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Sharing Growth: Equity and Development in Cambodia

Equity Report 2007

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ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank	MOEYS	Ministry of Education, Youth and Sports
ANC	Antenatal care	MOH	Ministry of Health
ARI	Acute respiratory infection	MOPS	Moving out of Poverty Study
BCG	Bacillus of Calmette and Guérin: vaccination against TB	NCD	Non-communicable diseases
C/SC	Commune / Sangkat Council	NGO	Non-Governmental Organization
CARERE	Cambodia Area Rehabilitation and Regeneration Program	NIPH	National Institute of Public Health
CAS	Center for Advanced Study	NIS	National Institute of Statistics
CDC	(i) Commune Development Committee; (ii) Council for the Development of Cambodia	NSDP	National Strategic Development Plan 2006-2010
CDHS	Cambodia Demographic and Health Survey	OCA	Overlapping Claims Area
CDRI	Cambodia Development Resource Institute	ODA	Official Development Assistance
CIPS	Cambodia Inter-Censal Population Survey	OECD	Organisation for Economic Cooperation and Development
CNPA	Cambodia National Petroleum Agency	OOPS	Out-of-pocket spending
CSES	Cambodia Socio-Economic Survey (1997, 2004)	PETS	Public Expenditure Tracking Survey
D&D	Decentralization and deconcentration	PFM	Public financial management
DIW	District Integration Workshop	PPA	Participatory Poverty Assessment
DK	Democratic Kampuchea	PRK	People's Republic of Kampuchea
EF	Equity Fund	RGC	Royal Government of Cambodia
FDI	Foreign Direct Investment	RH	Referral Hospital
FGD	Focus group discussion	SESC	Socio-Economic Survey of Cambodia (1993/4)
FTC	Free-standing Technical Cooperation	SLC	Social Land Concession
GDP	Gross Domestic Product	TB	Tuberculosis
GMAC	Garment Manufacturers' Association of Cambodia	TOFE	Table of Financial Expenditures
GTZ	Gesellschaft für Technische Zusammenarbeit (German Agency for Technical Cooperation)	U5MR	Under-five mortality rate
HC	Health Center	UNDP	United Nations Development Program
HFA	Height-for-age	VAT	Value-added tax
ILO	International Labour Organisation	WDR	World Development Report
IMR	Infant mortality rate	WFA	Weight-for-age
IRL	Indochina Research Limited	WFH	Weight-for-height
LMAC	Law on the Management and Administration of Communes (CHECK)	WTO	World Trade Organisation
MEF	Ministry of Economy and Finance		
MMR	Maternal mortality rate		

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Executive Summary

Overview

Over the last one-and-a-half decades, Cambodia has achieved high rates of economic growth and significant poverty reduction. However, the benefits of growth have been spread unevenly, resulting in a rise in consumption inequality. Drawing on survey and other data, this report concludes that the rise in inequality occurred in the early part of the decade (circa 1994-1997) and only in rural areas; there was no significant change in the distribution of consumption between 1997 and 2004. The findings suggest that the pattern of growth is not structurally destabilizing. The report then examines how expansion in service delivery and the provision of infrastructure have begun to reduce inequalities in human development outcomes and increase equality of opportunity; but also how increased concentration of land ownership, together with insecure land tenure, risk creating the conditions for widening inequality in the future. Looking at the roles of institutions in shaping economic and social development processes, the report describes ongoing reforms in public financial management and discusses the potential for using public spending to promote equity and poverty reduction. It notes that practices in the legal and judicial sector fail to meet the ideal of providing equality before the law; and analyzes how gains have been achieved on a number of fronts by adopting a flexible, iterative approach to institutional reform.

Cambodia's changing distribution of income-related outcomes is consistent with the process of transition from a planned to an open market economy, and the accompanying growth of incomes. This transformation has promoted better resource reallocation, expanded the spectrum of gainful activities, and widened the distribution of earnings. Aided by robust economic growth and improved capacity for implementing public policies, Cambodia has seen most other welfare outcomes (notably health and education indicators) become more equal over time. While a radical shift of development strategy is not necessary, improvements in public spending and selected interventions can further promote equality of opportunity, and public policies can promote an expansion of private investment opportunities. The findings of the report point to the following sets of government actions:

- (i) continuing economic reform to promote investments and sustain growth;
- (ii) protecting land tenure through systemic titling, and addressing landlessness-related poverty through various measures (e.g., social land concessions; non-farm employment);
- (iii) building upon progress to date with further improvements in the quantity, quality and affordability of schooling and healthcare; and underpinning service delivery reforms with stronger and more responsive state institutions through continued reforms of public financial management and merit-based civil service pay.

Background: transition and growth in Cambodia

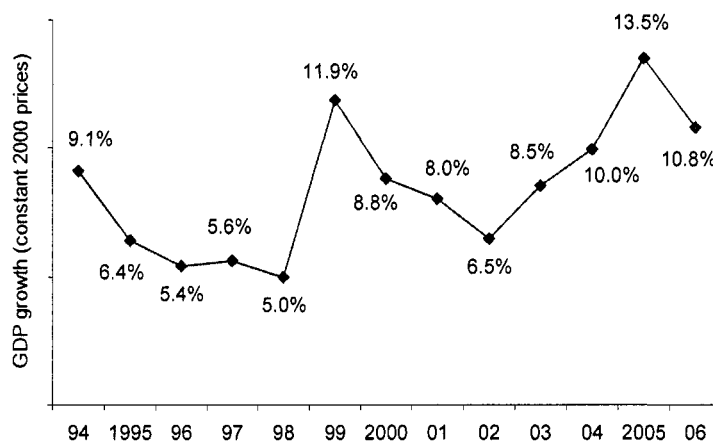
Cambodia has made considerable progress in the one-and-a-half decades since the Paris Peace Accords of 1991. That settlement marked the beginning of a transition from conflict to peace, bringing most of the parties to the low-intensity civil war of the 1980s into an agreement to compete for power through elections rather than military struggle (although full peace was only achieved in 1999 with the final collapse of the Khmer Rouge insurgency). This agreement also cleared the way for international recognition, an inflow of foreign investment and development assistance, and a transition from an isolated, subsistence-oriented economy to one based on international integration and markets. The results have been high rates of economic growth (Figure 1) and a rise in national living standards. Between the first household survey in 1993/4 and the most recent in 2004,

poverty fell by around a quarter (from around 47 percent in 1993/4 to 35 percent in 2004). Quality of housing, ownership of consumer goods and access to electricity have all improved, including amongst the poorest fifth of the population. Non-monetary aspects of welfare have also improved. Health service coverage and child survival

outcomes have improved dramatically between the health survey of 2000 and that of 2005. The rise in HIV/AIDS has been contained and reversed; and primary school enrolment has expanded rapidly, and been reflected in rising literacy rates among new school leavers.

This report attempts to understand the causes and consequences of this increase in inequality; examine whether the pattern of growth has structural characteristics that are generating social or economic instability; and assess whether Cambodia needs to change policies and public spending interventions.

Figure 1 Since 1994, growth has been variable but high



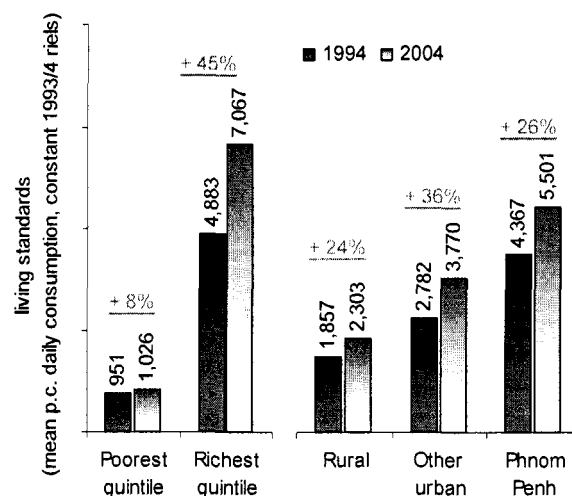
Source: NIS 2007.

Sharing the benefits of growth: trends in per capita consumption

The benefits of economic growth have been unevenly distributed

In those parts of Cambodia in which trends can be compared directly (i.e., those areas that were covered by the first survey in 1993/4), average living standards, measured as consumption of goods and services per capita per day, rose by 32 percent in real terms between 1994 and 2004. However, this rise was associated with widening differences between rich and poor. In 2004, the living standards of the poorest fifth of the population were only 8 percent higher than they were a decade earlier; over this same period, the living standards of the richest fifth rose five times as fast (45 percent). Similarly, rural living standards rose more slowly than those in Phnom Penh and other urban centers (Figure 2).

Figure 2 Living standards improved at very different rates, widening inequalities



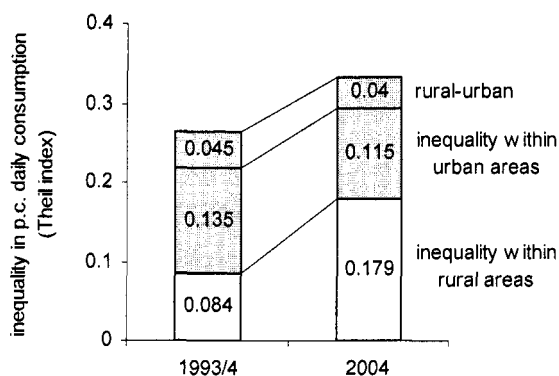
Source: SESC 1993/4, CSES 2004

The result has been a rise in the Gini coefficient (a commonly-used summary measure of inequality, ranging from a value of zero—signifying perfect equality—to one—signifying perfect inequality). The Gini for the comparable sampling frame rose from 0.35 in 1993/4 to 0.40 in 2004. In Cambodia as a whole (that is, looking at the full national sample, not just that part of it that corresponds to the 1993/4 sampling frame), the Gini in 2004 was 0.42.

Rising inequality has been driven by increasing intra-rural inequality

It is striking that the rise in total inequality in Cambodia can be attributed primarily (Figure 3) to widening differences in standards

Figure 3 The rise in national inequality has been driven by growing inequality within the countryside



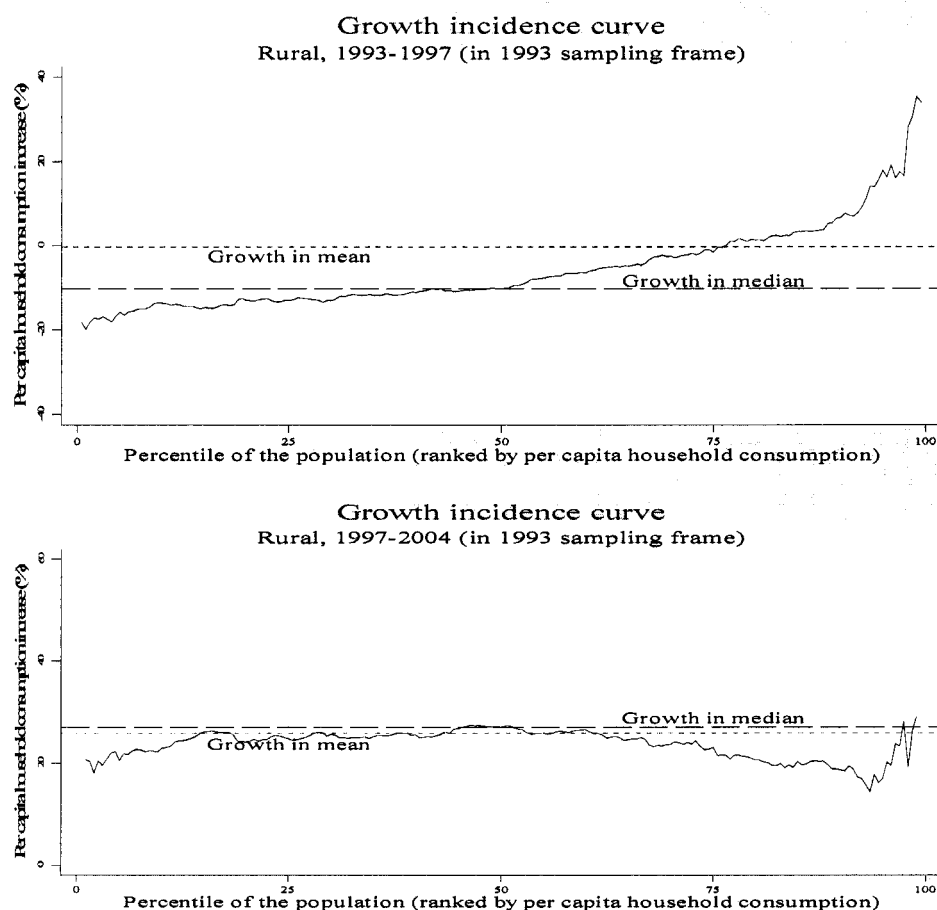
Source: SESC 1993/4, CSES 2004

of living in the countryside. Although the gap in urban areas remained large, its share in aggregate inequality has fallen.

