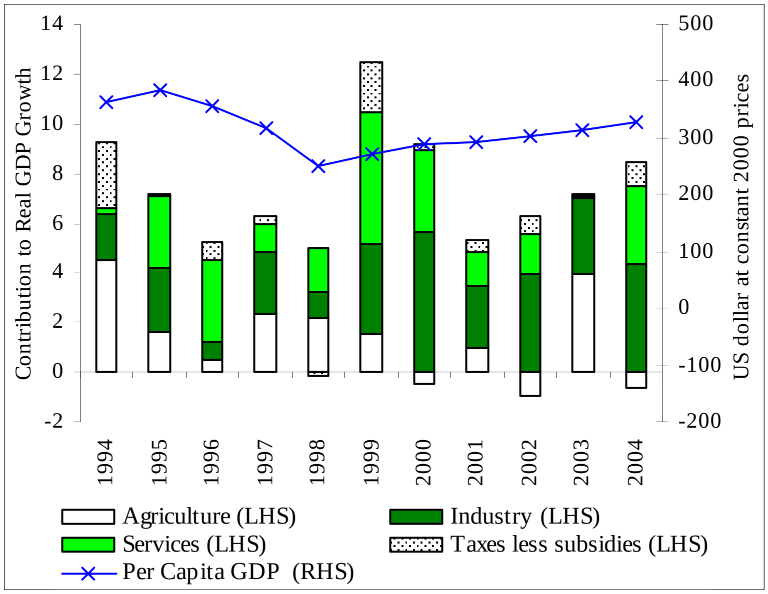
4. Sources of economic growth

Summary

- During 1994-2004, economic growth averaged 7.1 percent per annum. The main engines of growth were garment manufacturing and tourism. Preferential access to the US and EU markets from the mid-1990s drove the growth of garment exports to an average of 44 percent per annum over the whole period, while the inflow of international tourists, attracted by the ancient temples at Angkor, fueled the growth in tourism-related services (especially hotels/restaurants, transportation, and communication, and construction), which collectively grew by 10 percent per annum. However, both of the main engines of economic growth (i.e. garments and tourism) were and remain urban-focused with limited linkages to rural areas.
- While its share in the economy fell from 46 to 31 percent between 1994 and 2004, Cambodia's agricultural sector (inclusive of crops, livestock, forestry and fishery), the primary livelihood of the poor, continued to support more than 70 percent of the labor force in 2004. Agriculture grew by an average of 3.4 percent per annum over the decade, including three years of negative growth since 1999. Taking into account that the growth rate of labor supply in agriculture was 2.7 percent a year, labor productivity in the sector grew by a lackluster 0.5 percent per annum.
- The share of the industrial sector in the economy more than doubled to 29 percent, while that of services remained at around one-third. Despite their phenomenal growth and significant shares in the economy, the industrial and services sectors employed only 8 percent and 21 percent of the labor force, respectively, in 2004. Cambodia's economy is also extremely dependent upon a few products. In 2005, garments accounted for 80.4 percent of total exports by value. There is a pressing need for economic diversification to broaden the foundations of growth.
- Looking forward, in addition to its existing two main engines of growth, Cambodia needs more pro-poor and rural-focused sources of growth to accelerate poverty reduction. There are strong indicators that the agricultural and agri-business sectors offer considerable potential for higher growth, which would have a strong direct impact on the livelihoods of the poor. Unleashing this potential requires easing critical binding constraints.
- In the agricultural sector, the primary binding constraint is insecure property rights. The lack of secure land tenure inhibits investment because expected private returns to investments in land are not sufficiently appropriable. The second-order constraints are weak infrastructure, especially irrigation, and low human capital, which reduce returns to investment for society as a whole.
- In the agri-business sub-sector, the primary binding constraint is weak governance. Excessive unofficial fees either prevent profitability or render private returns too uncertain, and because unofficial fees tend to rise exponentially with the scale of operations, they inhibit expansion and growth. Access to and the cost of credit are second-order binding constraints.

This chapter presents a retrospective on the key sources of economic growth over the last decade, using the newly revised data on the National Accounts of Cambodia 1993-2004, published by the National Institute of Statistics. It then offers a preliminary analysis of the key binding constraints to future growth of the agricultural sector (including agri-business), in which the vast majority of the poor live and work[1].

Figure 4.1: Economic growth has been driven by growth in the industry and services during the past decade



Source: *National Accounts of Cambodia, 1993-2004*; National Institute of Statistics.

Retrospective on economic growth

Despite the turbulent past and the ensuing depletion of physical, human, and social capital, and reflecting the benefits from the threefold transition begun in the early 1990s (Chapter 1), economic growth in Cambodia over the period 1993-2004 has been impressive, averaging 7.1 percent per annum (Table 4. 1 and Figure 4.1). Key initial factors in this stellar growth performance included: (i) the end of two-and-a-half decades of conflict, which enabled a resurgence in savings and investment; and (ii) the formation of a new Government with market-oriented institutions and policies, including most notably the liberalization of trade in goods, services, capital, and labor. Real GDP growth hit a record high of 12.6 percent in 1999, and has averaged 6¾ percent annually since[2]. The main determinants of economic growth since the mid-1990s have been a relatively stable macroeconomic environment, including favorable external conditions and markets, generally prudent domestic financial policies, and the creation of critical market economy institutions. However, in terms of physical output, economic growth has derived from a very narrow base comprising the garment, tourism, and construction sectors, and to a much more limited extent, the agricultural sector[3]. More importantly, while both real per capita income and real per capita household consumption (i.e. allowing for

[1] A more comprehensive analysis of the origins and determinants of economic growth over the past decade and the key binding constraints to future growth are currently being prepared in an accompanying study on the "Sources of Growth".

[2] Real growth in 2005 is expected to be around [6½] percent, as the anticipated downturn in garment production following the end of the quota system on December 31, 2004 (see below), has not occurred.

[3] Excluding garments, construction, and tourism, real economic growth would have averaged only 4.2 percent per year over the period (and only 2.7 percent if agriculture is also excluded).

Table 4.1: Sources of growth by main economic activity, 1994-2004

	Share of GDP			Annual percentage change			Contribution to GDP 1/		
	1994	2004	Annual average 1994-2004	1994	2004	Annual average 1994-2004	1994	2004	Annual average 1994-2004
Agriculture	**45.9**	**30.9**	**38.8**	**9.9**	**-2.0**	**3.4**	**49.3**	**-8.7**	**20.2**
Crops	17.7	15.0	16.8	2.7	-3.4	5.2	5.5	-7.4	11.3
Paddy rice	*9.9*	*7.0*	*9.2*	*2.4*	*-12.3*	*3.7*	*2.8*	*-13.7*	*4.2*
Other	*7.8*	*8.0*	*7.5*	*3.1*	*6.0*	*7.1*	*2.8*	*6.4*	*7.1*
Livestock	7.9	5.0	6.5	-2.9	4.3	1.8	-2.8	2.9	2.2
Fisheries	13.0	8.8	11.5	4.1	-3.3	3.0	6.0	-4.2	6.2
Forestry	7.3	2.0	4.0	87.5	0.2	3.9	40.5	0.1	0.5
Industry	**13.6**	**28.9**	**20.1**	**14.2**	**16.1**	**15.4**	**20.0**	**56.3**	**41.1**
Mining	0.2	0.3	0.2	29.2	9.1	10.8	0.7	0.3	0.3
Manufacturing	8.0	21.8	14.4	9.0	17.4	17.4	7.9	45.3	33.8
Garments	*0.9*	*16.3*	*7.5*	*25.1*	*24.9*	*43.6*	*2.0*	*45.6*	*28.9*
Agri-business	*5.2*	*3.3*	*4.7*	*8.2*	*-3.4*	*2.7*	*4.7*	*-1.6*	*2.4*
Electricity, gas and water	0.3	0.5	0.4	8.6	4.6	11.9	0.3	0.3	0.7
Construction	5.0	6.4	5.1	23.4	13.2	11.9	11.2	10.4	6.4
Services	**35.4**	**34.4**	**36.0**	**0.6**	**9.2**	**6.1**	**2.6**	**40.7**	**31.3**
Hotels and restaurants	2.6	4.7	3.7	19.5	23.6	14.6	5.0	12.5	6.6
Other	32.8	29.7	32.3	-0.6	7.3	5.3	-2.4	28.3	24.6
Taxes less subsidies	**5.4**	**6.7**	**5.9**	**80.8**	**15.7**	**16.2**	**28.6**	**12.7**	**9.2**
GDP	**100.0**	**100.0**	**100.0**	**9.2**	**7.7**	**7.1**	**100.0**	**100.0**	**100.0**
Memorandum items:									
GDP excl. garments	99.1	83.7	92.5	9.1	4.9	5.5	98.0	54.4	71.1
GDP excl. garments, hotels and restaurants and construction	91.6	72.6	83.7	8.1	3.2	4.8	81.7	31.6	58.1

Source: National Institute of Statistics.
1/ The contribution to GDP is calculated as the annual percentage change times the share of GDP in the previous period. GDP growth is set equal to 100 each year.

inflation) have risen over the period, the rate of poverty reduction has not been uniform and inequality within rural regions and between rural and urban areas has increased (Chapter 2).

