from nearby areas. Each worker earns on average \$30 per month, based on output. The equipment and tools for peeling cashew nuts are simple and can be replicated within Cambodia after first being imported from other countries.

At current capacity with 280 workers, the factory is processing about 1,000 tons of cashew nuts in shell per year. This amounts to less than 10 percent of the total production of cashew nuts in shell in Cambodia, estimated at 12,000 tons per year. The remaining nuts go all the way to Vietnam for the same simple processing and re-export to a third country. The company has the potential to expand and employ 3,000 workers to peel about 40 tons per day or 12,000 tons per year, which is Cambodia's current estimated total production. The only question concerns the export markets.

KAP has so far secured a market in Canada. The owner has Cambodian relatives living in Canada who manage the company's marketing tasks there. He reported that his product has sold well in Canada as it is specially publicised as organic cashew from Cambodia, branded KAP. The company is looking to expand its market to China and USA. However, it must compete with Vietnam for export markets, and this has turned out to be difficult for the company.

According to the company owner, the main problem is that its Vietnamese competitors, who buy raw cashew nuts from Cambodia to supplement their export contracts, can sell the processed cashew nuts at a price that is below a break-even price for KAP. The price paid by potential clients is \$3,000 - \$3,300 per ton of peeled nuts. This price is satisfactory to processors in Vietnam, but it is not high enough for KAP to earn economic profit. The main reason given concerns cost, which is also the case for other enterprises.

According to the owner, the total cost of processing and marketing one ton of peeled nuts is about \$1,000. Of this, a large amount represents payment of informal fees before shipping in Sihanouk Ville to the overseas market. Labour costs, which are about \$30 per month per worker, or about \$350 per ton of peeled nuts, is low and competitive compared to Vietnam. However, fuel is much more expensive in Cambodia than in Vietnam.

Prospects for KAP nevertheless look good. There is plenty of raw cashew for the company to process provided there is sufficient demand for peeled cashew nuts from KAP. And as discussed above, the potential for expanding cashew production is huge if there are enough incentives for farmers. In addition to the supply prospects for raw cashew nuts, the owner is also optimistic about finding markets that will offer him world prices for his peeled nuts. The critical challenge for expansion is to reduce the marketing costs from the factory to the ship in Sihanouk Ville. Reducing costs in the marketing chain can potentially increase profits for both processors and farmers, all of which will stimulate growth in production and export.

3.5. Conclusion

The production of non-rice crops in Cambodia has a high potential for expansion due mainly to the abundance of fertile land recently cleared of forest cover. This potential is being achieved in many areas of the country, though official statistics do not seem to be keeping pace with the growing cash crop sector. Our field inquiries concerning soybean, maize, tapioca and cashew have revealed that production in the study areas was grossly under-estimated in the official statistics. It is perhaps time for Cambodia to undertake an agricultural census in order to provide accurate data for analysing the agricultural sector.

A critical question concerning cash crop expansion concerns the trade-off between forest preservation and farm expansion. Cambodia has recently experienced considerable deforestation due to both timber extraction and farm expansion. Demographic pressure on land has been increasing as the population has grown from around 6 million in the 1960s to 9 million in late 1980s and 13 million in 2003. Unless intensification of agriculture is achieved at a sustainable level, farm expansion into forested areas is likely to continue, assuming non-agricultural sectors grow at the same rate in the past five years.

The nature of cash crops is that they are produced for sale. As a result, marketing has a crucial bearing on production matters. In Cambodia, the market structure appears somewhat competitive since it has many buyers and sellers of major crops, but the marketing systems in terms of both physical and institutional infrastructure remain seriously deficient despite significant progress made so far by the Royal Government of Cambodia. Among other obstacles, Cambodia still faces a severe lack of roads, supporting institutions such as cooperatives and market places, poor information flows worsened by low literacy rates among farmers, and government induced distortions in the form of informal fees imposed on trade and transportation.

Agricultural exports seem much higher than what customs officials document. Most of the exports are informal in nature and subject to high informal fees charged at border crossings. These informal fees in effect work as taxes on traders, who cannot raise world prices, and therefore pass the costs on to farmers. Reducing such fees would likely raise farm-gate prices and, as a result, increase farmers' income.

Most of the agricultural exports are raw products because Cambodia has a very limited agro-processing capacity. A few modern agro-processing enterprises have emerged, however, including the four major enterprises covered in the study. Their future prospects look good based on an abundant supply of raw products such as maize, soybean, tapioca, and cashew as well as the promising output market. However, in comparison to their competitors in neighbouring countries, these enterprises currently face cost disadvantages in terms of fuel, taxes on inputs, and informal fees charged at border points. Policy measures to enhance their competitiveness would help boost crop production, thereby benefiting both farmers and traders.