Inequality appears to have widened in the mid-1990s, then stabilized

Further insights can be obtained by breaking the analysis down into two time periods, (i) 1993/4–1997, and (ii) 1997–2004. Plotting change in per capita consumption for every percentile in the respective samples reveals how growth was distributed for the two sub-periods. In rural areas the level of inequality widened considerably between 1993/4 and 1997 as consumption grew rapidly at the upper tip of the distribution, but contracted for the rural masses; however, inequality remained unchanged from 1997 to 2004, as growth in consumption was similar for the rich and the poor (see growth incidence curves in Figure 4).

Figure 4 In rural areas, the rich initially made rapid gains while others lagged; later, improvements were spread evenly across the population
- Changes in real consumption, percentile-to-percentile



Source: SESC 1993/4, CSES 1997, CSES 2004.

Note: Only comparable samples from the identical (1993) sampling frame are used for each survey.

In urban areas, inequality remained stable throughout. Although urban inequality changed little over the last decade, the absolute levels of inequality in Phnom Penh and other towns were more pronounced than in the countryside (Table 1). It is worth bearing in mind two caveats. The first is that there are reasons to suspect that consumption measures under-estimate the full magnitude of inequalities. Especially in urban settings, income or wealth which may be more appropriate than consumption in obtaining a rounded picture of the extent of inequality, tends to show more dispersion than

consumption. The second is that the small number of extremely rich households in any population are very unlikely to be interviewed in a household survey. Such households are more numerous, and their omission thus more significant, in urban settings. As such, household surveys that under-sample the extreme rich or poor probably underestimate total urban inequality. With these caveats in mind, these inequality trends suggest that the nature and pattern of Cambodia's growth have not been structurally destabilizing.

Table 1 Urban consumption inequality appears not to have risen—but is still much higher than in the countryside

	1993	2004
Rural	0.265 (± 0.005)	0.354 (± 0.007)
Urban	0.434 (± 0.010)	0.431 (± 0.009)
• Phnom Penh	0.393 (± 0.023)	0.367 (± 0.014)
• Other Urban	0.439 (± 0.037)	0.434 (± 0.018)
Cambodia	0.347 (± 0.006)	0.403 (± 0.005)

Source: SESC 1993/4, CSES 2004

What explains changing trends in consumption inequality?

In urban areas...

Economic growth in Cambodia has been heavily reliant upon garment manufacturing, tourism and construction, all of which are concentrated in urban centers, and in particular Phnom Penh, Siem Reap town and Sihanoukville. The expansion of trade, investment and employment created two countervailing forces on the distribution of urban incomes. On one hand, global integration and an increasingly diverse urban economy tend to widen the inequality of earnings, as wages for skilled labor rise much faster than those for non-skilled labor. On the other hand, there were also equalizing forces arising from the structural transformation of the urban economy. Trade and foreign direct investment resulted in a higher labor force participation in urban labor markets and a shift of employment from the low productivity sector of agriculture to higher value-added manufacturing (especially garments) and services (especially construction and tourism). The rapidly growing sectors in the economy have also been those that are intensive in unskilled labor, Cambodia's relatively abundant resource.

In rural areas...

The initial widening and subsequent stabilization of inequality amongst the *rural* population appears to reflect the interaction between three different sets of factors.

Firstly, geography plays a key role. As growth and public services improved first around urban centers and in accessible densely-populated lowland areas, households in these areas enjoyed better access to factor and product markets and pulled further ahead of those in remote areas, resulting in widening differences. Over time, as conflict subsided, and in 1999 ended with the integration of the Khmer Rouge, infrastructure investments and improvements in schooling and healthcare reached these peripheral areas. The report's analyses find that the incidence of poverty is lower and mean consumption levels are higher in connected villages with easier access to road than in remote villages (Table 2). Even with the end of conflict, however, remote areas are more likely to have poorer soils and more limited potential for irrigation.

Table 2 There is greater poverty in remote villages with less connectivity

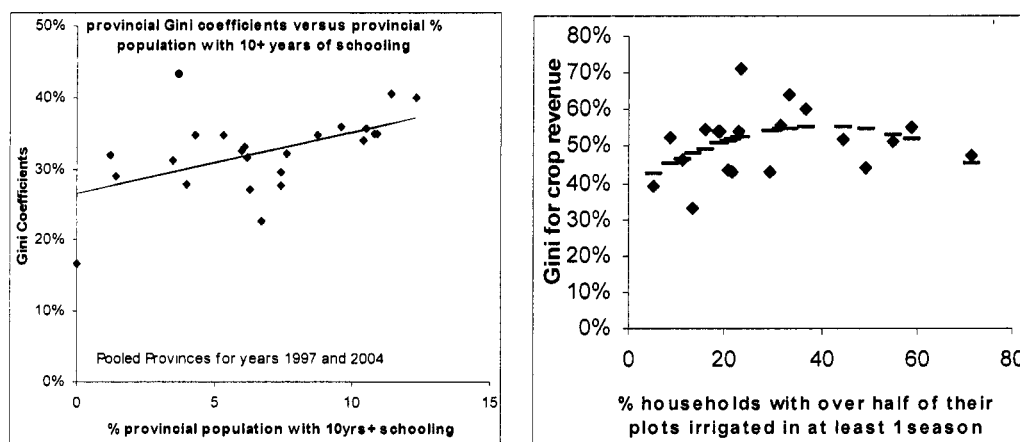
Village size	Distance to the nearest all-weather road	
	Less than 5km	More than 5 km
More than 1,000 persons	33% population are poor	38% population are poor
Less than 1,000 persons	43% population are poor	53% population are poor

Source: CSES 2004.

Secondly, rural households differ in their abilities to take advantage of new opportunities or manage risk. Innate individual abilities, differences in human capital (education and health status), and different endowments of land and other productive assets enabled some rural families to pull ahead of their neighbors. Analyses in the report suggest that differential stock of human and physical assets have promoted disparity in incomes. Increasing returns to higher levels of schooling attainments as well as higher yields and revenue in households with greater land investments have widened disparity in rural incomes (Figure 5).

Figure 5 Investments in productive asset matter

- Provinces with greater human capital (e.g., higher levels of education) and more physical capital (e.g., land investments) have higher inequality



Source: CSES 2004

Finally, local governance and the quality of local institutions play a role. Through social connections or simply greater capacity to pay bribes, wealthier rural households find it easier to navigate governance structures which are more often than not characterized by limited resources, professional capacity, transparency and accountability. These institutional weaknesses are reflected in low trust scores (Table 3). Faith in local authorities is particularly low in communities which depend heavily upon access to and management of natural resources such as forests and fishing waters, where rent seeking and corruption work to the benefit of richer, better connected households and against the poor (CDRI 2007a, 2007b).

Table 3 There is limited trust in public institutions, particularly police and the courts

Institution / actor	honest	effective	treat poor and rich equally	treat men and women equally
NGOs	73	78	71	86
banks	69	80	58	81
media (TV, radio)	50	64	63	82
national government	47	60	40	80
Commune / sangkat officials	44	55	46	79
teachers	59	68	60	82
healthcare professionals	48	66	40	79
money lenders	41	57	36	75
police	29	50	31	75
judges	18	46	20	70
middlemen	10	44	29	67

Source: IRL 2007.

Note: An example of the statement was "NGOs are honest", with the respondent asked to agree or disagree on a scale from 1 ("not at all") through 2 ("somewhat"), 3 ("neutral / don't know"), 4 ("much") and 5 ("very much"). The percentage of respondents who picked 4 and 5 to the statement are recorded in the Table above.

Creating equality of opportunity

Equity in service delivery and human development

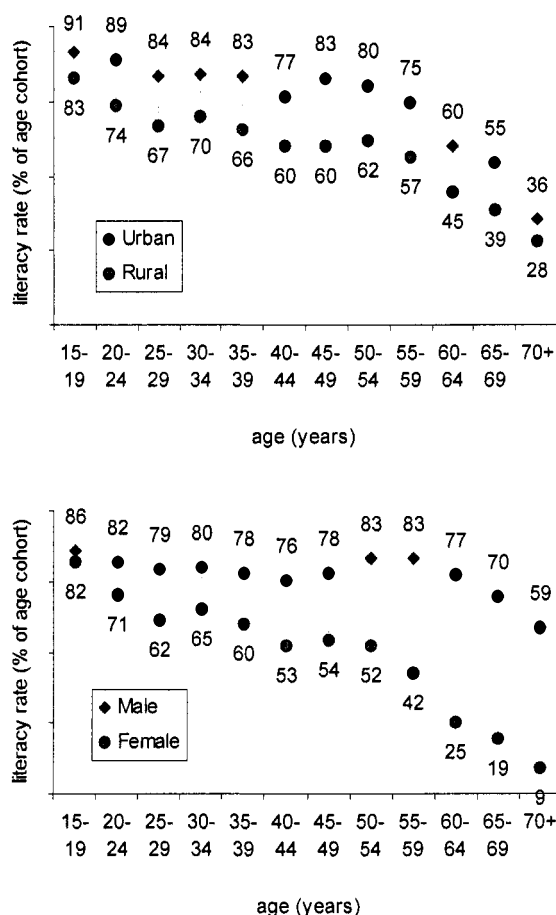
Equity in effective access to basic services and in human development outcomes are important both as ends in their own right and as means to the ends of equality of economic opportunity. Intrinsic value is particularly obvious with regard to health: no-one chooses to suffer illness or early death when they have the option to avoid them. However, health and education status also have a very important instrumental value, as determinants of economic opportunities and predictors of income, consumption and wealth. Finally, there are very strong cross-sectoral links. The level of a mother's education exercises a strong influence upon not only her own health but also that of her children; conversely, ill health is a major barrier to obtaining an education.

In contrast to living standards as measured in terms of per capita consumption, non-monetary aspects of welfare in Cambodia have shown a broadly positive trend towards greater equality over time. Gains in education in recent years are notable for their pro-poor, pro-girl bias. Primary enrolment has increased fastest amongst these traditionally under-represented groups, resulting in shrinking urban-rural, male-female and rich-poor gaps in literacy rates amongst the younger cohorts who have more recently left the (improving) school system (see Figure 6).

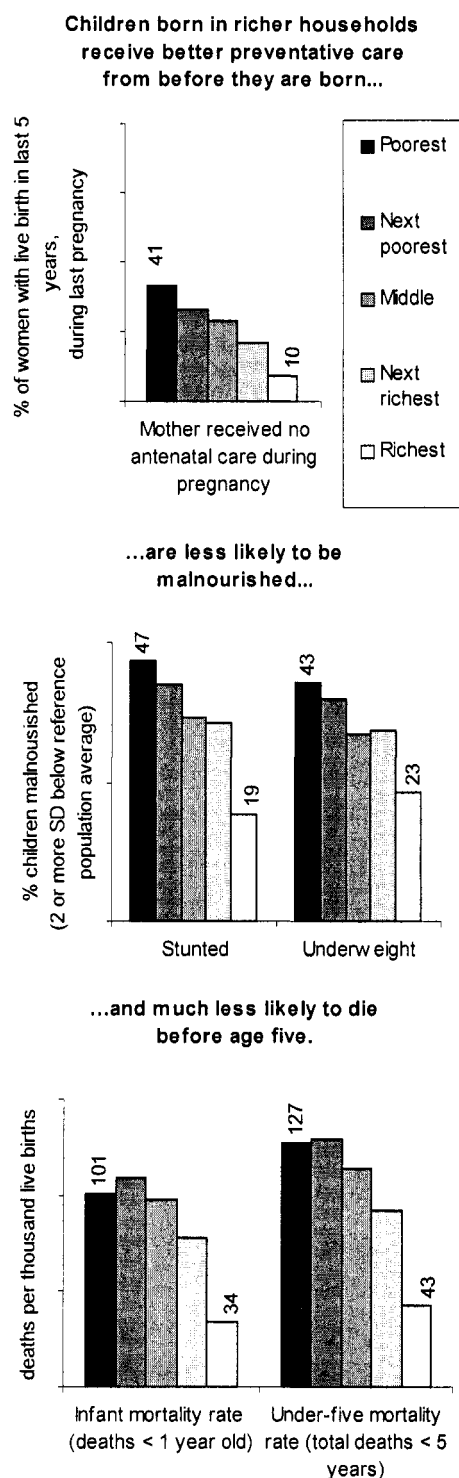
Nonetheless, significant differences remain between urban and rural populations and rich and poor households in access to services and outcomes. While access to primary schools and to a lesser degree health centers have become more equal over the last decade, poor households still live significantly further than the rich from secondary schools and hospitals. Despite progress over the past years, access to improved water supply and sanitation facilities is still virtually non-existent in most of the countryside.

Inequalities in human development outcomes in large part are a result of low public spending on these services, despite increases in recent years. The major part of total per capita spending is in the form of out-of-pocket spending by households. This is true to some extent of education above primary level, but is particularly pronounced with regard to healthcare, including even basic healthcare. With public spending on health too low to play an effective compensatory role, an individual's effective access to quality healthcare closely tracks his or her level of income, savings and consumption.

Figure 6 Inequalities in literacy are closing over time



Source: CSES 2004

Figure 7 Child care and survival by wealth

Source: CDHS 2005.