Moreover, the impressive performance of the two main engines (garments and tourism), owed more to fortuitous circumstances and narrowly-based "enclave-type" development, than to effective economy-wide growth-generating economic policies and management by an effective and responsive state. A number of studies conclude that weak formal institutions and excessive, unclear and overlapping regulations impose very high costs (formal and informal) on households and firms attempting to do business in Cambodia. Thus, for example, a 2003 survey of 800 Cambodian firms from across the range of formal and informal sector found that the share of sales revenue firms had to pay as bribes was twice that in Bangladesh. In its first rating for Cambodia, Transparency International in 2005 gave Cambodia a score of 2.3 out of a possible 10 (where 10 is the least corrupt country). This places it at 130 out of 159 countries ranked, or in the bottom fifth (World Bank 2004; EIC 2005; World Bank and IFC 2006; Vallely *et al* 2006). In agriculture and the non-agricultural rural economy, the challenge is to create trade-supporting institutions to overcome market fragmentation, while avoiding the problems of inappropriate institutions that are associated with the investment climate for the urban, formal sector. This theme of economic governance is explored in more detail in Chapter 7.

Looking ahead, the fragile foundations for economic growth in Cambodia remain vulnerable to exogenous tremors stemming from lower global growth, higher oil prices, the accelerated recurrence of flooding and droughts in recent years, and the potential for an avian flu pandemic to severely curtail tourism-generated growth. In 2005, garments accounted for 80.4 percent of Cambodia's total exports, making Cambodia one of the countries in the world most heavily dependent upon a single export-dependent, with the potential vulnerability that this entails. In these circumstances, sustaining growth and making it more pro-poor, especially in rural areas where the poor predominantly live, poses significant institutional and policy challenges for the Cambodian Government.

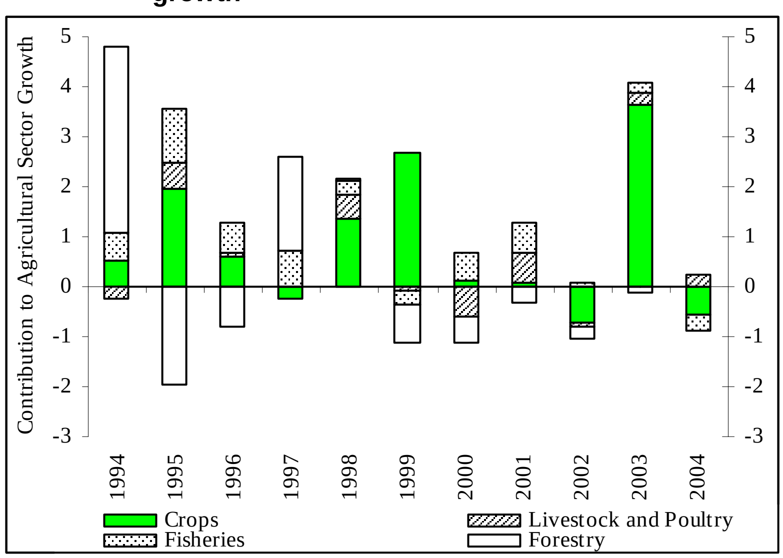
Agriculture

The pattern of agricultural growth

Cambodia's agricultural sector, inclusive of crops, livestock, forestry and fisheries, grew at an average 3.4 percent annually over the period 1994-2004, although the volatility of that growth was high. Since 1999, the sector has gone through three separate years of negative growth, affected by political unrest, the regional financial crisis in the late 1990s, severe floods in 2000, and drought in 2004 and 2005. The average annual rate of growth recorded over this period is significantly less than the industrial and service sectors of the economy, and agriculture's share of GDP fell from 45.9 percent to 30.9 percent. However, the proportion of the labor force having a primary occupation in agriculture remained at over 70 percent.

Though there was no significant change in the overall structure of the agricultural sector over the period, there *were* differences in sub-sector contributions to agricultural growth (Figure 4.2). On

Figure 4.2: Sub-sector contribution to agricultural sector growth



Source: *National Accounts of Cambodia, 1993-2004,* National Institute of Statistics.

Table 4.2: Cambodia's agricultural performance has been lackluster compared to neighboring countries in their early stages of development

	Cambodia	China	Lao PDR	Vietnam	Indonesia	Malaysia	Thailand
Comparison period (respective early stage of development)	'93-'03	'80-'90	'90'00	'90-'00	'70-'80	'70-'78	'65-'75
Average growth rate of agriculture value-added (% p.a.) during comparison period	3.3	6.2	4.6	4.3	4.5	5.0	5.0
Per capita GDP (constant USD)							
at beginning of comparison period	266	180	227	227	245	1103	405
at end of comparison period	314	364	326	397	397	1648	614

Source: World Development Indicators.

average, crops contributed the most (56 percent), while the contributions from fisheries (30 percent) and livestock (11 percent) were more modest[4]. The contribution from forestry has been slightly positive over the whole period (just over 2 percent), but significantly negative since 1999.

Within the *crops* sub-sector, rice paddy has remained by far the predominant activity; accounting for about half of gross value added from crops, with horticultural crops combined being the next most important category at 10 percent of crop value. No other crop accounts for more than 4 percent of total crops, despite upswings in maize and soybean production since the late 1990s, which are responding to the healthy regional growth of livestock sectors. As analyzed in more detail below, the key binding constraints to higher yields and diversification of crops are: insecurity of land tenure; poor irrigation and lack of other critical infrastructure, including all-weather roads; weak human capital; and the lack of access to, or high cost of, capital.

Within the *livestock* sub-sector, poultry and swine production have each grown at just over 2 percent per annum, slightly higher than the rate of large ruminant production (1.7 percent). In value terms, poultry is still the smallest of these three livestock activities, and an outbreak of avian influenza is unlikely to exert a large negative impact on overall growth of the sub-sector, although a pandemic could exert a very negative impact on tourism.

Total real value added from *fisheries* is slightly higher than that from rice production. Within fisheries, the inland capture component accounts for over three-fourths of the value of production but is the slowest growing, followed in size by marine capture (13 percent), which has expanded rapidly, then aquaculture (9 percent). Most fish catch is consumed domestically and exports—between US$40-50 million per annum from 1999-2003, mostly inland to Thailand—are almost all unprocessed. Official statistics tend to undercount the total fish catch, and

[4] Relative contribution to overall agricultural growth normalized to equal 100 each year (for example, the contribution of crops in 2003 is (3.6/4.0)*100=90 percent).

a significant proportion of marine fish catch is sold on the open sea and is therefore not captured in official statistics. There are indications that the inland capture from the Tonle Sap basin is reaching the limits of exploitation for certain types of fish, and notwithstanding some improvements, conflicts over ownership rights also continue to inhibit higher growth.

Though the *forestry* sector grew at an average rate of 3.9 percent per annum during the past decade, this performance is heavily skewed by the exceptional growth in 1994 and 1997. Since then, the sub-sector has contracted sharply, by an average of 7 percent every year. The main reasons for this contraction include the moratorium on commercial logging, deforestation, and poor management of concessions.