As the study is in its preliminary phase, the current report raises more questions for further in-depth and comparative research with collaborating institutions in Vietnam and Thailand. For example, production cost details will be further researched for greater depth and scope. In addition to production costs, the research will focus on other questions. What are the key determinants of farm-gate prices in Cambodia and how do they compare to determinants in Thailand and Vietnam? What are the major costs associated with moving an agricultural product from farm-gate to export? The study will also identify the typical marketing chains (farmers, traders, wholesalers, transporters, exporters) for each crop to assess costs and efficiencies, including transportation methods and costs, formal and informal fees, transaction costs (information seeking and negotiation), institutional arrangements (physical markets, cooperatives), post-harvest technology (storage, spoilage/loss reduction, and quality control), and so on. And finally, how do government policies and regulations affect crop production, trade, marketing, and export? The study will therefore also identify policies, regulations, taxes, licences, subsidies, and other government

influences on agricultural production, trade, and export and assess their relevance to agricultural competitiveness.

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Table 1: Main Economic Indicators

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
GDP at Current Price (Billion Riels)	5973.9	6197.9	7639.8	8278.2	9104.9	10985.5	12088.9	12280.9	13232.2	14082.9
GDP at Current Price (Million US\$)	2135.8	2412.6	3076.8	3135.7	3044.1	2910.8	3169.6	3186.5	3372.1	3594.4
GDP at Constant 1993 Price (Billion Riels)	5973.9	6357.3	6876.2	7116.1	7377.1	7484.3	8006.7	8594.6	9166.6	9549.3
GDP at Constant 1993 Price (Million US\$)	2135.8	2272.9	2458.4	2544.2	2637.5	2675.8	2862.6	3072.8	3277.3	3414.1
GDP per capita, at Current Price (US\$)	205.3	244.5	303.6	303.3	293.6	235.9	250.4	245.3	253.4	268.2
GDP per capita, at Constant Price 1993(US\$)	205.3	230.3	241.0	246.1	254.4	216.8	226.1	236.6	246.2	254.8
Real GDP (% increase)	7.76%	6.42%	8.16%	3.49%	3.67%	1.45%	6.98%	7.34%	6.66%	4.18%
GDP Deflator in Riel (% change)	91%	-3%	14%	5%	6%	19%	3%	-5%	1%	2%
GDP Deflator in US\$ (% change)	13%	6%	19%	-2%	-6%	-6%	2%	-6%	-1%	2%
Inflation in Riel (Dec. 2000=100, yr. Avg.)	75.15%	-0.50%	7.80%	7.15%	7.96%	14.78%	4.03%	-0.79%	0.22%	3.29%
Inflation in US\$ (Dec. 2000=100, yr. Avg.)	3.50%	8.33%	12.26%	0.13%	-4.71%	-9.03%	2.94%	-1.82%	-1.57%	3.45%
Riel/US\$ parity (official, year average)	2.797	2.569	2.467	2.640	2.991	3.774	3.814	3.854	3.924	3.918
Domestic Revenue (% GDP)	4.8%	9.5%	8.1%	9.1%	9.3%	8.6%	11.0%	11.6%	11.6%	12.3%
Budget Expenditure (% GDP)	10.1%	16.3%	15.6%	16.0%	13.9%	14.3%	15.1%	16.9%	19.0%	17.7%
Overall Public Deficit (% GDP)	-5.3%	-6.8%	-7.0%	-7.2%	-4.5%	-5.7%	-4.2%	-5.3%	-7.0%	-6.3%
Exports of Goods (% GDP)	15.4%	20.3%	27.6%	20.5%	24.2%	30.9%	27.9%	39.6%	40.7%	40.4%
Imports of Goods (% GDP)	23.9%	30.8%	38.3%	34.2%	35.0%	39.5%	36.6%	47.8%	47.4%	48.3%
Trade Balance (% GDP)	-8.5%	-10.5%	-10.7%	-13.6%	-10.8%	-8.6%	-8.7%	-8.5%	-6.7%	-7.9%
Current Account, incl. Official transfers (% GDP)	-4.2%	-6.5%	-3.5%	-3.4%	-4.8%	-3.9%	-1.6%	0.6%	1.7%	0.4%
External Contribution to Economy (% GDP)	13.4%	15.4%	19.4%	26.4%	14.9%	12.6%	12.9%	14.7%	14.6%	15.0%
Total Saving (% GDP)	17.2%	18.6%	20.2%	26.4%	20.6%	20.9%	20.2%	21.4%	23.4%	22.2%