Consequently, inequalities in access to services and resulting health- and education-based opportunities do still vary considerably. The life chances of a child born into the poorest quintile are significantly reduced even before birth (see Figure 7): compared to a child born into the richest quintile, his or her mother is four times more likely to have gone without any contact with antenatal care. A child born into the poorest quintile is then over twice as likely to suffer from severe malnutrition; and three times as likely to die before reaching their fifth birthday.

There is also a pressing need to improve the ability of the health system to respond to key health issues faced by women. Although data issues make definitive interpretation hard, it appears that the maternal mortality rate has remained unchanged at a very high level (472 per 100,000 live births).

Poor households are more likely to need to withdraw their children from school to help make ends meet; and more likely to have to adopt extreme measures to manage the costs of a health crisis (see Box 1). Low education, low income and consumption, and vulnerability to illness and illness-induced economic shocks act in mutually reinforcing ways to limit opportunities and trap households in poverty.

Box 1 Poor households lack the resources to cope with health shocks

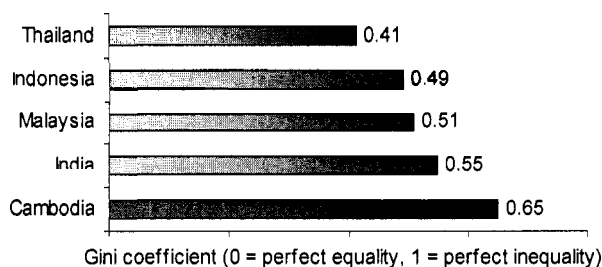
Results from surveys in two villages south of Phnom Penh suggest that while crop failures and illnesses entail similar magnitudes of economic damage (a few hundred thousand riels), households find it harder to cope with illness. The negative consequences from health shocks have greater impact on both immediate and long-run livelihood because they require an immediate lump-sum of money: as most households do not have sufficient savings and rural credit markets do not operate well, households are often forced into distress sale of productive assets (including land) and/or enter long-term debt, reducing their future income streams and increasing their non-consumption expenditures, respectively. This broadly confirms earlier studies which found that half of all distress sales, or around 40 percent of cases of once-landowning families losing land, involved health crises.

Sources: Yagura 2005; Biddulph 2004; Ballard and So 2004.

Land ownership is highly concentrated

In 1989, land was privatized and distributed largely on the basis of need (household size), resulting in a highly equal distribution and effectively zero landlessness. Since then, landlessness and inequality in landholding have risen, reflecting the interaction between population growth and land management policies which designate much of Cambodia as state land and prioritize large-scale concessions when allocating this land to use in cultivation. As a result, by 2004, 5.7 percent of the rural population was both landless and poor, and the distribution of land in Cambodia is amongst the most unequal in the region (Figure 8).

Figure 8 Land ownership is highly unequal



Source: WDR, IFAD

Inequality in ownership of a key productive asset such as land is a major concern because it implies the likelihood of a trend to growing inequality of production, income and consumption in the future. In the absence of dramatic expansion of off-farm employment or livelihood opportunities to absorb landless labor, the concentration of land in fewer hands implies a growing gap in the opportunities available to different types of households. There is also a strong growth case to be made against polarization in land holdings. Evidence from Cambodia, as in most other rural-majority developing countries, shows agricultural productivity in an inverse relationship with size of farm, so that small farms are significantly more productive than are large farms. All things being equal, equality and efficiency (growth) are fully complementary. There is thus much to be said for the proposed program of redistributing idle economic land concessions (which it was hoped private investors would develop as large-scale commercial plantations) to local landless and land-poor households through a program of social land concessions. There are numerous challenges—redistribution requires logistically complex complementary policies and programs to be effective—but the case

remains strong for a Government agricultural policy that prioritizes assistance to small-scale family farms.

The second major policy issue in land administration concerns the security of land tenure. Analyses in the World Bank's Poverty Assessment show that secure land tenure, as manifested in various forms of paper proofs of land ownership, has a significant impact on land productivity, profitability and agriculture income. The importance of tenure security is corroborated, in this report, by additional analyses of the CSES 2004, semi-structured interviews during field research, and results from a national poll. This report also finds that secure land tenure, in forms ranging from paper receipts to titles, is highly correlated with land investments. As the price of land rises and local markets become more integrated, full land titles will be increasingly useful for avoiding disputes, encouraging productivity-enhancing investment, and protecting against outright seizure by more powerful actors.

Systematic land titling began in 2004 and has resulted in the allocation of almost one million titles. Early indicators from small-scale research suggests that the receipt of these titles is perceived to improve tenure security and make disputes less likely; make it easier to sell to buyers from outside the community; and improve the terms on which credit can be obtained.

Infrastructure and inequality

Infrastructure is a powerful influence upon livelihood opportunities (particularly off-farm opportunities) and welfare outcomes: household incomes in villages with an all-weather road connection are typically twice as high as incomes in villages without a road. As such, the uneven distribution of economic infrastructure (in particular roads and irrigation structures) helps perpetuate differences between localities; and the extension of such infrastructure can be a powerful tool to start reducing these spatial inequalities. Equality or difference in access to roads interacts with the distribution of social infrastructure (schools, health centers, referral hospitals) to create spatial inequalities in access to basic service delivery.

Inequalities in access to infrastructure are pronounced, first and foremost between urban and rural populations, but also within both segments. Both national surveys and locality studies confirm the importance of road construction—and, critically, road maintenance—in improving opportunities and livelihoods (Box 2).

Box 2 Roads reduce spatial inequalities and expand opportunities for the poor

Before we had a good road, the poor, especially female heads of households, rarely dared to go to sell labor far from the village ... It took a long time to reach where they wanted to go... [Now] it costs only 1,000 riels and takes an hour to travel to Prey Veng, compared to 1,500 riels and four hours before the road was built ... The poor landless and others have migrated farther from the village in search of work; before 2002, when travel was expensive and it took longer to reach the work destination, they had to think twice. (Babaong village, Prey Veng)

Source: CDRI 2007b (forthcoming)

Perceptions of inequality

In Cambodia, different tools suggest slightly different pictures with regard to the perception of inequality and its severity. In a national public opinion poll, when asked to specify the most important problems facing Cambodia, most (33 percent) focused on poverty, with only around 2 percent mentioning inequality and unfairness, a proportion similar to those who mentioned roads, education and health care. However, qualitative research also suggests that people are very conscious of and concerned about growing inequalities in opportunities and outcomes (Box 3).

Box 3 Rural Cambodians perceive and worry about growing inequality

As of now, the gap between the rich and the poor is getting wider. The rich get richer and the poor get poorer and it is not easy to move upward. (Krasaing Village, Battambang)

Over time, stratification has been getting worse. ... It will be very hard for the poor to move out of poverty in the next five years because of landlessness, lack of capital and growing inequality. The gap between the rich and poor has grown tremendously. (Andong Trach, Battambang).

The poor remain poor because the poor feed the rich. The rich are getting richer because they have capital to invest to make more money. ...The rich drop something for the poor to continue, but the poor earn to feed the rich. (Prek Khmeng, Kandal)

Source: CDRI 2007b (forthcoming)

Gender-based inequalities remain significant

Gender norms and opportunities are shifting significantly in response to economic and social change. Positive trends towards greater equality include increasing girls' enrolment in primary education (and resulting rise in female literacy) and expanded employment opportunities: the vast majority of garment factory jobs are female.

However, significant traditional inequalities persist, and new ones are emerging. As women are assumed to have primary responsibility for childcare and domestic tasks, they have limited opportunities for more remunerative employment. These difficulties are reinforced by lower average levels of education, prevailing attitudes regarding "appropriate" occupations for women, and the fear of trafficking or sexual violence when traveling away from home, especially to urban centers or across the border. With migration and more disposable income, new, risk-taking patterns of male behavior are emerging and resulting in new forms of vulnerability for women (vulnerability to sexual harassment or to contracting HIV from their husbands).

Finally, women lack significant voice in social or political affairs, with very limited representation in Government or policy-making or planning processes, from the local level to the national. While 20 of the 123 parliamentarians elected to the National Assembly in 2004 (16 percent) and 14.6 percent of council seats filled in the 2007 Commune /Sangkat council elections are women, women constitute only two out of 37 Ministers (5.4 percent) and 8 out of 127 Secretaries of State (6.3 percent). In the total labor force, one-third of professional and technical workers are women but only 14 percent of legislators, senior officials and managers are women.

Inequality and public action: the role of institutions

Public spending and equity

The state can influence national economic and social development through several channels. The first is through raising revenue and directing public spending. Cambodia's public financial management (PFM) system has a number of serious problems, but a PFM reform program over the last two years has begun to make significant headway in reforming this system. These reforms open up possibilities for more effectively and efficiently directing public expenditure towards poverty reduction. Priorities would include:

- Increasing revenue collection (particularly through improved tax administration)
- Putting in place strong, transparent measures for the effective use of the very considerable revenue that is expected to flow from offshore oil and gas within a few years
- Reallocating spending towards priority goals (shifting spending from general administration to priority sectors; changing the balance of ODA from technical assistance to capital spending)
- Increasing capital spending with emphasis on economic sectors (roads, irrigation, energy) that shape the distribution of opportunities and the pattern of growth.
- Increase recurrent spending, both on maintenance (to sustain the value of capital investments) and, critically, on public sector salaries. Better pay for public sector workers, combined with better management, is essential to create strong state institutions that can formulate and implement national development strategy.

Current legal practice falls far short of the ideal

The allocation and management of spending is not the only tool by which the Government can guide the course of national development. The Government can also influence economic and social change through its regulatory functions: that is, by setting and implementing laws and policies that shape incentives and interaction between different actors.

However, Cambodia faces some quite pronounced difficulties formulating and implementing laws and policies. State capacity remains low, reflecting limited financial and material resources; the small numbers of well-educated public servants; limited data with which to design and monitor evidence-based, results-oriented policies; and institutional arrangements which are, as in many low-income countries, not well aligned to responsive and accountable policy-making. In particular, the legal and judicial sector in Cambodia notably fails to deliver services which conform to the ideal of equality before the law. Lack of resources and low levels of transparency and accountability are reflected in widespread distrust of the police and courts, which are seen as either corrupt or subject to political direction. Faced with a dispute, most Cambodians will seek to resolve it without recourse to the court system.

Fair institutions typically evolve in stages

Both theoretical and applied thinking now emphasizes the role of institutions in shaping economic and social change. However, limited success has been achieved with attempts to transplant ideal models of “international best practice” from one country to another: effective institutional arrangements for given policy outcomes are likely to vary considerably from one country to another. This is in part because in Cambodia as in many countries, formal state law is in practice only one among several normative reference points: values and behavior are also shaped by “traditional” understandings of rights (e.g. of a household’s right to clear land for subsistence farming or extract resources from forests), or by perceptions amongst powerful actors that position confers discretionary rights to manage or dispose of public resources in ways not bound by formal rules. This legal pluralism is by no means unique to Cambodia, but does create a major challenge for Government.

Rather than attempt to create organizational structures perfectly designed to achieve defined public policy functions, more success may be achieved with a more iterative—and messy—process that acknowledges the useful role to be played by “interim” institutions. In a number of cases, progress in Cambodia has been achieved in an enclave, in the hope of developing robust institutions and later building outwards, rather than through an attempt to implement a comprehensive across-the-board reform of institutional arrangements. Thus, ties to trade quota agreements were used to create incentives for achieving core labor standards in the garment export industry. Principles of participatory and accountable local planning were introduced through donor-supported “project law” (new institutional rules and principles developed under the Seila program): over time, these have taken root and come to influence Government thinking on the direction of decentralization and deconcentration policy. In each case, outcomes fall short of the ideal that is envisaged under the liberal concept of the rule of law, but do mark a significant advance on what existed before, and do open up possibilities for future stepwise progress.

Summary: findings and policy implications

Using the national household surveys, qualitative studies, and opinion polls, the report finds the following:

- Rural inequality of consumption rose during the last decade, driving up aggregate inequality in Cambodia, while urban inequality remained unchanged. Rural inequality of consumption rose during 1993-1997, but then stabilized between 1997 and 2004.
- In contrast to consumption inequality, inequality in non-consumption measures of living standards such as school enrollment and mortality rates has fallen over time. The disparity in access to infrastructure (roads), amenities (clean water, electricity), and basic services (schooling, healthcare) has also narrowed between 1997 and 2004, as have gender gaps in literacy and schooling.
- Inequality in rural and urban areas comes from two sources: the gap between the richest 25 percent and the rest, and inequality within the richest quarter of the

population. Rising rural inequality was mainly the result of rising inequality among the richest quarter.

Based on the findings and analysis, the report concludes that policies that directly tackle poverty will also address inequality, because income growth of the poor will narrow the rich-poor disparity. This suggests a number of policy priorities for Cambodia's response to inequality concerns:

First, there is a need for continued effort in *economic reform* and improvement of *investment climate*. Maintaining the economy's openness and global outlook will be the best strategy for continued growth and sustained poverty reduction.