Not only has agricultural growth in Cambodia been low relative to its industrial and service sectors, it has also been unimpressive relative to its neighbors during comparable stages of development (Table 4.2). Many East Asian countries' agriculture sectors registered an annual growth rate of 5 percent or more over a decade or longer. For example, Thailand and Malaysia during the late 1960s through 1970s, and China during the 1980s and beyond.

Main determinants of agricultural growth

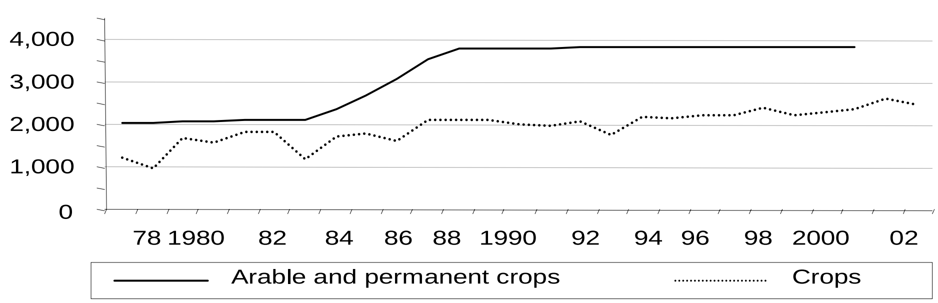
In the last decade, the contribution of agriculture to overall economic growth has come largely through accumulation of factors of production—land and labor—as part of extensive growth of activity, with only modest improvement in productivity from very low levels. Rice production is still the overwhelmingly predominant crop, but some diversification and regional specialization may be emerging as farmers take advantage of agro-ecological characteristics of different agricultural systems and of market opportunities. Total investment (public and private) in the agricultural sector over the last decade has been anemic overall.

Land is being brought into agricultural use, mostly via conversion from forest land, which is averaging about 1 percent per annum (Figure 4.3). The largest increase in absolute area was for cereals, although this was also the lowest proportionate increase, while the fastest growth in proportional terms was for oilseeds, pulses and roots and tubers. Vegetables had the lowest growth in both absolute and proportionate terms of all the major crop groups.

In Cambodia, only 7 percent of arable land is irrigated, well below the 20-30 percent range in most neighboring countries (Table 4.3).

Figure 4.3: Land is being brought into agricultural production, mainly through conversion from forest

- '000 hectares



Source: FAOSTAT

Table 4.3: Compared to its neighbors, Cambodia has very little irrigated arable land

	Irrigation land ('000 ha)		Arable land ('000 ha)		Irrigation land share, %	
	1990	2002	1990	2002	1990	2002
Cambodia	0.2	0.3	3.7	3.7	6	7
China	48.0	54.9	123.7	142.6	39	39
Indonesia	4.4	4.8	20.3	20.5	22	23
Lao PDR	0.1	0.2	0.8	0.9	17	19
Malaysia	0.3	0.4	1.7	1.8	20	20
Myanmar	1.0	2.0	9.6	9.9	11	20
Philippines	1.6	1.6	5.5	5.7	28	27
Thailand	4.2	5.0	17.5	15.9	24	31
Viet Nam	2.9	3.0	5.3	6.7	54	45

Source: FAOSTAT

Cambodia has only added about 20,000 hectares of irrigation infrastructure over the 1990s, and no large scale irrigation schemes have been undertaken since 1974 (although allocations to irrigation in the last budget have risen). At present, only about 10 percent of the rice area, or 256,000 hectares (and much less during the dry season) are effectively irrigated because of the general dilapidated status, poor initial design, and inadequate management of irrigation infrastructure. Thus, most of agriculture is dependent on the vagaries of rainfall, with attendant higher risks to the use of purchased inputs for small farmers, and reduced capacity to undertake crop activities during the dry season.

Labor in agriculture is also growing. The number of working-age adults for whom agriculture is the primary sector of activity has grown by over a quarter over the last decade, or by about 2.7 percent annually, to 4.9 million in 2003. The high demographic growth rate in Cambodia, and limited absorption of labor into the secondary and tertiary sectors of the economies, leaves the agricultural sector to absorb a growing national labor force (about 250,000 new entrants a year), although some labor also migrates abroad, mostly for seasonal or temporary employment (Box 4.1).

Productivity gains. The agricultural sector grew very little through increases in productivity. The simplest measure is physical yields of output per unit of land and/or labor input. While yields of a couple of crops such as rice and maize have grown during the past decade, the majority of crops did not (Table 4.4).

Cambodia's relatively modest gains in yields, overall, are telling in light of other neighboring countries' performances. Value added of agricultural output expressed in terms of labor and land productivity for Cambodia were the lowest among Asian countries in 1978 and achieved very little progress over the subsequent two decades to date (year 1999), leaving it even further behind.

Box 4. 1: Internal and cross-border labor migration has become important for many

A mixture of push and pull factors have led a number of farmers to turn to waged farm and off-farm work, both within Cambodia as well as across the border in Thailand. The push factors relate to slow growth or stagnation in the rural economy in much of Cambodia. Increasing landlessness, inadequate irrigation and transport infrastructure, imperfect credit markets, and the pressure of rising input costs not offset by decreasing or stagnant prices for outputs have all made life harder for many rural households. Against this is the pull of seasonal or longer-term casual employment in local towns, Phnom Penh, or Thailand. Both men and women are involved in seasonal waged agricultural work. In the dry season, men usually migrate seasonally to search for jobs as construction workers in Phnom Penh and other towns, while women work in garment factories or in the service industry. Remittances from male migrants are not as reliable, as garment workers have a more stable monthly income than construction workers who are hired and paid on daily basis.

The importance of short- or long-term migrant labor is especially pronounced in border Provinces such as Battambang and Banteay Meanchey, where migration has become an important livelihood coping strategy or an alternative source of income for the poor in many communities in the last four or five years. In some communities in Battambang, about 70-80 percent of the economically active population are working in Thailand. For some households, migration is now the main source of income, while almost all households have some members who sell their labor when not engaged in farming.

> *Because of out-migration, people in this community can earn money to support their families by selling strong, unskilled labor. We worked in Thailand for a month and a half and we brought home around 3,000 baht (approximately US$75) after spending for our daily needs and other expenses such as a work permission letter.* MOPS focus group discussion, Battambang.

Migrant labor in the border Provinces can be divided into three types: in order of importance, they are farm work at the Thai border, farm work at the Khmer border, and non-farm work deep inland in Thailand. Working on the Thai side of the border is more lucrative, and workers often benefit from free fruit and vegetables and a generally lower cost of living. Migrant work in Thailand has been recently facilitated by the offer of formal work permits by the Thai government. Seasonal waged farm work has become increasingly significant in Malai district in Battambang Province, where it is estimated that about half of the workers migrate seasonally to work either within Malai or in Thailand. Most can find employment for on average 6 months a year, earning approximately US$270, compared to the average rice farmer's annual income of US$100.

Source: CDRI 2006a (forthcoming); EIC 2006 (forthcoming).

Specialization. The Plain and Tonle Sap zones dominate in terms of total crop production value, and these two zones account for five to eight times the value generated in Coastal or Mountain/Plateau zones. All the zones, with the exception of Phnom Penh, get three-quarters or more of their total crop value from rice production, indicating that crop specialization, has yet to exert a significant influence on the structure of production. Nonetheless, anecdotal evidence indicates that specialization may be emerging. For example, the production of maize is concentrated in Battambang, largely in response to cross-border market links to the Thai livestock economy, while the production of soya, which is mostly transported to southern Vietnam for processing (mostly small-scale), is largely concentrated in the Plain province of Kompong Cham.