Table 1: Main Economic Indicators—continued

Net Foreign Reserves (Million US\$)	62	70	109.9	164.3	197	322.9	349.2	410.8	466.9	547.7
Net Foreign Reserves (Months of imports G&S)	1.3	0.9	1.0	1.5	1.9	3.0	3.1	2.8	3.0	3.2
Gross Foreign Reserves (Million US\$)	71	99.6	181.7	233.7	262.1	390.1	422.2	484.1	548.2	636.7
Gross Foreign Reserves (Months of imports G&S)	1.5	1.4	1.6	2.2	2.5	3.6	3.7	3.3	3.5	3.7
External Debts - Recognized (%GDP)	0.2%	3.2%	4.9%	9.0%	11.3%	13.5%	14.0%	16.4%	18.2%	21.3%
Amount of Riel (Million US\$)	100.0	84.8	114.9	127.6	167.2	149.3	147.8	152.5	168.7	225.6
Amount of Riel (% change)	16.6%	-15.1%	35.5%	11.0%	31.1%	-10.7%	-1.0%	3.2%	10.6%	33.7%
Amount of Riel (% M2)	66.0%	48.4%	43.7%	36.9%	42.9%	45.8%	39.1%	32.0%	30.1%	30.7%
Amount of Foreign Currency Deposits (Million US\$)	51.5	90.5	148.2	217.7	222.3	176.5	230.4	323.8	392.3	508.6
Amount of Foreign Currency Deposits (% change)	82.0%	75.8%	63.7%	46.9%	2.1%	-20.6%	30.6%	40.5%	21.2%	29.6%
Amount of Foreign Currency Deposits (% M2)	34.0%	51.6%	56.3%	63.1%	57.1%	54.2%	60.9%	68.0%	69.9%	69.3%
Total Liquidity M2 (Million US\$)	151.5	175.3	263.1	345.3	389.5	325.8	378.2	476.3	561.0	734.2
Total Liquidity M2 (% increase)	32.1%	15.8%	50.1%	31.2%	12.8%	-16.4%	16.1%	25.9%	17.8%	30.9%
Total Liquidity (% GDP)	7.1%	7.3%	8.5%	11.0%	12.8%	11.2%	11.9%	14.9%	16.6%	20.4%
Population (Million)	10.48	9.869	10.2	10.34	10.368	12.34	12.66	12.99	13.31	13.4
Labor Force (%population)	41.1%	45.0%	45.0%	45.9%	47.4%	41.2%	41.5%	41.8%	42.3%	43.5%
Unemployment (%Labor Force)	2%	11%	3%	6%	10%	3%	7%	8%	10%	11%

Source: CDRI, based on data from the Cambodian Government, World Bank, IMF, and ADB.

Table 2: GDP by Sector at Current Prices (million US dollars)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Agriculture, Fisheries & Forestry	872	1,009	1,422	1,315	1,290	1,170	1,233	1,134	1,020	1,018
Crops	404.9	440.5	804.1	744.4	689.7	632.1	649.8	608.2	524.1	541.8
Livestock & Poultry	172.9	172.6	198.0	208.8	190.4	180.9	219.1	191.4	181.3	188.4
Fisheries	192.6	192.4	216.8	210.0	197.9	192.5	244.7	227.9	203.1	181.3
Forestry & Logging	101.9	203.1	202.6	151.4	211.5	164.1	119.6	106.0	111.3	106.2
Industry	272	319	417	442	473	598	677	762	844	951
Mining	4.9	4.3	4.7	4.9	4.6	4.1	4.5	4.5	4.9	5.3
Manufacturing	175.5	208.5	237.9	288.0	337.2	352.6	385.4	513.2	568.2	653.3
Food, Beverage & Tobacco	74.6	85.7	100.9	113.2	110.2	103.4	110.1	103.6	109.8	111.0
Textile, Apparel & Footwear	25.3	19.6	27.9	50.1	101.8	134.3	187.9	324.5	374.9	454.6
Wood, Paper & Publishing	20.8	37.6	33.7	42.7	49.4	59.3	24.4	22.9	20.8	21.5
Chemicals, Plastic & Rubber	28.9	32.8	40.1	44.8	34.2	20.4	22.3	21.5	20.8	22.5
Other Manufacturing	25.8	32.8	35.3	37.3	41.5	35.2	40.7	40.6	42.0	43.7
Electricity, Gas & Water	8.6	12.0	16.0	15.2	13.6	12.3	11.4	13.1	15.8	19.0
Construction	82.8	94.3	158.7	133.4	117.8	228.8	275.7	231.6	255.4	273.0
Services	927	961	1,127	1,220	1,143	1,023	1,129	1,166	1,376	1,488
Trade	340.5	338.5	394.3	408.5	384.0	328.8	349.3	341.5	390.5	429.1
Hotel & Restaurants	69.8	92.1	115.4	132.7	125.4	110.8	137.5	151.1	253.3	279.2
Transport & Communication	131.4	150.1	171.5	193.2	178.7	155.5	186.7	200.5	210.3	227.9
Finance	8.5	10.7	31.0	32.8	32.7	26.6	29.3	34.8	43.0	51.7
Public Administration	50.8	88.9	94.7	112.2	102.0	88.3	97.0	97.6	129.7	138.9
Real Estate & Business	222.5	175.8	195.9	203.5	200.8	194.1	200.2	213.2	219.0	228.0
Other Services	104.1	105.4	124.3	137.3	119.4	118.9	129.2	127.6	130.5	133.6
Taxes on Products	70.4	131.9	165.1	188.8	181.6	157.3	170.4	173.6	182.4	190.7
Less: Subsidies	0.8	1.7	4.8	5.7	2.1	3.8	3.1	8.1	7.4	7.8
Less: Imputed Bank Charges	5.3	6.7	29.6	23.9	41.1	33.0	37.2	41.3	43.3	45.1
Gross Domestic Product (GDP):	2,136	2,413	3,097	3,136	3,044	2,911	3,170	3,187	3,372	3,594