Second, priority in *land* policy should be to accelerate and intensify systemic titling, extending it throughout the country, including to remote, more conflict-prone areas. Land policies within the agricultural strategy should give priority consideration to household farming, including by redistributing idle plantation land to landless poor households.

Third, more needs to be invested in building and then maintaining *basic infrastructure* to connect up remoter parts of the country to economic opportunities and improved social services. Rural roads clearly have a significant impact in equalizing geographical inequalities. There is also a pressing need for increased investment in improved water supply and sanitation in rural areas: the rural-urban gap in access to these facilities remains extremely wide.

Fourth, there is a need to build upon progress to date with further improvements in the quantity, quality and affordability of basic *education*, with an emphasis upon tackling the causes of late enrolment and drop-out. Equally important is a comprehensive nationwide adult literacy program, as a first step to replenish (and equalize) the human capital of the adult generation.

Fifth, *healthcare* provision needs to be focused on preventative and primary care, with emphasis on expanding physical access and affordability (targeted fee exemptions backed by equity funds) and concerted efforts to improve maternal health and bring down the persistently high maternal mortality rate. Expansion of investments in improved water supply and sanitation would play a major role in reducing disease burden and the economic costs associated with it.

Lastly, significant improvements in service delivery will depend on creating stronger and more responsive state institutions. Continued reforms of *public financial management*, with emphasis upon improving *civil service pay and management* and putting in place arrangements for the transparent and effective use of future oil revenues, will be critical.

1. Recent economic and social developments

Summary

- Over the last year, Cambodia has continued to show strong growth, with garments and tourism both expanding by 20 percent. The balance of payments has improved and FDI reached a new high. Newly-released health indicators also show considerable improvement over the last five years (with maternal mortality a notable exception).
- This report analyzes the evolution of living standards (per capita consumption) over time and the changes in distributions of accesses to services and assets. The purpose of the report is to analyze the forces underlying the observed rise in inequality of consumption between 1994 and 2004, when the Gini coefficient rose from 0.35 to 0.40. The report aims to find out whether the pattern or nature of Cambodia's growth has been destabilizing as well as whether Cambodia's policies have perpetuated inequality of opportunity or poverty traps.
- Analysis begins with an examination of headline trends in consumption inequality in rural and urban areas, based on data from the 1993/4 and 2004 household surveys (recognizing the limitations of this type of data). Findings suggest that within the general population, growth and rising living standards in urban areas has been pro-poor. In rural areas, by contrast, inequality has increased.
- Inequality of non-monetary dimensions of well-being, specifically health and education, has in most respects narrowed between 1997 and 2004. Access and outcomes have improved for all, and in particular more rapidly among disadvantaged groups (e.g., the poor, girls, and the rural population). Thus, disparities of health and schooling outcomes between sub-groups have decreased.

How has the Cambodian economy evolved?

Cambodia's economy has undergone dramatic changes over the past two decades, the most significant being from central planning to a market economy. Beginning in 1989, private property rights were reintroduced, price control abolished, state-owned enterprises privatized and investments liberalized. The Paris Peace Agreement in 1991 led to a UN-sponsored election in 1993 and the establishment of the Royal Government of Cambodia (RGC) in September 1993.

Annual GDP growth averaged 8.4 percent per annum over 1994-2006. During 2004-2006, Cambodia grew at double digit rates, averaging 11.4 percent per annum for three consecutive years. Consumer price inflation dropped from an average of 56 percent over 1990-1998 to less than 3.0 percent in 2006. Growth continues to be driven by garment exports, tourism, construction, and agricultural expansion. The garment sector, employing 10 percent of the total labor force and accounting for 14 percent of GDP, expanded with exports rising by 20 percent in 2006. During 2006, 20 percent growth in

tourist arrivals resulted in a 26 percent jump in tourism receipts. Agriculture continued to expand at 5.5 percent while construction slowed slightly.

External developments were positive in 2006. The balance of payments improved as the current account deficit (excluding transfers) declined to -7.7 percent in 2006 (from -9.6 percent in 2005) and gross international reserves expanded by 20 percent to US\$ 1.1 billion. FDI continued its upward trend, reaching a record high of US\$ 475 million. Consumer price inflation declined to 2.8 percent (from 6.7 percent in 2005) and is expected to remain low (below 5 percent) for 2007 and 2008. Increasing FDI is expected to be sustained and the discovery of offshore oil and gas reserves will likely bring about even higher growth, with production expected to start in 2009 or 2010. However, the new oil sector will also pose additional challenges to macroeconomic and fiscal management. The garments sector is increasingly facing stiffer competition from Vietnam's accession to the WTO and greater competition from China in 2008.

A recently released demographic and health survey shows considerable progress in health outcomes. Infant mortality fell from 95 per 1,000 live births in 2000 to 66 in 2005; child (under 5) mortality decreased from 124 deaths per 1,000 live births in 2000 to 83 in 2005. HIV prevalence also appears to have fallen remarkably. The notable lagging indicator is the maternal mortality ratio, which appears to have remained unchanged.

Why examine inequality?

The principal motivation for this report is the finding in the 2006 *Cambodia Poverty Assessment* that inequality rose in Cambodia (World Bank 2006). The second motivation is the synthesis of international experience with regard to growth-poverty-equity relationships contained in the 2006 volume of the World Bank's annual global flagship report, the *World Development Report (WDR) 2006: equity and development* (World Bank 2005).

With peace, Cambodia has enjoyed growth and poverty reduction

Cambodia's transition from civil war to peace, from one-party to multiparty politics, and from an isolated, subsistence-oriented economy to an open market economy, has made possible impressive rates of economic growth (averaging 7.7 percent per annum between 1994 and 2004) which has in turn resulted in rising average levels of per capita income and consumption. With financial and technical assistance from external partners, basic services have also begun to improve. The *Poverty Assessment* found that poverty fell from 47 percent to 35 percent between 1994 and 2004 (Box 1.1).

However, inequality has risen

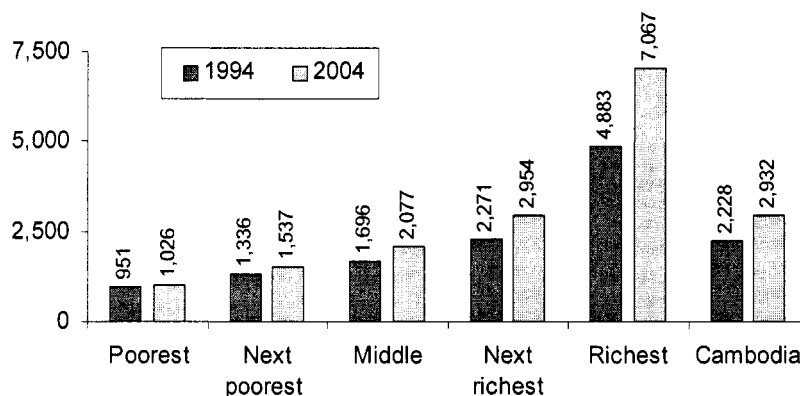
Even as all wealth groups have, on average, benefited, the benefits of growth have clearly accrued disproportionately to the wealthier groups in society, widening the gap between the rich and the poor. Within the sample of comparable areas, the average per capita consumption of the poorest quintile in 2004 was 8 percent higher than in 1994; for the richest quintile, by contrast, consumption was 45 percent higher in 2004 than in 1994.

Box 1.1 Poverty trends in Cambodia, 1993/4 to 2004

It has been hard to establish trends in poverty in Cambodia because questionnaire design and sampling have changed from one survey to the next, making it hard to compare findings. Most importantly, the geographical sampling frame has expanded each time. In the first survey, the 1993/4 Socio-Economic Survey of Cambodia (SESC), peripheral areas that were hard to reach and which were still under Khmer Rouge control were not covered: so, this cannot be directly compared to the 2004 Cambodia Socio-Economic Survey (CSES), which sampled from the whole country. However, looking only within the same (SESC 1993/4) sampling frame in 2004, poverty fell from 39 to 28 percent over the decade. On the basis of this trend in directly comparable estimates and what is known about the distribution of population and poverty inside and outside the sampling frame in 2004, it is estimated that poverty in the whole of Cambodia fell from between 45-50 percent in 1993/4 (the point estimate is 47 percent) to the national estimate of 35 percent seen in the 2004 survey.

Figure 1.1 From 1994 to 2004, per capita consumption amongst the poorest fifth has risen by only 8 percent—compared to 45 percent amongst the richest fifth of the population

- Real average per capita household consumption, 1994 and 2004, within the comparable sample frame (riels, 1993/4 constant prices)



Source: SESC 1994, CSES 2004.

Growth, inequality and poverty

Drawing on the WDR 2006 (Box 1.2) and other sources, we summarize the main arguments for fostering equity in public policy. The WDR 2006 argues that very high levels of inequality and poverty traps are fundamentally inimical to the efficient operation of a market economy. There are several different ways in which high levels of inequality and absolute deprivation may contribute to market failures and reduce investment and growth. In outline, there are three main effects that are generally distinguished:

- unequal access to economic opportunities, due to the inability of the very poor to participate in markets for credit or invest in human capital development, results in an inefficient allocation of investment.

Box 1. 2 World Development Report 2006: Equity and development

The 2006 WDR analyzes the relationship between equity, growth and poverty reduction, both within and between nations. The report documents the persistence of inequality traps, highlighting the interaction between different forms of inequality; and presents evidence that the inequality of opportunity that arises is wasteful and often weakens prospects for overall prosperity and long-term growth. It derives policy implications that center on the broad concept of leveling the playing field, both politically and economically and in both the domestic and global arenas. The report recognizes the intrinsic value of equity but focuses on the instrumental case that attention to equity supports long-run development.

WDR 2006 is structured in three parts. Part I reviews the evidence on inequality of opportunity, within and across countries. Part II asks why equity matters, discussing the two channels of impact (the effects of unequal opportunities when markets are imperfect, and the consequences of inequity for the quality of institutions a society develops) that give equity an instrumental importance, as well as intrinsic motives. Part III asks how public action can level the political and economic playing fields. In the domestic arena, it makes the case for investing in people through equitable access to services; expanding access to justice, land, and infrastructure; and promoting fairness in markets. In the international arena, it advocates leveling the playing field in the functioning of global markets and the rules that govern them—and the complementary provision of aid to help poor countries and poor people build greater endowments.

Source: World Bank 2005.

- pronounced inequalities in wealth give rise to institutions (for example, the institutions regulating the protection of property rights or the institutions that determine the voice of individuals in influencing Government policy) that systematically favor the rich over the poor.
- Finally, highly unequal societies (especially highly unequal societies in which many are very poor) are typically prone to social and political instability.

This suggests that, within sensible boundaries, improving equity promotes growth. Extreme deprivation interacts with market imperfections (in the form of asymmetries in access to information and credit, and in ability to take on risk) which divert investments in capital (including human capital) away from optimal allocations: without any asset base, the poor cannot obtain access to finance and cannot afford to invest in their children's education. In highly unequal societies, these growth-constraining effects are often embedded over time in institutions which consistently favor the rich over the poor, regardless of their innate abilities.

This basic ethical aversion to extreme inequity would seem to be present in Cambodia, too. The concepts of equality and equity seem to translate well between Khmer and English (see Box 1.3): while the place of these concepts in the Cambodian worldview is complex and difficult to summarize without grossly over-simplifying (as in any society), it would be hard to claim that they have no indigenous roots. Examining these social values needs to recognize some distinctive cultural legacies (e.g. the concept of merit, which is sometimes taken to imply that luck or misfortune in this life reflect an individual's good or bad behavior in a previous life), without oversimplifying Cambodian belief systems, or implying that values do not change over time—which they clearly do, and have. Interestingly, monks interviewed during the 2001 participatory poverty

assessment explicitly rejected most of the *karma*-based explanations of poverty, locating causality for wealth differences squarely in secular processes (ADB 2001).