Investment. Annual public investment, inclusive of both domestic and donor funds, in the agricultural sector has grown in recent years but remains very low, at

Table 4.4: Most crop yields did not improve over the last decade, with the exception of maize

	Area harvested	Yield (MT/Ha)		
	2004 ('000 ha)	1985	1995	2004
Rice Paddy	2,093.0	1.2	1.8	2.0
Maize	91.0	0.9	1.2	2.8
Sweet Potato	8.5	3.0	4.2	4.0
Cassava	22.0	2.1	6.6	6.4
Beans, Dry	35.5	0.5	0.8	0.7
Soybeans	29.9	1.3	1.0	1.3
Groundnuts in Shell	12.0	0.6	0.8	0.8
Coconuts	13.0	4.8	4.8	5.5
Seed Cotton	0.2	1.1	1.5	1.4
Mangoes	3.5	10.0	12.9	10.0
Coffee, Green	0.4	0.5	0.8	0.8
Pepper, White/Long/Black	0.4	3.8	6.3	6.9
Jute, Yield	0.4	1.6	1.0	1.5
Tobacco Leaves	9.7	0.5	0.8	0.8
Natural Rubber	43.5	0.9	0.8	1.1
Sugar Cane	10.0	21.1	27.3	22.0

Source: FAOSTAT.

about 1.4 percent of agricultural GDP (or about 0.5 percent of total GDP). The main vehicles for such investments in the sector were the programs of the Ministry of Agriculture, Forestry, and Fisheries (MAFF), the Ministry of Water Resources and Management (MOWRAM), and the Ministry of Rural Development (MRD). Meanwhile, foreign aid flows have been highly skewed away from agriculture, and despite the size of the agriculture sector, the share of foreign aid going to the agricultural sector since 1999 has only been in the 8-10 percent range. Most of this funding has been for technical assistance, often for institutional capacity building, and the impact of technical assistance has been largely disappointing. Actual disbursements of foreign direct investment (FDI) in agriculture, estimated by the IMF, peaked in 1996 but subsequently sputtered at around 2-4 percent of GDP during 2000-2004. In terms of shares, FDI going to the agricultural sector peaked at 21 percent in 2002, but dropped back to 1 and 7 percent, respectively, in 2003 and 2004. Finally, according to CDC data, only five agricultural or agri-business investment projects were approved in the four-year period up until end-2004 (two FDI and three joint ventures). No domestic investment projects were approved. The relatively low levels of total investment in agriculturally-based activities in recent years are a clear indication that the returns to investment are low.

Institutional capacity: Returns to investments in the agricultural sector are also reduced by the still-limited provision of non-infrastructure public goods by the Government as capacity continues to be built in two key areas, agricultural technology (generation, adaptation and dissemination) and public regulatory capacity. Public extension services have yet to build effective capacity for reaching farmers. Less than one percent of farmers have access to any form of extension services (Castellanet 2003). The lack of regulation of input markets, where there are often strong and important information asymmetries, makes it difficult for farmers purchasing inputs to know if seed, seedlings, and breeding stock are of good quality, whether fertilizer has the labeled nutrient content, and whether pesticide content is as advertised. Falsely labeled fertilizer with lower element content, seed with poor germination rates, and marketing of expired or supposedly banned pesticides, are all barriers to higher productivity.

Industry

The industrial sector has been the fastest growing sector in Cambodia over the past decade, at an average of 15.4 percent per year. Its share in the economy has more than doubled to 28.9 percent in 2004, and the sector contributed over 41 percent of total GDP growth over the period, and now employs about 8 percent of the labor force. Within the industrial sector, garment manufacturing and construction were the primary growth engines, contributing on average, 28.9 percent and 6.4 percent, respectively, to overall growth. Before analyzing the underlying factors for the phenomenal growth of the garments sector, the next section reviews the performance of the agri-business sub-sector, which has suffered from the inability of the agricultural sector to move up the value chain into processing activities, even as the production of primary inputs has increased.

Agri-business

Agri-business consists primarily of tens of thousands of micro-enterprises, a few hundred small and medium enterprises (SMEs), and only a handful of companies with more than 100 employees. Only about one and one-half percent of the labor force is involved in agri-business, with the average micro-enterprise consisting of 2-3 workers. Among the SMEs, rice milling is by far the most common activity, while other grain mills such as bean and potato powders are a distant second. Estimates of value-added per worker vary hugely between US$300-$3,000 per year with three provinces accounting for 95 percent of total output: Kompong Speu (70 percent), Svay Rieng (16 percent), and Battambang (9 percent). All three are located along major international trade routes; a powerful indication of the impact of trade linkages to output.

By all indications and by any measure, agri-business has underperformed over the last decade or so, growing by an average of only 2.7 percent per year, and its share in GDP has declined from 5.2 percent in 1994 to 3.3 percent in 2004.[5] Contrary to the experience in many other developing countries, and for reasons explained below associated with poor governance, the agri-business sub-sector in Cambodia has not yet played a key role in forging and expanding the links between farming and industry, and thereby accelerating the transition to a more modern and diversified economic structure.

As indicated above, paddy rice production contributes 50-60 percent of total crop production by value-added but contributes little to GDP on a per ton basis, due to an almost complete lack of processing for export, despite a global market of about 12-15 times Cambodia’s surplus production. Rice exports vary wildly with no clear pattern over time as these data are not officially reported, and raw Cambodian paddy is often supplied to Thailand and Vietnam for processing.

[5] The National Accounts classify agri-business activities under “Manufacturing”. They comprise food, beverages, and tobacco, and paper and rubber manufacturing.

Partly because of low economies of scale from small and fragmented rice millers, low yields and levels of milling efficiency, and high operating costs and unofficial fees, returns to commercial milling of paddy rice are very low. Paddy traders are small independent operators, transacting with just a few farmers and millers they know well, and widespread milling has failed to take-off. The most well-known exception is that of Angkor Kasekam, which operates on the basis of contract farming arrangements, (along with British American Tobacco (BAT) in the case of tobacco). Contract farming arrangements have helped ease some of the constraints to processing activities (Box 4.2).

Box 4.2: Contract farming - Fragrant rice and tobacco

Fragrant Rice. A variety of fragrant rice, Neang Malis, is cultivated free of chemical pesticides and fertilizers in a carefully selected area in central Cambodia where rich soils provide an optimal growing environment. The quality of fragrant rice largely depends on its planting area in four provinces in central Cambodia concentrating in Kampont Speu (with 80 percent of participating farmers) followed by Kandal, Kampot, and Takeo. On average, contracting farmers are able to harvest approximately 2 tons of rice per hectare, or up to 3 tons per hectare with improved irrigation system.

Nearly 80,000 families are contracting with Angkor Rice Company (2004) to grow Neang Malis. Since there are no middlemen, Angkor Rice has control of the entire rice production process. To become a member, each farmer enters into an agreement with Angkor Rice to closely follow the growing protocol. At the start of planting season in July, Angkor Rice distributes high quality Neang Malis seed to contract farmers, who are not allowed to plant their own grains. During the growing season, Angkor Rice staff regularly visit the rice paddies to provide additional instructions and support to the members.

Members harvest the crop and bring it to the rice mill, where a quality-control team checks the quality of rice grains. Only rice lots that meet the company's high standard will be processed at the rice mill so that only the best rice is marketed.

Pungent Tobacco. Since launching its Cambodia activities in 1996, British American Tobacco (BAT) has expanded its contract farming of tobacco to some 800 tobacco growers in the Kompong Cham province. Farmers and BAT agree to individual, renewable annual contracts. BAT has provided free tobacco seedlings, assistance growing wood lots for fuel for on-farm drying barns, organized technical assistance through village-stationed instructors, and makes credit available for agricultural investment. Farmers agree to sell a specified quantity of tobacco leaf at pre-set prices, and are free to sell any production above these levels on the market. Assisted by these contractual arrangements and services, BAT's contract farmers have more than doubled their yields, reduced their costs by almost half, and considerably increase their incomes. A number of these farmers have been able to buy tractors and water pumps.

With an improvement in the quality and quantity of tobacco being produced by its contract farmers, BAT Cambodia now sources about three-quarters of the tobacco needs for its local factories from domestic supplies, and has even begun modest exports of semi-processed leaf to Sri Lanka, Singapore and Australia. But the domestic cigarette market is saturated, the company complains of unfair treatment vis-à-vis domestic competitors, and export growth for tobacco leaf would depend on continued improvements in quality and favorable international prices, so no further expansion of the tobacco contract farming model appears on the horizon.