Source: CDRI, based on data from the Cambodian Government, World Bank, IMF, and ADB.

Table 3: GDP by Sector at Constant 1993 Prices (million US dollars)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Agriculture, Fisheries & Forestry	872	940	1,034	1,028	1,086	1,114	1,166	1,136	1,039	976
Crops	404.9	362.8	465.1	485.6	472.2	475.2	541.9	532.0	486.1	451.5
Livestock & Poultry	172.9	171.6	190.3	198.5	200.8	211.8	211.5	194.5	178.4	192.7
Fisheries	192.6	218.7	240.2	225.3	242.7	255.9	296.6	301.6	273.0	238.6
Forestry & Logging	101.9	187.1	138.8	118.3	170.9	170.7	116.4	107.7	101.8	93.0
Industry	272	287	341	378	455	490	571	765	848	954
Mining	4.9	4.2	4.4	4.2	4.2	4.2	4.6	4.6	5.0	5.4
Manufacturing	175.5	188.5	204.2	241.2	331.0	380.2	417.3	560.8	623.2	711.9
Food, Beverage & Tobacco	74.6	79.7	81.2	87.7	89.2	90.4	93.9	95.5	96.3	97.2
Textile, Apparel & Footwear	25.3	20.6	26.5	48.4	110.5	161.8	227.6	372.9	434.6	519.8
Wood, Paper & Publishing	20.8	30.6	37.7	42.5	66.1	63.7	25.2	20.0	18.0	17.0
Chemicals, Plastic & Rubber	28.9	29.0	29.0	32.4	31.3	30.2	34.5	34.7	34.8	37.1
Other Manufacturing	25.8	28.7	29.8	30.1	34.0	34.0	36.2	37.7	39.4	40.8
Electricity, Gas & Water	8.6	9.3	12.7	12.8	13.0	13.5	14.0	17.0	19.8	23.1
Construction	82.8	84.7	119.5	120.1	107.1	92.3	134.9	182.8	200.1	213.7
Services	927.5	927	980	1,010	973	967	1,003	1,055	1,270	1,358
Trade	340.5	330.7	328.4	327.9	320.1	303.0	303.1	311.1	370.1	398.0
Hotel & Restaurants	69.8	86.9	118.7	108.9	105.3	101.0	129.5	143.3	215.4	237.0
Transport & Communication	131.4	144.5	144.6	157.4	134.7	131.2	149.4	150	169.6	182.4
Finance	8.5	10.3	24.7	26.3	27.3	24.7	25.5	30.9	38.7	46.4
Public Administration	50.8	77.4	76.7	90.0	93.2	99.4	93.5	95.6	128.2	137.0
Real Estate & Business	222.5	171.0	176.2	177.9	182.6	189.7	196.8	203.9	210.7	218.4
Other Services	104.1	105.9	110.5	121.7	109.6	118.2	105.5	119.9	136.9	139.1
Taxes on Products less Subsidies	69.5	125.7	127.4	147.5	154.8	134.6	155.0	154.1	159.5	166.3
Less: Imputed Bank Charges	5.3	6.5	24.0	19.2	31.8	29.8	32.8	37.1	39.2	40.5
Gross Domestic Product (GDP)	2,136	2,273	2,458	2,544	2,637	2,676	2,863	3,073	3,277	3,414

Source: CDRI, based on data from the Cambodian Government, World Bank, IMF, and ADB.