Box 1.3 Defining terms and concepts: equality and equity

The key concept of this report will be *equity*. Given that the English words equality and equity can be used by different people to mean different things, it is worth trying to define these terms with some precision. Whereas equality is a positive concept (that is, one that is objective and measurable), *equity* is a normative concept (that is, one based in values). Following the WDR, equity is understood in this report to encompass issues of both relative and absolute deprivation, and to incorporate two components:

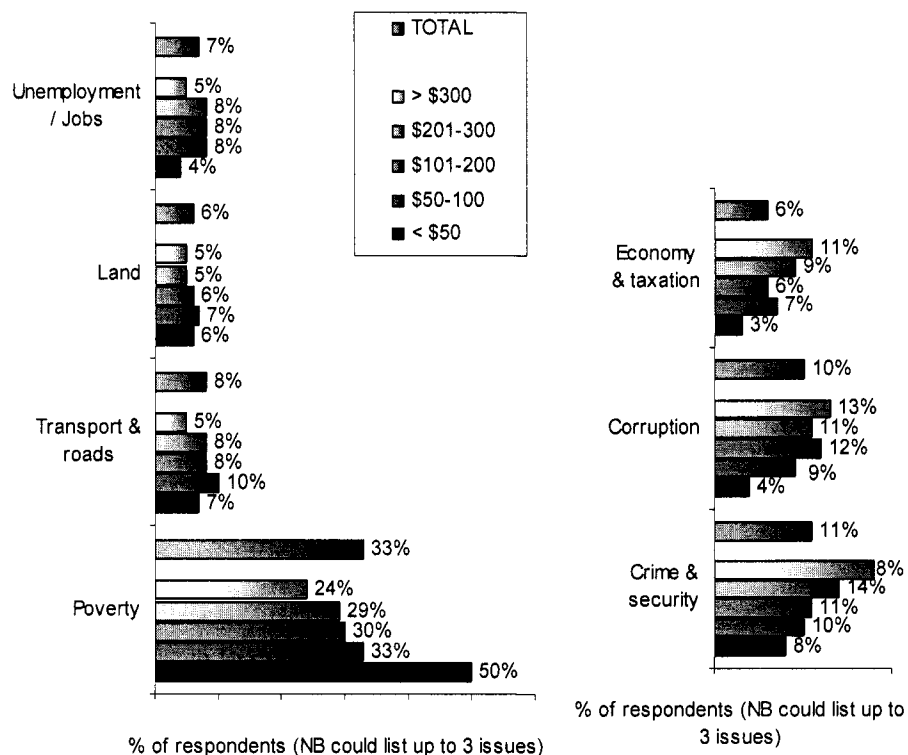
- *equality of opportunities*: a concern with equity implies attention to the fairness of wealth generation processes, and justifies interventions to ensure that individuals are able to benefit from their innate abilities (talent and hard work), regardless of the wealth, ethnicity, geographical location or sex into which they are born.
- *aversion to extreme poverty*: a concern with equity implies that public action (by state or non-state actors) is necessary to help those whose standard of living falls below a minimum threshold, regardless of the processes that have brought them there.

The related but distinct meanings attached to “equity” and “equality” in the WDR map quite well with equivalent Khmer concepts. The Khmer word usually given as the translation for equity (*samatoah*) incorporates the root *sama* (common to both Sanskrit and Pali), meaning “even, equal, impartial”: it thus relates to the “fairness” of rules or process (or, in a modern phrasing, to equality of opportunity or treatment). By contrast, *samakpheap* or *pheap smoer khnear* relate to a state of being the same, equivalent to the concept of similar outcomes in the English “equality”.

As outlined below, both logic and evidence suggest that inequality traps (inequality of opportunity and pockets of extreme deprivation) result in growth which is slower and less sustainable than it might otherwise be; and, conversely, that tackling inequity is likely to sustain or increase rates of growth (and growth-led poverty reduction). While trade-offs may be necessary in the short term, equity (or distributional concerns) and efficiency (or growth) are at a fundamental level complementary over the long term.

In a public opinion poll conducted recently by Indochina Research Limited (IRL) for the World Bank, respondents were asked to list (without prompting) the three most important issues facing Cambodia that the Government should tackle. Most respondents (33 percent of respondents) chose “poverty”. Poverty was also the most frequently quoted pressing problem, according to the richest and best educated respondents. Inequality did not feature significantly (2 percent of respondents) in the answers volunteered. However, if people focus first on absolute outcomes (their own living standards and problems encountered in making a living) rather than relative position and process (how they compare to others, equality of opportunity), they do not appear to be insensitive to equity issues. When asked “Do you think inequality of wealth is an issue?”, 88 percent answered yes. Finally, concern about growing inequality of wealth, and the implications of this in terms of growing inequality of opportunity, emerged strongly in mixed-methods locality-based research (see Box 1.4).

Figure 1.2 Rich and poor Cambodians care about the same issues, albeit with different emphasis



Source: IRL 2007.

That inequality does register as a concern is important as the popular legitimacy of a particular elected government—and of a political system more broadly—is strongly affected by citizens' perceptions as to whether this system operates in the interests of all citizens, rather than just a privileged few. Low levels of state legitimacy make it harder to govern effectively: if it is widely believed that wealth differences result from unfair rules (i.e. that the rich are rich largely because of their connections), this undermines people's faith in politicians and officials, making it harder for Government to retain people's loyalty and ensure their compliance with law and policy¹. High levels of inequality also undermine the trust that is needed for citizens to work together to solve their own problems through collective action; and is clearly related to the incidence and severity of crime within society (Demobynes and Özler 2005).

Sources and measures

A core measure of welfare is per capita consumption: that is, the average value, in monetary terms, of food, clothing, housing and so on, consumed by an individual over a

¹ See Mekong Economics 2006 for this argument as applied to the analysis of growing inequality in Vietnam.

Box 1.4 Qualitative research shows widespread concern with growing inequalities

As of now, the gap between the rich and the poor is getting wider. The rich get richer and the poor get poorer and it is not easy to move upward. (Krasaing Village, Battambang: MOPS)

In 1993, we were not so different. At that time we [each] had around 5 ploan [0.5 ha.] of rice land that was given by the government. ... There is now a huge difference. The rich are reaching the clouds and the poor are sinking deeper...The rich lend out money and make a profit... whereas the have-nots are getting worse off and sooner or later sell all their land. (Kompong Thnoat, Kampot: MOPS)

Over time, stratification has been getting worse. ... It will be very hard for the poor to move out of poverty in the next five years because of landlessness, lack of capital and growing inequality. The gap between the rich and poor has grown tremendously. (Andong Trach, Battambang: MOPS).

The poor remain poor because the poor feed the rich. The rich are getting richer because they have capital to invest to make more money. ...The rich drop something for the poor to continue, but the poor earn to feed the rich. (Prek Khmeng, Kandal: MOPS)

Source: CDRI 2007b (forthcoming).

specified period. Per capita daily consumption is recorded in national multi-purpose surveys such as the 1993/4 Socio-Economic Survey of Cambodia (SESC) and the 1997 and 2004 Cambodia Socio-Economic Surveys (CSES): the consumption level of each individual is compared to the consumption poverty line level, and the proportion with consumption values falling under the poverty line defines the poverty rate.

In this report, we attempt to describe and explain changes in the level of inequality of consumption along various dimensions (rural and urban, richest and poorest quintile, those with a secondary education and those with none, and so on). Chapters 2 and 3 will, respectively, answer the following questions:

- Why does the level of inequality of consumption appear to have risen in rural areas, but appeared to remain unchanged or fall in urban areas?
- What contributed to the high levels of inequality in levels of consumption in certain segments of the populations?

Per capita consumption as derived from a national sample survey is a good general-purpose measure of living standards (and thus poverty and inequality) for a variety of reasons (Grosh and Glewwe 2000). However, it does also have some limitations. Household surveys typically under-sample the very poor and the very rich. In poverty analysis, this may not be critical if it does not result in anything more than a small underestimation of the poverty rate. When the interest is in equality or inequality of distribution, however, it matters more if *both* the tails (the poorest and richest) extremes are underrepresented, resulting in an underestimation of the true level of inequality.

Consumption is however only one dimension of welfare, and national surveys only one tool. In the case of Cambodia, it's unlikely that the richest households or the slum dwellers of Phnom Penh will be sampled in the household surveys. Thus, the results from household surveys must be interpreted with this caveat in mind.

Box 1.5 Commonly used inequality measures

There are many alternative ways in which inequality might be measured or communicated (McKay 2002). These include (among others):

- Average value (or shares of total) for the welfare measure held by different groups;
- ratios of the welfare measure between the top and bottom of a distribution;
- a simple plot of the distribution of the welfare measure
- a Lorentz curve, which plots cumulative percentage of the population against cumulative percentage of the wealth measure.
- The *Gini coefficient*, derived from the Lorentz curve, is one of the most widely-used measures of inequality, describing the difference between an observed cumulative distribution and an (ideal) perfectly equal distribution. It ranges from zero to one, with zero signifying total equality and one denoting complete inequality. It provides a measure of disparity or inequality by assessing the relative shares of outcomes vis-a-vis the respective population shares in the distribution. For a Gini coefficient of 0, every percentage of the population has 1 percentage share of the total outcomes (e.g., wealth or income or wages). In other words, the total outcomes are equally shared.
- The *Theil Index* also ranges from from zero to one, with zero signifying total equality and one denoting complete inequality. One advantage of the Theil Index is that it allows decomposition of total inequality. In other words, total inequality is the summation of inequality within each sub-component. Theil Index also measures inequality by comparing the relative outcome shares vis-a-vis the respective population shares, and weighting the differentials by their respective (sub-component) income shares.

Each of these measures has strengths and weaknesses. Thus the Gini registers as a decrease in inequality any transfer between a richer and a less rich person, without making any distinction as to whether the transfer went to someone in the middle or the bottom of the wealth distribution, which is obviously of interest when the concern is poverty reduction. A different picture of inequality may be obtained if data on distribution is presented as a ratio of values between the top and bottom 5 percent of the population, or the top and bottom 20 percent.

There are also other aspects and indicators of material wellbeing which are potentially more important in the longer run, and other tools for collecting and analyzing data. The measures commonly used to describe inequality (Box 1.5) can all be used with any continuous variable. The value of household assets or quality of housing may be good indicators of long-term welfare. Measures of human development (or human capital) such as literacy, level of educational attainment or health outcomes (e.g. life expectancy) have both intrinsic value in defining a good standard of living, and instrumental relevance in expanding an individual's economic opportunities. As the future living standards of Cambodian children depend on the education and healthcare that their families currently enjoy, differences in access to basic services are a critical influence upon equality of opportunity for the next generation. Similarly, it is rewarding to examine inequalities in access to private productive assets (land) and publicly-provided infrastructure (such as roads or irrigation), as these expand opportunities for production and employment.

Given the importance of these other outcomes, the report also examines the distribution of these non-monetary aspects of wellbeing and opportunity. In particular, Chapters 4, 5 and 6 will, respectively, document and analyze the extent of inequality in:

- access to productive assets (with a focus on land)
- access to infrastructure (with a focus on rural roads)
- access to services (with a focus on schooling and healthcare)

Apart from the SESC and CSES, there are a number of other important sources for this analysis. The primary sources of information on intra-household differences in consumption and access to productive assets, services, and infrastructure are the 1993/4 SESC and the 1997 and 2004 CSES. The key source of information on health outcomes is the 2005 Cambodia Demographic and Health Survey (CDHS), the findings of which can be compared to those in the previous (2000) CDHS. Information on education can be derived from the consumption surveys, the CDHS, and a number of other national sources. Finally, information on popular values and perceptions with regard to living standards, national challenges, and performance of various political and social institutions were gauged with a nationally-representative public opinion poll of 2,565 adults.

These various nationally-representative statistical sources are complemented with a variety of thematic, contextual studies focusing on particular localities. Such research, using either quantitative or qualitative methods (or both), may help us to understand relationships between different aspects of household livelihood strategies and welfare (e.g. between access to loans and investment decisions), and between households and wider institutional structures (communities, local authorities and market chains), in ways which are hard for a national sample survey. However, it is hard to then generalize from these local findings to make claims that they represent broader national phenomena (at least in the way that a well-designed sample survey can). Useful outcomes can be achieved by using both types of information in tandem to validate findings, explore behavioral explanations for observed statistical relationships, and so on. A key source is the Moving out of Poverty Study (Box 1.6), conducted by the Cambodia Development Resource Institute (CDRI 2007b). Other sources include the Participatory Poverty Assessment (PPA) conducted in the Provinces surrounding the Tonle Sap lake (CDRI 2007a); a number of sector-specific studies; and a short piece of fieldwork-based research into the current and potential future effects of systematic land titling (Markussen 2007).

Trends in inequality of monetary dimensions of welfare

As mentioned above, in those parts of the country for which direct comparison is possible, living standards rose for every consumption quintile. While every segment of the population has gained, the magnitude and pattern of growth differ between urban and rural domains. In Phnom Penh, the growth in consumption was spread fairly evenly across the whole range, averaging 30 percent over the decade between surveys. The poorest at the bottom end of the distribution experienced the highest rate of growth while the upper tail grew at the slowest rate. In “other urban” areas, consumption gains from the 25th percentile through the 90th percentile were phenomenal, averaging 40 percent during 1993-2004. Even for the poorest urban group below the 25th percentile, consumption growth was 10-25 percent. Growth in other urban areas could thus be characterized as rapid and widely shared (Figure 1.3).