Sources: Angkor Kasekam Roongroeung Co. Ltd. Homepage, www.angkorrice.com; Ung, Luyna and Sopheakalyanika Sras, SNEC, February 2005. Economic Institute of Cambodia, Interview with Corporate & Regulatory Affairs Manager of British American Tobacco (BAT), January 2005.

Because of measurement issues, it is impossible to accurately verify the growth rate of rubber manufacturing.[6] Cambodia has about 65,000-70,000 hectares of rubber production near the Vietnamese border, producing 42,000-45,000 tons of rubber per year, which contributed US$13-17 million to GDP each year between 1998 and 2003, almost all in the form of exports. Tobacco manufacturing leveled off after 2001 after a 15 percent growth per annum in earlier years.[7] In 2004, tobacco manufacturing constituted 9 percent of agri-business and 0.3 percent of GDP in 2004. Wood product manufacturing also showed an absolute decline from 1993-2004, reflecting in recent years, the decline in logging as part of the effort to preserve Cambodia's forests. However, there is some doubt as to whether this decline is real or reflects under-reporting of illegal logging.

Beverages constitute one of the smallest sub-sectors of agri-business. Its share fell from 15 percent of agri-business and 24 percent of food processing in 1993, to only 6 percent of agri-business and 9 percent of food processing, due to rising input costs, pricing pressure, and competition from imports. Processing of other agricultural crops remains small and underdeveloped. In particular, maize has had strong growth largely serving Thai animal feed markets, but very little is processed for export. Some 10,000-15,000 tons of raw cashews flow informally to 80 processing factories in Vietnam, the dominant exporter to the 160,000 ton annual global market. Almost all of domestic seed oils are imported despite domestic cultivation of soybeans and sesame seeds which are informally sent to Vietnam for processing and re-importation. Finally, Kampot province is reported to produce high quality organic pepper, once considered by the French culinary to be the best in the region, but with only a US$2.2 million crop, it also remains an underdeveloped agri-business activity.

Garments

Cambodia's performance in garments production over the last decade was both unpredicted and remarkable. In constant prices, total production of garments increased by an average of 56 percent per year between 1994 and 2004.[8] Virtually all garment output was exported to the preferential US and European Union (EU) markets. A quarter million people are directly employed in the sector. The vast majority of the garment factory workers (85 percent) are women from rural villages. Most of these workers remit a significant part of the salaries back to their families (Box 4.3).

According to the 2004 CSES, about 13 percent of rural households received some remittances from family members working in cities, and the annual average amount of remittances (327,000 riel), among receiving rural households, constituted less than 10 percent of total household consumption. The extent of remittances among the poor and the indigent was very similar to average rural households.

6 In 1998, the source for rubber value-add measurements switched from NBC/Customs to MAFF rubber directorate, sharply increasing the volume of rubber counted; at the same time, world rubber prices dropped, reducing per ton value. This makes the numbers of pre- and post-1998 impossible to compare.

7 This growth was not even; there were two years with declines.

8 Classified as "wearing apparel" in the National Accounts.

Box 4.3: Garment factory jobs and remittances: the view from the factories and the villages

While the impact of rapid growth in export-oriented garment manufacturing on overall GDP is extremely impressive, it is less clear how deeply or widely this sector-specific growth has affected the poor. Surveys have confirmed that those employed in garment factories—almost all of whom are young women—may be poor but are rarely the very poor. This reflects in part the significant costs (in terms of transport and bribes—200,000-300,000 riel or US$50-US$75—paid to supervisors) that are often required to secure a job. A factor that appears to distinguish migrant-sending families from others in the same villages is their ability to obtain credit to cover these entry costs. (Social networks are also important; those with contacts are less likely to have to pay commissions to secure a job.) The allocation of the benefits primarily to the poor or middle-income groups rather than the poorest also reflects the power of employers, faced with a considerable over-supply of labor, to pick and choose only those with above-average education.

Nonetheless, it was notable that in those MOPS and EIC case study communities in which migration was important, having a daughter working in the garment industry was considered to be one of the primary factors in allowing families to move out of poverty (and more important than access to migrant work in other sectors such as construction or agriculture). One MOPS focus group respondent noted:

> *Those families who have daughters are lucky because they can earn some money from their children's labor... About 70-80 percent of girls aged from 16 to more than 20 have gone to Phnom Penh or other urban areas to work as garment workers or housemaids. They can release some burdens from their family because on the one hand their parents don't have to worry about spending on them and on the other hand their parents can get remittances from them.*

For most, the cost of getting a job is considered a worthwhile investment as workers are then able to earn between US$30 and US$80 a month. A large amount of this (averaging around US$30 a month) is sent home to the workers' families. Given that there are approximately 230,000 garment workers and some 2.5 million households in Cambodia, the garment industry has the potential to improve the incomes of up to 9 percent of all households. The key questions are how the money is used by rural households (whether it sustains consumption or can be invested in productive assets) and whether it is sustainable, or for how long. Different studies reach slightly different conclusions, strongly suggesting that the uses and impact of remittances may vary considerably between households and localities. In some cases (generally in areas that were already less poor), the receiving household puts the money to use in productive investments (e.g. buying fertilizer or pigs to fatten) to renovate their homes, dig wells, invest in farm inputs or livestock, purchase motorbikes and TVs, and send their younger children to school. (In one study, it was found that significant amounts of total remittances were used to hire labor, implying at least some multiplier effect within the village economy.) By contrast, in other, poorer areas, particularly those in the south-eastern Plains region that were badly affected by natural disasters, the money simply helped the recipient families sustain current, low levels of immediate consumption, allowing flood- and drought-affected households to purchase rice and other food, settle health expenditures, invest in restarting rice production, and pay off debts.

There is also the important question of the degree to which the employees themselves benefit. Expectations of the garment workers are extremely high. They remit a very large proportion of their wages to their families, often at the cost of their own current consumption. Thus, despite earning what is in Cambodian terms a good salary, many live at a subsistence level with consequences for their health and wellbeing. On top of this, their social status is ambiguous. The ADB PPA studies found that rural men reportedly often expressed a preference *not* to marry a woman who has worked in the garment factories in Phnom Penh, based on general suspicions of the morality of those who have lived in the city for extended periods (CDRI 2006 forthcoming).

Sources: CDRI 2006a (forthcoming); CDRI 2006b (forthcoming); EIC 2005; ADB 2004; Dahlberg 2006; ADI/CCC 2005.

The phenomenal growth of the garments sector in Cambodia was largely fortuitous. Just over thirty years ago, under the Multifibre Arrangement (MFA), quantitative restrictions (quotas) were imposed by governments of developed countries on imports of textiles and garments from the increasingly competitive garment companies located in developing countries[9]. As a by-product of this arrangement, many of the well-established garment companies in developing countries, mostly owned by nationals of Greater China, began shifting some of their operations to other developing countries with abundant labor, including Cambodia in the mid-1990s[10].

While it has grown remarkably over the last decade, and managed to secure itself at least for now, a corporate social responsibility (CSR) "niche", the garment industry could be potentially only a sputtering engine of growth in the future because of its "off-shore outlet" nature of operations. Such operations, which are characterized by low start-up costs, are subject to high entry and exit rates as producers constantly seek cheaper outlets that can quickly and efficiently produce quality garments. By end-2004, nearly three-quarters of the owners of factories in Cambodia were from the Greater China region, South Korea, Malaysia and Singapore, and these owners brought with them capital, expertise, and considerable experience. Only seventeen percent of owners were Cambodians, and most of them are in partnership with nationals from Greater China.[11] Most of the current foreign owners are based outside Cambodia and manage the operations of similar factories across a number of countries. Decisions on which factories to use to fill orders are made according to a variety of factors, including availability of quotas, desired quality, manufacturing costs, and delivery lead time. Thus, most outlet garment companies in Cambodia have no explicit role in deciding either their production levels or marketing strategies. Moreover, production in Cambodia relies on imported textile and other raw materials with limited backward linkages to a few informal and small-scale sub-contractors.