Table 4: GDP by Expenditures at Current Prices (million US\$)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Consumption Expenditures	2,073	2,305	2,876	2,787	2,773	2,604	2,814	2,779	2,830	3,094
Public	132.6	262.3	284.2	299.4	271.0	248.5	287.3	307.3	360.8	342.3
Private	1940.1	2042.3	2591.8	2487.7	2502.3	2355.9	2526.5	2471.3	2469.1	2751.6
Investment	307	449	626	829	626	609	642	683	788	799
Public	83.6	130.5	198.5	200.9	151.4	167.6	190.8	229.9	280.7	293.2
Private	223.5	318.5	428.0	627.7	475.0	441.3	450.9	453.0	507.6	505.7
Exports	348	544	968	807	896	1,010	1,079	1,501	1,627	1,742
Merchandise, f.o.b.	283.7	490.0	855.2	644.0	736.0	900.0	884.0	1261.0	1374.0	1453.1
Services	63.9	54.0	113.0	163.0	160.4	109.8	195.0	240.0	253.0	288.8
Import of Goods & Services	592	885	1,374	1,287	1,252	1,312	1,365	1,776	1,873	2,040
Merchandise, f.o.b.	471.1	744.0	1186.8	1072.0	1064.0	1149.1	1159.0	1524.0	1600.0	1735.6
Services	120.5	141.0	187.0	215.0	188.0	163.2	206.0	252.0	273.0	304.7
Statistical Discrepancy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GDP Expenditures	2,136	2,413	3,097	3,136	3,044	2,911	3,170	3,187	3,372	3,594

Source: CDRI, based on data from the Cambodian Government, World Bank, IMF, and ADB.

Table 5: GDP by Expenditures at Constant 1993 Prices (million US\$)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Consumption Expenditures	2,073	2,164	2,403	2,329	2,405	2,479	2,588	2,606	2,690	2,832
Public	132.6	228.1	230.2	240.3	225.9	224.4	235.9	257.1	300.6	281.1
Private	1,940.1	1,935.8	2,173.0	2,089.0	2,179.1	2,254.4	2,351.6	2,348.4	2,389.0	2,551
Investment	307	256	375	577	422	326	374	546	644	676
Public	83.6	117.2	163.2	156.7	122.1	148.9	145.3	180.0	223.7	234.7
Private	223.5	139.1	212.2	420.0	299.4	177.6	228.2	353.7	400.1	441.2
Exports	348	549	795	647	841	1,083	1,206	1,692	1,833	1,942
Merchandise, f.o.b.	283.7	504.5	700.4	516.9	708.4	984.1	1,034.7	1,477.5	1,606.4	1,682.2
Services	63.9	44.5	94.8	130.1	133.0	98.6	171.0	214.3	226.5	260.0
Import of Goods & Services	592	696	1,115	1,009	1,030	1,212	1,304	1,770	1,889	2,036
Merchandise, f.o.b.	471.1	560.1	963.9	836.2	870.5	1,044.9	1,122.5	1,544.1	1,642.1	1,761.8
Services	120.5	136.2	151.5	172.6	159.8	147.4	181.7	226.4	247.1	274.5
Statistical Discrepancy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GDP at Prices 1993	2,136	2,273	2,458	2,544	2,637	2,676	2,863	3,073	3,277	3,414

Source: CDRI, based on data from the Cambodian Government, World Bank, IMF, and ADB.