Box 1.6 Stratification or churning? Potential insights from longitudinal analysis

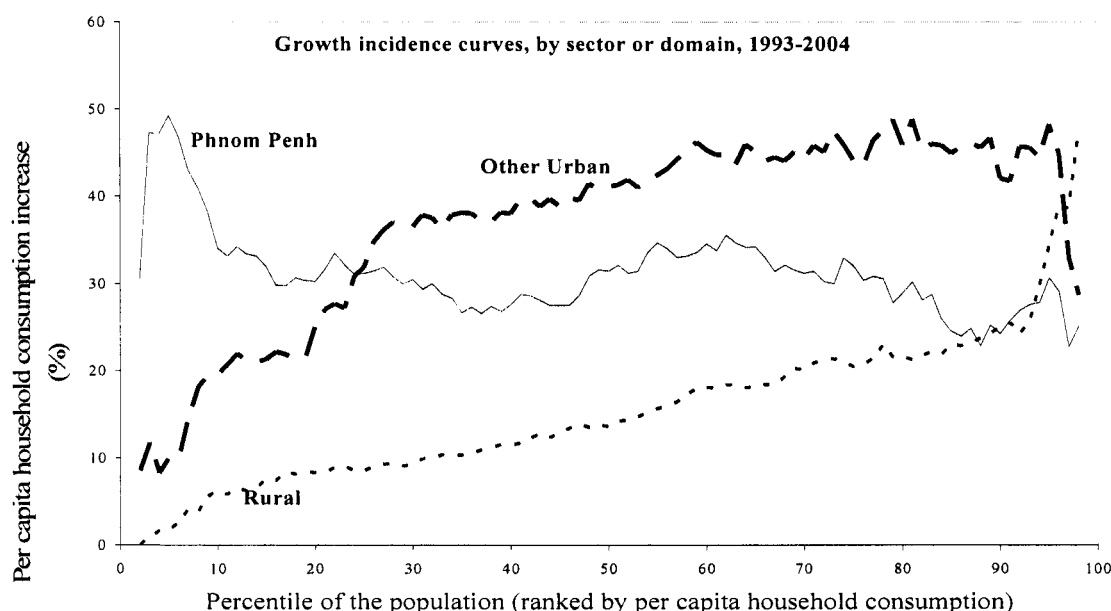
The Moving out of Poverty Study (MOPS) has used mixed methods research (that is, research which purposively combines quantitative and qualitative analysis) to describe and explain village- and household-level wealth and poverty dynamics. This has involved revisiting 890 households in nine villages which were previously surveyed for an earlier study in 2001. This panel dataset (i.e., a dataset that tracks the same households between repeated surveys) provides a valuable complement to national sample surveys such as CSES. In particular, it yields insights into how many households have moved out of poverty over a three year period—and, conversely, how many households which were not poor in 2001 had fallen into poverty by 2004, and how many had not seen their status (poor or non-poor) change. With this information, it becomes possible to estimate what proportion of the poor at any one time are trapped in chronic poverty, relative to the transitory poor who may cycle in and out of poverty in response to life cycle events or household shocks. In principle, the level of stasis or dynamism gives clues as to the level of equality of opportunity in rural society: if the rich stay rich and the poor stay poor over several rounds, it strongly suggests the existence of poverty traps and inequality of opportunity. If by contrast there is found to be considerable “churning” around the poverty line, that might suggest a healthier situation in which there is more equality of opportunity, with poverty status at any given date as likely to represent luck, life cycle factors or choices (e.g. to defer current consumption or savings). The qualitative component of MOPS, meanwhile, used semi-structured interviews with groups and individuals in the nine villages to obtain their views on how their livelihoods have changed, and what factors, at the household, village or national levels, help to explain these changes. Preliminary analysis and findings from the draft MOPS report are reproduced in this document: the full research project will be presented as a CDRI Working Papers later in 2007.

By contrast, growth in rural areas accrued primarily to the richest end of the distribution. The growth incidence curve here increased almost monotonically: consumption gains of the bottom half of the rural population were less than 10 percent, and reached only 20 percent at the 90th percentile. One can characterize growth in rural areas as highly concentrated at the extreme top end.

As a result, the Gini coefficient for per capita consumption in the geographically comparable sampling frame rose from 0.35 in 1994 to 0.40 in 2004. This rise in inequality is principally a result of rising rural inequality. Inequality in Phnom Penh and in other urban centers remained largely unchanged while inequality amongst the rural population increased considerably. Even though inequality in rural areas rose over time, the absolute level of inequality continued to be higher in urban areas today, just as decade ago. The urban Gini coefficient remained at 0.43 between 1993 and 2004, while the rural Gini coefficient was only 0.354 in 2004, despite a rapid rise (Table 1.1).

Because analysis of *trends* in consumption inequality is based upon a geographically-incomplete subsample of the 2004 data which is a subsample weighted towards the more accessible parts of the country, the 2004 figure derived from this trend analysis somewhat underplays the current level of inequality in Cambodia. In the whole of the country—that is, including now the poorer, peripheral areas that were not covered in the first 1993/4 survey—the Gini in 2004 stood at 0.42.

Figure 1.3 Changes in consumption, percentile-to-percentile, for Phnom Penh, Other Urban, and Rural Areas, between 1994-2004



Source: SESC 1993/4; CSES 2004.

Note: only comparable sub-samples from an identical (1993/4) sampling frame are used for each survey year.

Table 1.1 According to household surveys, inequality (Gini coefficients of real per capita consumption) rose considerably in the countryside, but remained largely unchanged in the towns

	1993	2004
Rural	0.265 (± 0.005)	0.354 (± 0.007)
Urban	0.434 (± 0.010)	0.431 (± 0.009)
Phnom Penh	0.393 (± 0.023)	0.367 (± 0.014)
Other Urban	0.439 (± 0.037)	0.434 (± 0.018)
Cambodia	0.347 (± 0.006)	0.403 (± 0.005)

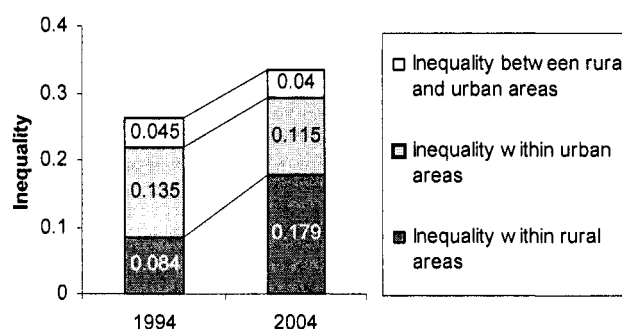
Source: Socio-economic Survey Cambodia, 1993; and Cambodia Socio-economic Survey 2003-04.

Note: estimated standard errors in parentheses; real consumption in 1993 Phnom Penh prices. The comparable sub-sample of 2004 is taken from the full 15-month sample. The results are based on similar sampling frames.

While Gini coefficients allow us to easily compare inequality across groups, they do not allow us to readily compare the relative contribution of each group to the total inequality. The Theil index, another commonly used measure, provides ease of

decomposition and can reveal the relative importance of each component—in this case the contributions of (i) rural inequality, (ii) urban inequality, and (iii) between-urban-rural inequality—to Cambodia's total inequality. Figure 1.4 shows the decomposition of Cambodia's inequality into these three components. Rural inequality has risen and its share in total inequality has also increased during this decade. Urban inequality, on the other hand, has fallen in point estimate and in its contribution to total inequality. Between-sector inequality is insignificant and unchanging.

Figure 1.4 Over the last decade, rural inequality has risen sharply



Source: SESC 1993/4; CSES 2004.

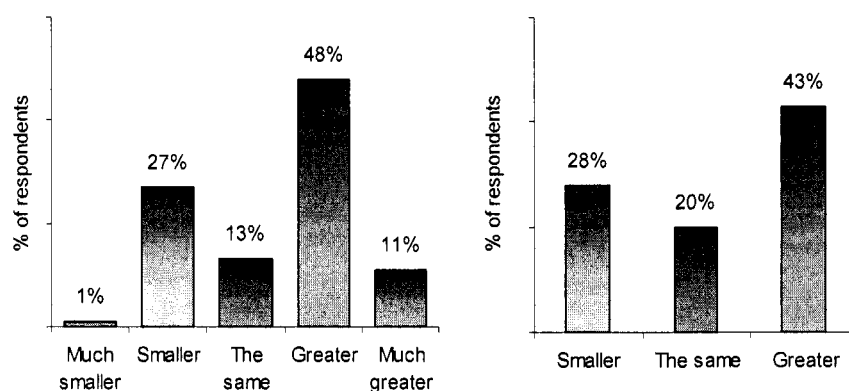
Note: For 2004, we only select the comparable sub-sample, based on the full 15-month sample, taken from an identical (1993) sampling frame.

The between-urban-rural gap is small because the rural and urban distributions have substantial overlapping areas. Figure 1.6 presents distributions of consumption for urban, rural and Phnom Penh populations by year. The overlap between these three domains is large: hence, even if the means are significantly different across distributions, disparity between distributions is trivial.

Very few people feel that inequality has not changed: the vast majority thinks that the gap between the richest and poorest in their community has changed over the last five years, with 59 percent feeling that it has increased. Opinion is more divided on whether local wealth differences will diverge further in the next five years: one in five think not, while those forecasting the gap widening outnumber those who predict it would shrink.

Figure 1.5 Most people believe inequality has risen; and will continue to do so

- a. Compared to five years ago, in your community the gap between richest and poorest is:
- b. In five years' time, in your community the gap between the richest and the poorest will be:

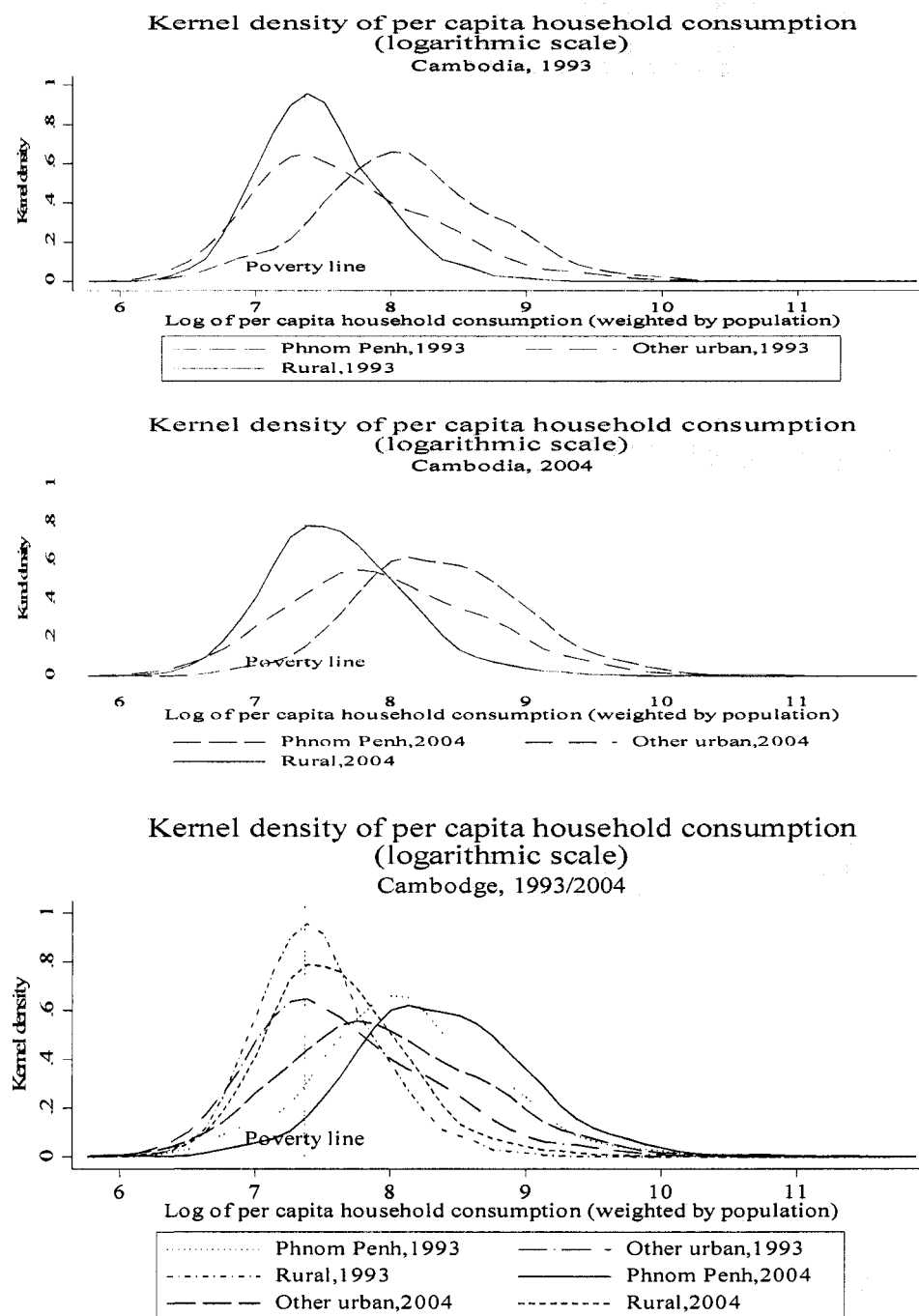


Source: IRL 2007 p. 31

Note: Answers total to 100 percent; missing values answered "don't know / didn't answer".

Trends in inequality of non-monetary dimensions of welfare

There has been progress with regard to other aspects of inequality. In education, there have been very positive trends towards increasing equality in educational uptake and outcomes, with closing gaps in the enrolment rates of girls and boys and upper and lower quintile groups. In health, there are some positive trends in outcomes. However, the pattern of public provision can be made more progressive. Currently, much is spent in the capital, whereas some 85 percent of the population and 90 percent of the poor live in rural areas, and with significant amounts allocated to tertiary rather than primary care.