While the recent agreements between the EU and China and between the US and China to maintain quotas until 2008 will offer some measure of protection to Cambodian garment exports in the medium-term, it is not unreasonable to predict that unless Cambodia improves its competitiveness, especially against China, which has much better transportation and power infrastructure, and produces many of the required inputs which enable Chinese factories to quickly meet ever-shortening production deadlines, the garment industry is destined to become a much weaker growth engine for Cambodia[12]. Finally, it is also likely that over time Cambodia's first-mover advantage in terms of its CSR "niche" will

9 Including China, Egypt, Hong Kong, India, South Korea, Pakistan, Taiwan, Thailand, and Turkey.

10 Comprising mainland China, Hong Kong, Macau, and Taiwan.

11 *Measuring Competitiveness and Labor Productivity in Cambodia's Garment Industry*; Table 3.6.

12 A recent WTO paper (Nordas, 2004) simulating the effects of the end of quotas and the associated changes in relative prices found that China will be a big beneficiary and that several small clothing producing countries, including Cambodia, will be significant losers. Also, China's imports of textile and clothing machinery (TCM) have expanded sharply over the last few years, and now account for about a quarter of world TCM imports.

wane as other countries eventually adopt similar practices.

Construction

Construction is the second most important industrial sub-sector (after manufacturing). In 2004, construction activity represented 6.4 percent of GDP and employed 2.4 percent of the total employed population [as percent of labor force]. Over the last decade, construction activity expanded by an average of 11.9 percent per annum, and contributed an average 6.4 percent per year to overall economic growth (out of 100). The growth of the sub-sector has benefited from the expansion of both garment and tourist activities, as well as from the Government's infrastructure projects. The share of total construction coming from the tourism industry has declined in recent years, signaling possible saturation of the tourist market around Angkor Wat. Current construction activity is focused mainly in Phnom Penh and Siem Reap (EIC 2005).

Services

The share of services in the economy has remained stable over the 10-year period in the range of 34-38 percent, and currently employs about 22 percent of the labor force.[13] Within the services sector, the highest average annual contributions to overall GDP growth have come from hotels and restaurants (6.6 percent); transport and communications (6.5 percent); trade (4.9 percent); and other services, including health and education (7.6 percent). Overall, the services sector expanded by 9.2 percent in 2004, significantly higher than in the two previous years, reflecting robust growth in tourism, from both a high rebound in international tourist arrivals following the regional slump in 2003, and sharply higher numbers of domestic tourists (Abassi, 2005)[14].

Tourism

The "hotels and restaurants" classification in the National Accounts indicates that tourism-related activities have grown by an average of 14.6 percent per year, and accounted for 4.7 percent of GDP in 2004. The sub-sector's contribution to overall growth increased from 5.0 to 12.5 percent of GDP (out of 100), while its share in total services rose from 6.2 percent in 1993 to 13.7 percent over the period.

Tourism is a re-emerging industry in Cambodia, rather than a new one. In the 1950s and 1960s, the southern shorelines were popular tourist destinations year round, but thirty years of civil war subsequently destroyed most of the infrastructure connecting tourist destinations and eliminated the required social capital and hospitality skills. Fortunately, most of the country's prime cultural assets in the form of dozens of Khmer temples, including the unique site of Angkor Wat just outside Siem Reap, remained untouched. Together with the advent of political stability, the listing of Angkor Wat as a World Heritage Site by UNESCO in December 1992 was followed by considerable international financial and technical support to rehabilitate the site and significant initial inflows of tourism-related FDI.

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13 CSES (2004).

14 The Cambodian tourist is a person who has traveled over 10 miles for leisure and has spent money as part of the trip. However, the accuracy of the data is hard to verify and should be interpreted with caution.

Table 4.5: Growth in domestic tourists is increasingly important in recent years
- Thousands of tourists and percent annual change

	93	94	1995	96	97	98	99	2000	01	02	03	04
Domestic	266	320	38 5	465	282	422	1,012	1,215	1,464	1,757	1,821	4,251
% growth		20%	20%	21%	-39%	50%	140%	20%	20%	20%	4%	133%
International	154	216	294	339	284	290	368	466	605	787	701	1,055
% growth		40%	36%	15%	-16%	2%	27%	27%	30%	30%	-11%	51%
Total	420	536	679	804	566	712	1,379	1,681	2,069	2,543	2,522	5,306
% growth	-	28%	27%	18%	-30%	26%	94%	22%	23%	23%	-1%	110%

Sources: Ministry of Tourism and Ministry of the Interior.

As a result, international tourist arrivals have increased steadily since 1993, with average annual increases of 29 percent over the period, excluding 1997 and 2003 due to political instability and unfavourable external circumstances (Table 4.5). Siem Reap and Phnom Penh are still the two main hubs for tourists, but the Southern coast (Sihanoukville, and Kampot and Kep provinces) and the Northeast (Rattanakiri and Mondolkiri provinces) are receiving a growing number of both domestic and international tourists. The Northeast in particular benefits from eco-tourism attractions, such as ethnic minorities, rainforests, and wetland ecosystems, while the border areas of Poipet and Koh Kong attract gamblers from Thailand.

A recent case study of the effects of the expansion of tourism around Angkor Wat on the neighboring Puok district in Siem Reap province found that tourism-related activities contributed more than a quarter of local incomes in 2004 (Box 4.4); but that much of this was due to casual labor in the tourism-related construction sector, which now shows signs of slowing. The more permanent direct local effects (i.e. non-construction related effects, such as supplies of fresh foods to hotels and restaurants) from higher-end tourism-related activities around the country, including the effects of Angkor Wat on Puok district, have been much less significant[15].

A second study by CDRI covering eight villages in six Communes in Siem Reap Province came to broadly similar conclusions. A significant number of people in the countryside surrounding Siem Reap town were benefiting from the tourism sector, but the benefits of these linkages were distributed unevenly. As would be expected, those with education (generally non-poor) obtained the better jobs (with higher wages and greater employment security). The CDRI study also found considerable movement out of agriculture, as people in distant Communes migrated to Siem Reap town and those living in areas closer to the town sold land to invest in other, tourist-oriented activities.

15 While local backward linkages (construction, hotel, restaurant, and food preparation workers) are no doubt important to the communities around tourism hot-spots, including Angkor Wat, there is no reason to prefer locally supplied labor or any other input over that sourced from more distant parts of the country. What is important for the country as a whole is the level of labor productivity and the quality of other inputs.

Box 4.4: Tourism and the poor

One of the more puzzling aspects of the link between growth and poverty reduction in Cambodia over the last decade concerns Siem Reap Province. The province has received significant tourist revenues and relatively high levels of ODA and private (domestic and foreign) investment, yet remains one of the poorest Provinces in the country. A case study by the Economic Institute of Cambodia (EIC) of Puok District does show increasing incomes, including from tourism, at the District level. While the primary income sources are still based on traditional activities (e.g. cultivation of rice and other crops, raising livestock and fishing), an increasing number of households have obtained significant income from new activities associated with the tourism boom in nearby Siem Reap town. Most of these new jobs are in hotel, guest house and restaurant construction. Thousands of workers have been absorbed from Districts around the town, including Puok District, which has witnessed a seven-fold increase in construction jobs (from 450 to 3,300) between 1999 and 2005. Local officials and residents estimate that approximately 350 people from the District are working in restaurants, earning US$40 per month; and 450 people are working in hotels (often as cleaners), earning up to US$60 per month. These hotel and restaurant jobs are considered more secure as they are 'salary jobs', while construction offers day rates of about US$1.50 per day, and employment tends to be less secure, both in the short term as well as long term. At some point the hotel construction boom will taper off (this may have already started).

Another source of tourism-related employment has been derived from the presence, since 1999, of Artisans D'Angkor, a company which recruits and trains young artisans in traditional and contemporary arts and crafts oriented towards a wealthy tourist market. The company has created jobs for over 720 people, including 320 from Puok District, who earn on average US$70 per month. The benefits of the tourism boom are felt unevenly over the District. With poor roads, chances to obtain access to jobs or other opportunities in the town drops off rapidly with distance. Seven communes in the south-eastern part of the district closer to Siem Reap town and the national road that runs to it, containing about 47 percent of the population of the District, provide about 75 percent of the construction workers, 86 percent of restaurant workers and 95 percent of hotel workers.