Table 6: Budget implementation (million US\$)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Domestic Revenue	103.1	229.3	249.7	284.0	283.0	250.9	348.7	368.8	389.8	441.2
Current Revenue	103.1	229.3	249.7	269.1	278.9	242.0	345.1	361.2	387.5	437.0
Tax Revenue	77.9	141.9	173.0	202.5	199.7	180.8	252.5	269.6	279.4	310.3
Non-Tax Revenue	25.2	87.4	76.7	66.6	79.2	61.2	92.6	91.6	108.0	126.7
Capital Revenue	0.0	0.0	0.0	14.9	4.1	8.8	3.6	7.6	2.3	4.2
Budget Expenditure	216.2	392.8	482.7	500.3	422.4	416.1	478.1	537.2	641.4	635.5
Current Expenditure	132.6	262.3	284.2	299.4	271.0	248.5	287.3	307.3	360.8	342.3
Wages	63.7	112.4	134.5	130.4	128.5	119.1	135.8	133.6	129.7	138.9
Non-Wages	69.0	149.9	149.7	169.0	142.5	129.4	151.5	173.8	231.0	203.4
Capital Expenditure	83.6	130.5	198.5	200.9	151.4	167.6	190.8	229.9	280.7	293.2
Domestic financing	1.8	30.6	22.1	23.3	30.3	32.0	58.6	80.0	72.1	73.5
External assistance	81.8	100.0	176.4	177.5	121.1	135.6	132.2	149.9	208.5	219.7
Expenditure adjustments	-	-	16.4	-8.8	1.9	-2.0	-3.9	1.0	14.1	-30.4
Overall Surplus (Deficit):	-113.1	-163.5	-216.6	-225.1	-137.5	-167.2	-133.4	-167.5	-237.6	-224.7
Financing	113.1	163.2	216.6	225.1	137.5	167.2	133.4	167.5	237.6	224.7
Foreign Financing	85.0	168.2	217.2	218.2	155.9	134.5	135.1	180.1	226.7	270.7
Budget support	3.2	51.5	42.2	56.8	27.6	0.4	1.1	29.3	13.8	45.5
Project aid	81.8	116.8	190.3	177.1	128.6	134.1	134.0	150.8	213.9	227.2
Amortization on external debt	-	-	-15.3	-15.7	-0.3	0.0	0.0	-	-1.1	-1.9
Domestic Financing	28.1	-5.0	-1.1	-3.6	-13.7	31.1	-11.8	-3.9	2.7	-45.7
Net bank financing	10.9	-10.0	2.1	-6.5	-16.3	32.0	-19.3	-30.5	-16.2	-26.8
Other MEF's account	-	-	-	-0.6	-3.3	1.7	0.8	-0.4	1.0	-1.8
Private Sector	-	1.0	-3.3	4.5	4.7	-1.3	7.4	28.6	18.5	-16.8
\$Acc.-gap between NBC and MEF	-	4.0	0.1	-0.9	1.2	-1.3	-0.6	-1.7	-0.6	-0.3
Outstanding Operations	-	-	0.5	10.4	-4.7	1.7	10.0	-8.8	8.2	-0.3
Error	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: CDRI, based on data from the Cambodian Government, World Bank, IMF, and ADB.

Table 7: Monetary Survey (million US\$)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Net Foreign Assets										
Foreign Assets	126.4	245.8	363.7	466.1	533.8	583.9	657.6	792.5	913.6	1087.8
of NBC	20.7	118.8	196.5	273.9	301.0	443.4	509.5	610.9	696.3	914.4
of Deposit Money Banks	105.7	127.0	167.2	192.1	232.8	140.5	148.1	181.6	217.3	173.3
Foreign Liabilities	-75.7	-93.7	-140.8	-132.5	-142.1	-126.9	-128.3	-119.1	-129.1	-137.8
of NBC	-7.3	-29.6	-73.4	-71.3	-65.1	-67.2	-72.8	-72.9	-79.0	-96.2
of Deposit Money Banks	-68.4	-64.1	-67.3	-61.2	-77.0	-59.7	-55.5	-46.2	-50.1	-41.6
Net Domestic Assets	100.8	23.2	40.2	11.8	-2.2	-131.2	-151.1	-197.1	-223.4	-215.7
Domestic Credit	146.7	150.4	181.0	214.9	232.9	222.3	229.8	235.5	221.3	239.4
To Government (net)	79.8	55.7	60.0	48.3	18.0	47.3	27.0	0.9	-19.1	-30.3
-Claims on Government	93.0	83.7	88.1	81.0	70.7	76.5	74.3	70.8	69.1	78.8
-Deposits of Government	-13.2	-28.0	-28.2	-32.7	-52.7	-29.2	-47.3	-69.9	-88.3	-109.1
To Non-Government	66.9	94.6	121.0	166.6	214.9	175.0	202.8	234.6	240.4	269.7
-State Enterprises	2.6	2.3	2.1	2.0	2.0	1.6	2.7	0.9	1.8	0.5
-Private Sector	64.3	92.3	118.9	164.6	212.9	173.5	200.1	233.7	238.7	269.2
o/w: in Foreign Currency	41.5	71.8	114.0	159.9	181.7	168.8	190.3	219.7	224.3	252.9
Others	-45.9	-127.1	-140.8	-203.2	-235.1	-353.5	-380.9	-432.6	-444.7	-455.1
Restricted Deposits	-9.5	-11.4	-11.6	-31.2	-13.7	-19.2	-20.9	-22.4	-25.4	-24.3
Capital & Reserves	-64.8	-188.4	-191.3	-248.4	-288.4	-404.9	-429.4	-465.8	-499.4	-493.9
Others	28.4	72.7	62.1	76.4	67.0	70.6	69.4	55.7	80.1	63.1
Liquidity (M2):	151.5	175.3	263.1	345.3	389.5	325.8	378.2	476.3	561.0	734.2
Money	86.7	77.7	112.9	124.6	128.6	144.1	139.5	140.3	155.5	206.7
Currency Outside Banks	80.7	68.6	101.7	113.6	119.0	134.9	128.4	128.6	147.3	194.7
Demand Deposits	6.0	9.1	11.2	11.0	9.6	9.2	11.0	11.7	8.1	12.0
Quasi-Money	64.7	97.7	150.2	220.7	260.9	181.7	238.7	336.0	405.5	527.5
Time and Savings Deposits	13.2	7.1	2.1	3.0	38.6	5.2	8.3	12.2	13.2	18.9
Foreign Currency Deposits	51.5	90.5	148.2	217.7	222.3	176.5	230.4	323.8	392.3	508.6