Figure 1.6 Distributions of consumption, by sector, 1993, 1997 and 2004

Source: Socio-economic Survey Cambodia, 1993; and Cambodia Socio-economic Survey 2003-04.

Note: only comparable sub-samples from the same (1993) sampling frame are used

Equality in access to primary education is improving

As a result of expanding coverage, equality in access to education is improving as increasing numbers of girls and children of rural and/or poor families are drawn into the school system.

Although there are still large inequalities in outcomes between men and women, rich and poor, and rural and urban populations, these group averages mask considerable progress in recent years. Despite problems with dropout, repetition and

Table 1.2 There has been a dramatic expansion in basic education in recent years

Performance indicator	2000	2004	change
Pre-schools	952	1,275	34%
Lower secondary schools	511	688	35%
Classes	1,628	2,249	38%
Primary enrolment (millions)	2.4	2.7	14%
Primary enrolment in remote areas	54,000	81,000	50%
Primary net enrolment rate (NER)	84%	90%	7%
Lower secondary enrolments	284,000	460,000	62%

Source: Sakellariou 2007 citing Quinio 2005.

teaching quality, greater equality in access to primary education is starting to result in closing gaps in education outcomes. Amongst the younger age groups which have more recently passed through the (improving) education system, literacy rates are higher across the board, and the inequalities are shrinking rapidly (Figure 1.7 and Table 1.2).

Although pronounced, health inequalities are starting to close

In most of the key measures, health outcomes are becoming less pronounced over time. Thus for example, the gap between the best and worst performing provinces in terms of child survival has narrowed between 2000 and 2005: Mondolkiri and Rattanakiri posted 40 percent and 39 percent declines in infant and child mortality respectively, while indicators held steady in Phnom Penh. Pursat province experienced the second highest rates of early childhood mortality across all age groups in 2000: the CDHS 2005 has shown although still relatively high, there has been a marked reduction by more than a third for rates of infant and under-five mortality².

This picture of narrowing inequalities is not, however, universal. Inequalities in child survival between the rural and urban populations are widening as improvements occur in both, but occur more rapidly—and starting from a much better initial level—in the urban centers (see Figure 1.8).

² Changes in methodology between CDHS 2000 and CDHS 2005 saw Siem Reap included with Oddar Meanchey, Preah Vihear/Stung Treng was included with Kratie and Kompong Som was included with Kampot / Kep for the CDHS 2000 which may give an under-estimate of 2005 ratios.

Figure 1.7 Increasing equality in primary enrolment is closing gaps in literacy rates amongst the younger generation

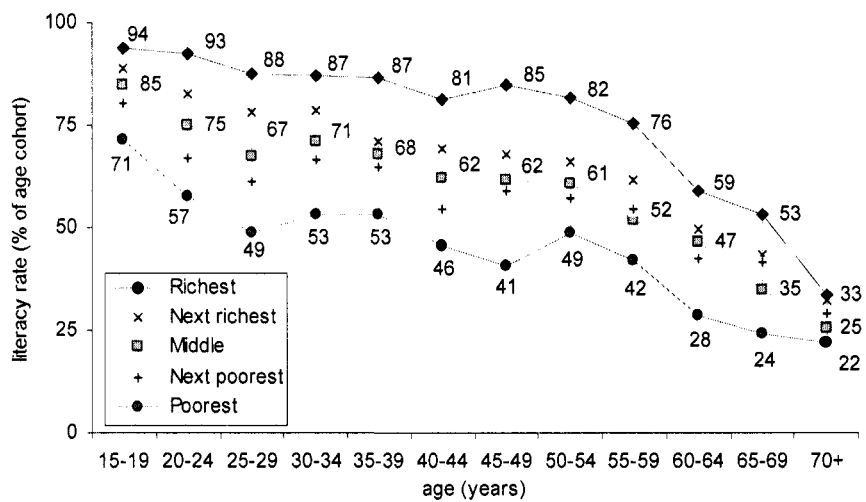
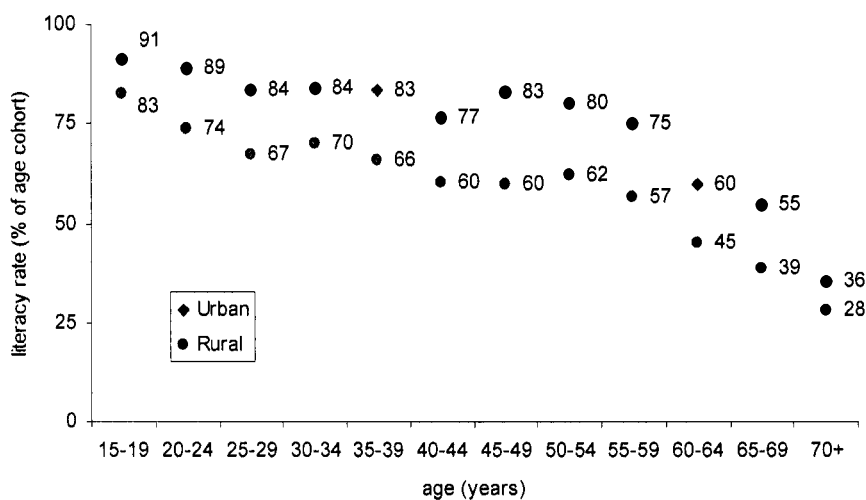
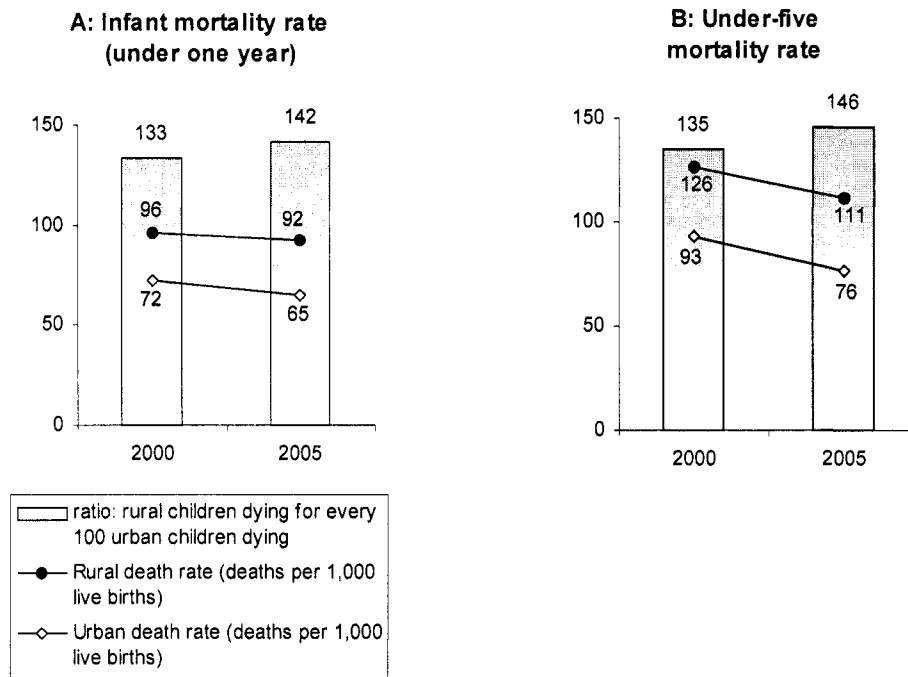


Figure 1.8 Faster gains from a better base in urban areas are widening existing inequalities



Source: CDHS 2000 p. 125; CDHS 2005 p. 126

Perspective and focus

In the context of Cambodian development policy, the focus is for now on the bottom end of the distribution. The burning question on inequality should be why this poorest segment of the population—chiefly in rural areas—has been unable to benefit more from productive opportunities. This report thus focuses on addressing the barriers to participation in the economy by all members of society, and how the government could reduce these barriers to generate greater productivity and real income for all.

Based on the analyses, the rest of the report examines sectoral as well as cross-cutting issues in-depth. Recommendations for public policies relate mainly to:

- creating an environment that promotes individuals' investments in capabilities;
- expanding opportunities to access services and productive assets; and
- removing systemic barriers so the poor and disadvantaged can participate in the country's development and experience higher growth.

More specifically, we suggest policy options to facilitate or ensure greater inclusion of the poor in government programs (e.g., land titling, social land concessions); accessing public services (e.g., healthcare, schooling); and sharing public resources (e.g., infrastructure, fiscal resources, common property resources). Each of these measures is a strong candidate for inclusion in a set of equity-enhancing pro-poor interventions.

2. Rural inequality

Summary

- Inequality in living standards (per capita consumption) in rural areas rose between 1993 and 1997 but stabilized between 1997 and 2004. This trend suggests that there has been nothing structurally destabilizing in the pattern of Cambodia's rural growth to date.
- Rural inequality has been driven by inequality among the richest quarter of the population, and inequality between the richest and the poorest. Inequality among the rural majority (the bottom three-quarters of the population) is negligible. Over time, the rich-poor gap (the disparity between the bottom three-quarters and the top quarter) has narrowed as poverty has fallen. Much of the increase in rural inequality is, therefore, due to increased disparities amongst the richest quarter of rural Cambodians.
- Geographic isolation contributes to rural inequality, as less connected localities have lower average levels of income and consumption and have experienced lower rates of growth. Remote villages tend to have higher poverty incidence than better connected villages. Thus, the geographic expansion of public investments in infrastructure such as rural roads will be instrumental in improving connectivity and expanding opportunities for remote communities and reducing poverty and inequality.
- Household and individual factors underlie growing inequality in rural Cambodia. Differentials in household-level human and physical capital result in disparities in returns and income. Differences in intrinsic capacities and skills naturally result in varying ability to participate in and benefit from expanding economic opportunities; the ability to which innate abilities can be realized is in turn significantly influenced by the availability of productivity-enhancing infrastructure (as well as by access to education and healthcare). Thus, poverty reduction and equity goals will be served by public investments in productivity-enhancing infrastructure such as irrigation; public spending on basic services to enhance human capabilities; and policies to improve land tenure, and so encourage investments in land.
- In particular, infrastructure such as irrigation is crucial for the improving and stabilizing the livelihoods of rural households. While a small number of farmers can afford to invest in small-scale irrigation structures, the majority depends on the Government to provide these resources. Investments in irrigation are needed to raise and stabilize agricultural productivity and diversify crop production.

This chapter examines why the rural majority did not experience more rapid gains between 1994 and 2004, and how policies could address this imbalance of gains between the rich and the rest. The first section examines *what* took place during the past decade by describing trends in inequality of consumption in the sub-periods of 1993-1997 and 1997-2004. The second section examines within- and between-group changes in inequality to identify which groups contributed to rising inequality in rural areas. The third section answers *why* inequality rose in the ways it did.

What took place?

A long decade, divided into two sub-periods

A decade is a long time during which structural economic changes are likely to take place. This is especially true for a country like Cambodia that went through simultaneous transitions from war to peace, from one-party to multiple-party politics, and from a closed and planned regime to an open market economy. Running through this period there has also been an important fourth transition in demographics, as the children born in the post-1979 and post-1989 baby booms have worked their way through the schooling system and into the labor force at the same time that the fertility rate has declined markedly. Given these numerous strands of rapid structural change, it helps to divide this past decade into two sub-periods for a closer look at the changing pattern of economic activity and income distribution.

Making the best of deficient data

The Cambodian Government implemented four rounds of household surveys during the 1990s. Unfortunately, each has a different set of deficiencies. The *Cambodia Poverty Assessment* (World Bank, 2006, Box 2.1) documents the shortcomings of these household surveys. Despite the many flaws of the 1997 Cambodia Socio-Economic Survey (CSES), it is clearly superior to CSES 1996 and CSES 1999. We proceed on the working assumption that the downward biases in consumption strongly suspected to exist in the CSES 1997 data (which was collected during a period of political tension) would have affected the entire distribution equally, without being more or less exaggerated in different parts of the distribution: on these grounds, analysis of shifts in the distribution over time will still be robust. It can also be safely assumed that non-consumption measures (e.g. access to infrastructure, services, and public amenities) will be less sensitive to the tensions that existed in June 1997, and comparing these measures in 1997 with those in 2004 provides a reliable and robust measure of trends. Thus, imperfect data from CSES 1997 is used judiciously to complement the 1993 and 2004 data.

Analysis also suffers from some severe limitations of the Socio-economic Survey of Cambodia (SESC) of 1993/4 (henceforth referred to simply as SESC 1993 for simplicity). The entire SESC 1993 dataset contains only limited pieces of useful information (variables): many of the household-level variables recorded in later surveys are not recorded here, others were collected but have since been lost, and there was no village questionnaire module, and thus no information on local amenities of the villages in which the households are located (e.g. whether there was a school or a health facility in the village). Thus, while the SESC 1993 will be utilized to its maximal potential, analysis is constrained in terms of depth, breadth, and rigor for the year of 1993.