The failure of Siem Reap's farmers to meet the hotels' and restaurants' demand for food has fairly prosaic, production-side problems; small land holdings, and often poor soil, a lack of water control infrastructure, and difficulties getting produce to the town in good condition have all made it hard for local farmers to compete with cheaper imports from Thailand and Viet Nam. Likewise, supplying mulberries for the growing silk industry (Artisans D'Angkor imports more than 90 percent of its silk) is another potential source of farming income. Apart from transport, the main constraint preventing District inhabitants from accessing tourist-related jobs, or at least the better-paying jobs as hotel staff or tourist guides, is the low level of education in the District. A conclusion to draw from this experience is that tourism will not result in major benefits for the poor of Siem Reap province without deliberate strategies in place and a framework for cooperation between the national Government, local authorities, local communities, donors and NGOs.

Source: EIC 2005.

Social capital was very important; networks of family and friends would help a would-be migrant acquire a job or warn a construction worker of contractors known for not paying wages due for work completed. Those without such connections would often have to pay the foreman or supervisor to obtain a job.

The conclusion from the EIC and CDRI studies would be that rural Siem Reap has indeed obtained some benefits (in terms of waged employment and to some extent supplying needs for handicrafts, flowers or vegetables) for the growth of tourism in Siem Reap town.

However, the non-poor have benefited more from the poor; and the gains to the poor are somewhat precarious, as they are primarily in the form of casual labor in the construction of hotels and restaurants, which cannot continue to grow indefinitely. Both studies agree that the greatest potential source of tourism-driven benefit to the rural poor—that is, increased demand for agricultural produce—has to date been limited, in part because of production-side constraints, and in part because of marketing difficulties that are typical of most of rural Cambodia. With limited information, high marketing costs, and limited potential to make risky investments in inputs that might improve production, Siem Reap's farmers have yet to reap major benefits from tourism. As elsewhere in the countryside, security of tenure, good extension services and investments in irrigation and rural roads could go a long way towards improving the supply response to increased urban demand[16].

Binding constraints to agricultural and agri-business growth

The patterns of poverty reduction are not unexpected given where and how growth occurred. The main reason that the rural poor have made advances but have nonetheless fallen behind is that the twin engines of growth over the period were generally urban-focused with weak urban-rural linkages. Meanwhile, agriculture, the primary livelihood of the poor, has attracted little investment in recent years and has experienced relatively slow growth, while its level of productivity has remained very low. Agri-business, a traditional link to a more manufacturing-based economy, has failed to expand despite surplus agricultural output.

Thus, looking ahead, in addition to sustaining its existing twin engines of growth, Cambodia also needs a more pro-poor and rural-focused engine of growth to accelerate poverty reduction. The obvious choices are agriculture-related activities. An extensive literature concludes that growth in the agricultural sector has the greatest poverty reduction impact, compared to growth in industrial or services sectors. In Cambodia, almost two-thirds of the heads of poor households in 2004 report farming as their main occupation, either self-employed tending to their own land or working for other farms. Over 20 percent of the poor depended only on crop cultivation for over half of their income. Thus, because of the importance of agriculture, steps to facilitate improvement in agricultural productivity and expansion of agri-business activities are necessary conditions for enduring poverty reduction. In light of this assessment, the following section offers an analysis of the key binding constraints to agricultural and agri-business growth using a simplified version of the conceptual framework recently developed by Hausman, Rodrik and Velsaco (2004)[17].

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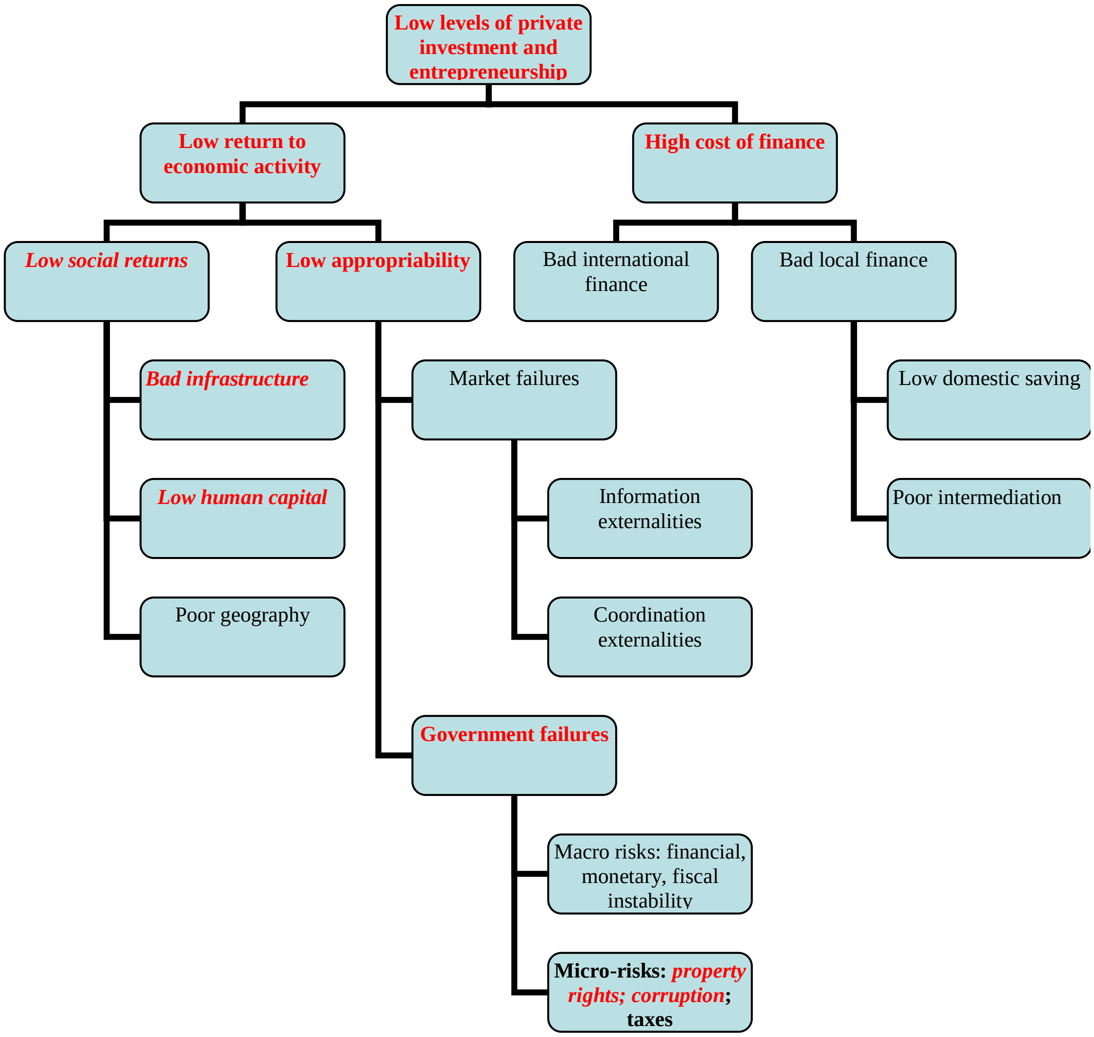
16 Improvements in national roads in recent years have actually disadvantaged many Siem Reap farmers, as it has become easier and cheaper in many cases to import produce from Vietnam or Thailand—or, indeed, from more productive parts of Cambodia such as Kien Svay in Kandal or Chamkar Leou in Kompong Cham.

17 A more disaggregated and rigorous analysis of the binding constraints to growth, including their relative rankings across major sectors and sub-sectors, is being prepared for inclusion in the more comprehensive study on the "Sources of Growth" referred to in footnote 1. While the "binding constraints" conceptual framework, which is being applied in a sample of other countries as part of a pilot program being conducted by the World Bank on "Growth Diagnostics" in consultation with leading academics in the field, is a helpful additional analytical tool to think through the hierarchy of

Figure 4.4: Growth diagnostics



Source: Hausman, Rodrik and Velsaco (2004).