Source: CDRI, based on data from the Cambodian Government, World Bank, IMF, and ADB.

Table 8: Balance of Payments (million US\$)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Current Account (incl. Official transfers)	-104	-158	-108	-108	-145	-114	-50	18	57	15
Current Account (excl. Official transfers)	-240.1	-368	-442.8	-545	-332.9	-312.5	-258	-253	-217	-264.5
Trade Balance	-187.4	-254	-331.6	-428	-328	-249.1	-275	-263	-226	-282.5
Exports	283.7	490	855.2	644	736	900	884	1261	1374	1453.1
-Domestic exports	149.5	262	268	295	534	604	712	1091	1199	1380.5
-Re-exports	134.2	228	587.2	349	202	296	172	170	175	72.7
Imports, f.o.b.	-471.1	-744	-1186.8	-1072	-1064	-1149.1	-1159	-1524	-1600	-1735.6
-of which: retained imports, f.o.b.	-332.8	-503	-601	-723	-765	-853	-987	-1354	-1425	-1562.1
Service Balance	-56.6	-87	-74	-52	-27.6	-53.4	-11	-12	-20	-15.9
Receipts	63.9	54	113	163	160.4	109.8	195	240	253	288.8
-of transportation	10.1	11	31	50	51	37	48	71	87	108.4
-of travel	38.8	34	53	82	68	44	125	134	141	153.4
-other	15	9	29	31	41.4	28.8	22	35	25	27
Payments	-120.5	-141	-187	-215	-188	-163.2	-206	-252	-273	-304.7
-of transportation	-33.6	-72	-84	-100	-94	-98	-105	-142	-157	-179.8
-of travel	-7	-7	-8	-15	-13	-7	-24	-29	-34	-36.4
-other	-79.9	-62	-95	-100	-81	-58.2	-77	-81	-82	-88.5
Income Balance	-16.1	-47	-57.2	-85	-42.5	-34.4	-42	-50	-41	-39.1
Receipts	0.5	2	9.7	13	16	17	20	32	25	26.2
Payments	-16.6	-49	-66.9	-98	-58.5	-51.4	-62	-82	-66	-65.3
-of which: interest	-1.8	-15	-18	-19	-13	-17	-15	-19	-17	-15.7
Current Transfers	156.4	230	355	457	253.4	223.4	278	343	344	353
Private Transfers (net)	20	20	20	20	65.2	24.4	70	72	70	73
Official Transfers (net)	136.4	210	335	437	188.2	199	208	271	274	280

Table 8: Balance of Payments (million US\$)—continued

Financial Account	123.6	127.3	122.4	259	219.8	154.1	124	100	94.1	122.2
Official Loans (excluding IMF)	123.4	73.2	60	89	62.1	42	44	75	87.1	141.2
-drawings #	123.4	73.2	72	96	62.1	49	50	81	95.1	150
-repayments	0.0	0.0	-12	-7	0.0	-7.0	-6	-6	-8	-8.9
Non-Official Investment (net)	0.2	54.1	62.4	170	157.7	112.1	80	25	7	-19
Foreign Direct Investments (net)	54.1	69	150.8	294	203.7	120.7	144	112	113	98
Other Investments (net)	-53.9	-14.9	-88.4	-124	-46	-8.6	-64	-87	-106	-117
Errors and Omissions	0.9	66.9	11.6	-73.3	-43.4	-9.9	-26.5	-32.4	-78.5	34
Overall Balance:	20.8	36.2	26.2	77.7	31.7	30.7	47.5	85.6	72.6	171.6
Financing	-20.8	-36.2	-26.5	-77.7	-31.7	-30.7	-47.5	-85.6	-72.6	-171.6
Net foreign assets of NBC	-23	-51.4	-31.2	-74.6	-32.1	-30.7	-54.4	-97.1	-81	-177
Change in reserve assets	-23	-71.2	-73.5	-74.6	-32.1	-29.3	-62.7	-101.1	-90.3	-186.9
Use of IMF credit (million US\$)	-	19.8	42.3	-	-	-1.4	8.3	4	9.3	9.9
Exceptional financing (except for 2002)	2.2	15.2	4.7	-3.1	0.4	-	6.9	11.5	8.4	5.4