The basic idea underlying the growth diagnostics under HRV framework is to analyze the key binding constraints to economic growth (or more precisely, to higher private investment and entrepreneurship) as separate decision trees under the two broad determinants of private investment; the returns to economic activity and the costs of capital (Figure 4.4). Returns to economic activity are, in turn, a function of the social returns to investment (i.e. the measure of how much of the benefits from investments are shared by society as a whole) and the private appropriability of those returns (i.e. how much of the benefits from investments are recouped by those who finance the investment and bear the inherent risk). The costs of capital are a function of the international and local financial climate.

the key constraints to growth, the framework does not offer any particular insights as to why particular constraints are binding. Indeed, constraints are likely to be binding precisely because they are not easily eased or eliminated. Nevertheless, the identification and ranking of the key binding constraints are necessary first steps to at least easing them.

In turn, low social returns can be caused by poor geography, low human capital, and/or inadequate infrastructure, while weak private appropriability of returns can emanate from: (i) government failures, such as weak property rights and corruption at the micro level, and monetary and/or fiscal instability at the macro level, and/or from (ii) market failures, such as information and coordination externalities.

The essence of the analysis is to determine which of the many constraints to higher growth are actually binding, in the sense that if they were eliminated or eased, growth would immediately ensue. It is important to analyze the binding constraints to growth at a disaggregated level, because they differ in nature and severity across economic activities.

Primary binding constraint to agriculture growth: weak private appropriability of returns from ill-defined property rights

Concerns over private appropriability can prevent investments being made not because they would not be profitable, but because the risks that these returns would not be appropriated by the investor are too high. Examples of key impediments to private appropriability of returns include micro risks related to, *inter alia*, poor definition and protection of property rights and contract enforcement, weak and volatile governance, and uncertainty over the commitment to maintain the current rules of the game.

Property rights: In the agricultural sector, the most binding constraint to growth is the insecurity of land tenure. Many small farmers work on land essentially acquired through allegiance to local commanders in the peace deals brokered through the late 1990s[18]. The lack of official title and insecurity of tenure results in farmers having a short time horizon for agricultural planning and shunning investments which take longer to pay off, such as land leveling for irrigated land, soil amendments for fertility, and tree crops. Thus, weaknesses in the framework for tenure security generally serve as a disincentive to agricultural investment in Cambodia. (More analyses are provided in Chapter 5). While titling of private lands in areas of long-established settlement is proceeding through systematic as well as sporadic procedures, it is expected to require at least ten years for completion of the titling process on the estimated 5 million private parcels in Cambodia. In addition, as many as a third of all households using land may currently be ineligible for title as the land they occupy is technically state land, even if, as in the case of indigenous communities, they are eligible for recognition of the tenure rights under the 2001 Land Law.

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[18] All land titles for private and state property were destroyed under the Khmer Rouge, and most land professionals, judges and community leaders either died or went into exile. Even traditional claims to land were lost as a result of the massive displacements of populations under the Khmer Rouge and during the continued conflict which lasted until 1998. More recently, the allocation of state lands, following the initial distribution of residential and agricultural lands to all households in 1989, has reflected political as much as economic motivations with large tracts officially provided to military units, ostensibly to support demobilization of their troops, and unofficially to political and business associates to consolidate political hegemony. The consequence of this difficult history is that the legal framework for tenure security is being re-developed, registries and other inventories of property rights are being reinstituted, and the credibility of judicial and non-judicial mechanisms for dispute resolution and contract enforcement is slowly being strengthened.

Furthermore, most of the business interests which have obtained official contracts to develop large scale agricultural land concessions (almost one million hectares since 1995) have been unable to realize the intended investments as less than 5 percent of the contracted area is under production, in part due to continued conflict over the boundaries of their concessions which were never adequately surveyed and demarcated to ensure they did not overlap with existing settlements or forests or protected areas (World Bank 2004).

Second-order constraints to agriculture growth: *low social returns from poor infrastructure and low human capital stock*

Low social returns to investment can result from an inadequate supply of complementary factors of production, such as infrastructure, human capital, or poor geographical endowments.

Infrastructure: In the agricultural sector, the lack of basic infrastructure and complementary public services constitute second-order constraints to growth, in the sense that a variety of such constraints would become increasingly binding as the constraint of land security is eased. In particular, the relatively under-developed small-scale irrigation infrastructure increases the vulnerability and variability of agricultural production, as well as lowers the overall productivity of the activities undertaken. Also, inadequate access to road infrastructure and transport, acts as an impediment to increasing farm productivity, since it raises the cost of trade, lowers the farm-gate price of production, and increases risks and transport losses for marketing of higher value, perishable products[19].

Human capital: Growth in all sectors of the economy will be constrained by the low human capital stock and this constraint is likely to become more binding as land security, governance, and all types of public services improve. Thus, higher returns to investment and diversification of the production base will also require an improvement in the quality of the stock of human capital over time. For example, the returns to schooling are sizeable and increasing over time (Chapter 6). The positive impact on growth of contract farming arrangements highlighted above would seem to exemplify the benefits of improved human capital in agriculture.

Primary binding constraint to agri-business growth: governance

The prevalence of informal fees may not rank as first- or second-order constraints in the agricultural sector, but constitute the primary binding constraint to growth of agri-business. Large agri-business companies have found that commercial returns to both manufacturers and traders can be attractive, only if either: (i) non-commercial barriers are sufficiently reduced to compensate for the high informal fees; (ii) protection from excessive fees is secured in exchange for the exclusive "right" to operate; or (iii) production occurs higher up the value chain to cushion against high fees. However, the majority of smaller agri-business companies do not have such

[19] While the benefits of rural infrastructure are evident, analyses of the costs of infrastructure have yet to be carried out with sufficient rigor to determine which parts of the country are best suited to what types of investment in infrastructure, in particular irrigation facilities. More analysis is provided in Chapter 5.

options. Even for those agri-business companies already operating, the high uncertainty and seemingly arbitrary nature of these fees make it impossible to plan business, and therefore impossible to accurately finance any expansion. Productivity-enhancing investments are not made, keeping small processors small and larger processors few in number. As has been well documented in recent studies, informal payments for licensing, securing access to domestic markets, trade facilitation, and carrying out economic activities in general is frequent (82 percent of responding firms) and substantial (5 percent of sales).[20] Worst of all, those charged with law-enforcement—police, customs agents, regulators—are often the same people involved in extracting rents.

Second-order constraint to agri-business growth: high cost of capital

Local finance: The banking sector is crowded with many small banks (17 domestic) which can only provide expensive short-term financing. Reflecting the fact that these domestic commercial banks are still relatively weak, interest rate spreads have remained high, loan maturities short, and the price of capital in the formal market expensive. Because of the high costs of, and/or lack of access to, formal finance, start-up and quasi-formal enterprises rely mostly on retained earnings and informal networks of family and friends, sometimes at high usury rates, while formal enterprises, including exporters, rely on retained earnings (Development Consulting International 2003).

With the exception of ACLEDA, a former micro-finance institution that recently transformed into a commercial bank, the formal sector simply does not provide financial services to rural populations. Only a third of the 24 provinces in the country have commercial bank outlets, apart from ACLEDA, while another third have no formal bank facilities at all. The areas around Phnom Penh, Sihanoukville and the Tonle Sap are comparatively better served, but even where branches do exist, they typically are located in provincial capitals with no outreach capacity. The formal sector's reluctance to lend in rural areas has to do with the higher costs of reaching dispersed and small-scale clients, coupled with the difficulty of assessing credit risks and the absence of reliable collateral. In the case of agri-business, if the governance-related constraints were eased, potentially profitable activities would still find it difficult to get started because of a lack of access to capital both from formal domestic financial services, and from FDI via partnerships with foreign companies because of the poor investment climate (Chapter 7).

[20] Such fees have been estimated at 4-5 percent of sales revenue. See *Cambodia: Seizing the Global Opportunity: Investment Climate Assessment and Reform Strategy* prepared for the Royal Government of Cambodia by the World Bank Group (August 2004). In the case of agri-business, it should be noted that this range is very close to the average profit margins of world-class agri-businesses, such as Thai Union Frozen, one of the largest tuna processing companies in the world.