Source: CDRI, based on data from the Cambodian Government, World Bank, IMF, and ADB.

Table 9: Labor, Productivity & Wage

	units	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Labor Force	000's	4310.0	4440.0	4590.0	4750.0	4910.0	5080.0	5250.0	5430.0	5630.0	5830.0
Employment	000's	4233.5	3943.8	4429.7	4456.2	4429.7	4909.2	4891.0	4990.4	5087.3	5201.6
Agriculture, Fisheries & Forestry		3302.0	2958.8	3511.4	3482.5	3491.9	3771.0	3585.6	3649.9	3903.0	3991.9
Industry		227.5	177.3	141.6	211.1	210.1	216.3	352.5	398.6	419.8	443.7
Services		704.0	807.7	776.6	762.6	727.6	921.9	952.9	941.9	764.5	766.0
Productivity (at Current Prices)	US\$ per year	504.5	611.7	699.1	703.7	687.2	592.9	648.0	638.5	662.9	691.0
Agriculture, Fisheries & Forestry		264.2	340.9	404.8	377.5	369.3	310.1	343.9	310.6	261.3	254.9
Industry		1194.9	1799.6	2946.3	2091.9	2252.0	2763.1	1920.6	1912.6	2011.0	2142.2
Services		1317.4	1190.4	1451.5	1599.9	1570.9	1109.7	1185.1	1238.3	1800.4	1943.0
Productivity (at Current Prices), per month		42.0	51.0	58.3	58.6	57.3	49.4	54.0	53.2	55.2	57.6
Wage (in US\$)	US\$ per month	14.9	18.2	19.4	20.7	20.7	21.1	23.5	24.3	23.6	24.1
Agriculture, Fisheries & Forestry		11.5	12.6	13.6	14.1	14.5	14.6	14.8	14.9	14.9	14.9
Industry		35.8	41.2	46.6	50.5	52.0	53.9	57.1	62.6	65.5	68.0
Services		24.0	33.9	40.6	42.2	41.9	40.0	43.7	44.5	44.8	46.8
Total Wages (in thousands US\$)		62891.6	71840.7	85822.2	92097.9	91895.4	103505.3	114962.7	121163.4	119972.2	125403.1
Profit (Current US\$), per month		27.2	32.8	38.9	38.0	36.5	28.3	30.5	28.9	31.7	33.5

Source: CDRI, based on data from the Cambodian Government, World Bank, IMF, and ADB.

CAMBODIA'S ANNUAL ECONOMIC REVIEW

The Cambodia Development Resource Institute takes great pleasure in publishing its third *Annual Economic Review*. As in the past, this study aims to provide a comprehensive review of the Cambodian economy and an analysis of its performance in 2002 on the basis of the most recently available data. In addition, each year, the *Review* presents CDRI research findings on an important area of concern. Thus, in 2002, the focus was on private sector development. In 2003, we look at the question of agricultural competitiveness, particularly in the non-rice crop sector. Four crops were taken up as case studies in this regard, namely soybean, maize, cassava and cashew.

This study attempts to understand the constraints facing non-rice crop production in Cambodia, and in particular focuses on trade and marketing costs and distortions that result in low farm-gate prices and poor producer incentives. The study is preliminary in nature based largely on secondary data and selective interviews with key marketing and trading agents. In our view, even these preliminary findings are interesting enough to merit publication in this volume. CDRI is currently engaged in a second phase study on the same topic employing a multi-country, regional approach that will enable us to directly compare Cambodian agricultural competitiveness in specific cash crops with competing regional countries, namely Vietnam, Thailand and Laos.

We hope that the analysis and findings of this year's *Annual Economic Review* will be useful to policy makers, practitioners and analysts in the wider development community.

Dr. Kang Chandarot and Mr. Chan Sophal are researchers at CDRI.

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