Interestingly, when it comes to dissecting overall change between 1993 and 2004, contextual mixed-methods research suggests a slightly different storyline from that suggested by analysis of the national sample survey data. According to respondents in the nine MOPS case study villages, intra-village differences in livelihoods and living standards began to grow from 1993, but accelerated rapidly after the 1998 elections—the reverse of the periodization outlined above (CDRI 2007b, forthcoming, chapter 2). Possible reasons for these different perspectives will be outlined below.

Rural inequality jumped between 1993 and 1997, then leveled off between 1997 and 2004

Table 2.1 presents the Gini coefficients for real consumption in years 1993, 1997 and 2004. Both per capita and total household consumption measures are shown as household structure changed dramatically during this decade, as average household size fell by about 10 percent, especially for households at the bottom end of the distribution. The inequality indices in Table 2.1 indicate a substantial increase in inequality in rural consumption during the four years between 1993 and 1997. The Gini coefficient for real per capita consumption leaped significantly from 0.27 in 1993 to 0.33 in 1997, and then edged upward modestly to 0.35 over the next seven years. The trend for inequality of total household consumption was similar, with a somewhat smaller jump in the first four years.

Table 2.1 Welfare differences in the countryside appear to have widened rapidly between 1993 and 1997, but more slowly after that

Gini coefficients of real consumption for comparable samples of rural areas, 1993, 1997 and 2004

	1993	1997	2004
per capita real consumption	0.265 (± .005)	0.330 (±.007)	0.354 (±.007)
total household real consumption	0.281 (±.006)	0.338 (±.008)	0.367 (±.007)

Source: SESC 1993/4, CSES 1997, CSES 2004.

Note. Only comparable samples from the identical (1993) sampling frame are used for each survey.

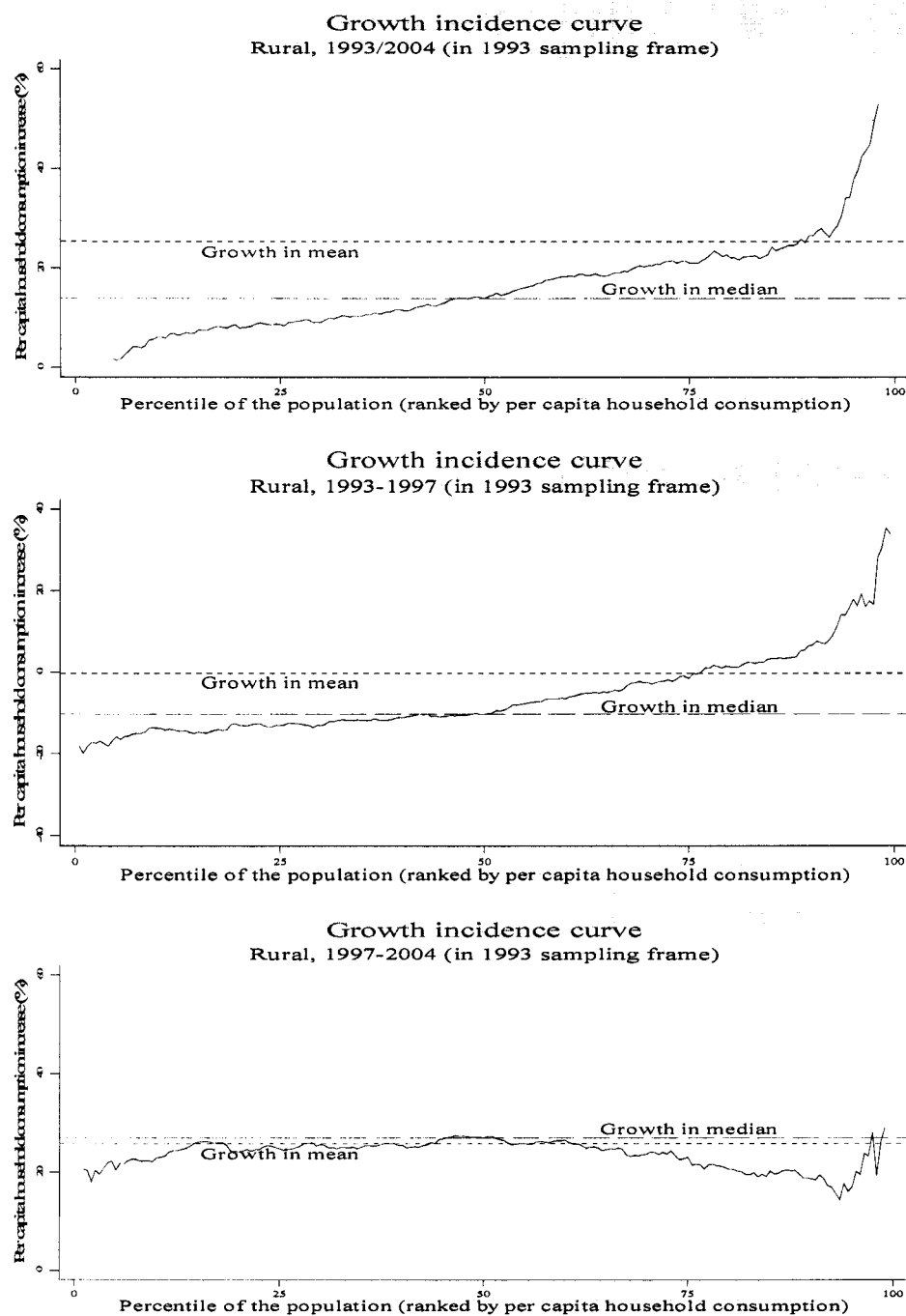
More insights can be obtained from growth incidence curves which show the percent change in real per capita consumption between two points in time for each percentile of the rural consumption distribution. Again, the decade is split into 1993-1997 and 1997-2004. Figure 2.1 presents three growth incidence curves for (i) the decade of 1993-2004; (ii) the sub-period of 1993-1997; and (iii) the sub-period of 1997-2004, respectively. The top panel reveals two features between 1993 and 2004 that contributed to rising inequality:

- Consumption growth amongst rural households increased steadily by distribution percentile, i.e. the richer the households, the bigger their proportionate consumption gains.
- Except for the richest 7 percent, the entire rural population experienced only sluggish growth in consumption. Even households at the 75th percentile only gained 20 percent while those at the top of the poor group, at the 93rd percentile, grew by a mere 25 percent. By contrast, at the richest end of the distribution, growth was 40 percent.

The CSES data suggests that rising rural inequality between 1993 and 2004 masks two very different sub-periods. The consumption changes for each percentile during the earlier sub-period of 1993-1997 are plotted in the growth incidence curve in the middle panel of Figure 2.1 while those for 1997-2004 are represented in the bottom panel.

Figure 2.1 Initially, the very rich made rapid gains while others lagged; later, improvements were spread evenly between wealth groups

- Changes in real consumption, percentile-to-percentile



Source: SESC 1993/4, CSES 1997, CSES 2004.

Note: Only comparable samples from the identical (1993) sampling frame are used for each survey.

1993-1997: the very rich pulled ahead, while others fell behind

Between 1993 and 1997, only a handful of the population (the top three percent) enjoyed rapid improvement in living standards (growth in real per capita consumption exceeding 20 percent). The period 1993-1997 can be characterized as one in which the extremely rich pulled ahead while the poorest, the poor, and the middle of the wealth distribution stagnated. The result was a substantial, statistically significant rise in inequality between 1993 and 1997.

1997-2004: widely- shared growth

The changes recorded in the second sub-period are in sharp contrast with the first. Between 1997 and 2004, almost every percentile in the distribution experienced similar high rates of growth in per capita consumption (between 20 and 28 percent). The growth incidence curve is practically flat at the mean growth rate across the entire distribution. The exceptions are among the upper middle class segment (70th -90th percentiles) and the poorest (1st-15th percentiles) with slightly smaller growth, around 22-24 percent. One can characterize this period as equitable, with growth broadly shared.

Thus, the combination of different trends in 1993-97 (growth concentrated among the rich) and 1997-2004 (broadly-shared growth) has resulted in rising rural inequality. The trend during 1997-2004 is promising, and suggests that there is not necessarily a structural problem with Cambodia's economic growth. Projecting simply on the basis of trends in this period, growth dynamics do not suggest a structural tendency for growth to increase inequality.

Which groups drove inequality?

The analysis in the previous section hinted that a comparison of within-segment inequality for various income (consumption) segments might shed further light. Using real per capita consumption, rural households are ranked into four quartile groups.

Divergence amongst the rich promoted inequality

Table 2.2 presents Gini coefficients for each of the quartile groups in years 1993, 1997 and 2004. Levels of inequality within the two middle quartiles of the distribution were strikingly low throughout these 11 years, implying that the majority of rural households enjoyed similar levels of per capita consumption clustered around the average. However, inequality in the richest quartile was the highest in all three survey years, with the Gini coefficient for this quartile rising steadily (from 0.18 in 1993, to 0.23 in 1997, to 0.28 in 2004) between the three surveys.

At the other end of the spectrum, there was some modest inequality within the poorest quartile group, at a level that remained essentially unchanged throughout the decade. As a result, inequality in the richest quartile group in 1993 was double the inequality in the poorest quartile group; but became triple the level of the latter by 2004.

Table 2.2 There has been increasing divergence in wealth within the richest 25 percent of rural households

Gini coefficients of real per capita consumption by quartile groups, 1993, 1997 and 2004

Quartile of rural households in comparable sub-samples	1993	1997	2004
Poorest	0.094	0.103	0.114
Next poorest	0.044	0.050	0.056
Next richest	0.050	0.065	0.063
Richest	0.179	0.232	0.277
Total	0.265	0.330	0.354

Source: SESC 1993/4, CSES 1997, CSES 2004.

Note: Only comparable samples from the identical (1993) sampling frame are used for each survey.

Rising rural inequality is a result of rich-poor disparity and rising inequality among the richest quarter of the population

While Gini coefficients allow comparison of inequality across groups, they do not readily allow comparison of the relative contribution of each group to total inequality. The Theil index, another commonly used measure of inequality, provides ease of decomposition and can easily identify the relative importance of each component (in this case the contribution of each quartile group to total rural inequality).

Table 2.3 presents a decomposition of inequality, using the Theil Index. Total rural inequality is decomposed into within-quartile inequality for each of the four quartiles and (between) inequality across quartiles. Three main findings emerge:

- Within-quartile inequality was insignificant among the bottom three quartile groups (i.e., between the 1st percentile and the 75th percentile): their joint contributions to total rural inequality is essentially zero.
- Inequality within the richest quartile group became increasingly significant over time. Its contribution to total rural inequality increased from 24 percent in 1993 to 40 percent in 2004.
- Between-quartile inequality remained the largest component, even as its share has been eroded by inequality in the richest quartile.

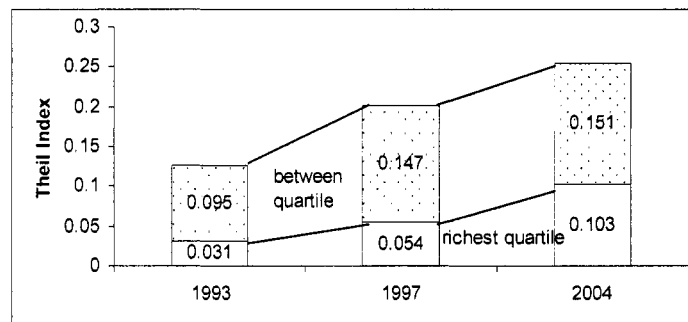
These results, as summarized in Figure 2.2, suggest that the gap between rich and poor (i.e., between-quartile inequality) is one of the two determinants of rural inequality. The other determinant of rural inequality is the inequality within the richest quartile group. This within-richest-quartile inequality is rising, and contributing much more weight, or importance, to total rural inequality over time. By contrast, the rich-poor gap is closing, albeit very gradually, as a result of economic growth that has benefited the rural majority, in particular between 1997 and 2004. This suggests that pulling the bottom end of the distribution out of poverty will also directly address inequality. That is, a direct way to reduce inequality will be to understand and remove the impediments to growth among the poorest. Generating absolute increases in income for the rural majority (i.e., the bottom 50-70 percentiles) will close the income gap, and lower between-quartile inequality.

Table 2.3 Theil Indices: a decomposition of within-quartile and between-quartile inequality of per capita consumption, 1993, 1997 and 2004

Quartile of rural households in comparable sub-samples	1993	1997	2004
Poorest	0.002	0.002	0.003
Next poorest	0.001	0.001	0.001
Next richest	0.001	0.001	0.001
Richest	0.031	0.054	0.103
Between Quartiles	0.095	0.147	0.151
Total Theil Index	0.129	0.205	0.259
Inequality in the Richest Quartile Group 4 as a % of Total Rural Inequality	24	26	40
Between Quartile Inequality as a % of Total Rural Inequality	76	74	60

Source: SESC 1993/4, CSES 1997, CSES 2004.

Note: Only comparable samples from the identical (1993) sampling frame are used for each survey.

Figure 2.2 A decomposition of rural Theil Indices

Source: SESC 1993/4, CSES 1997, CSES 2004.

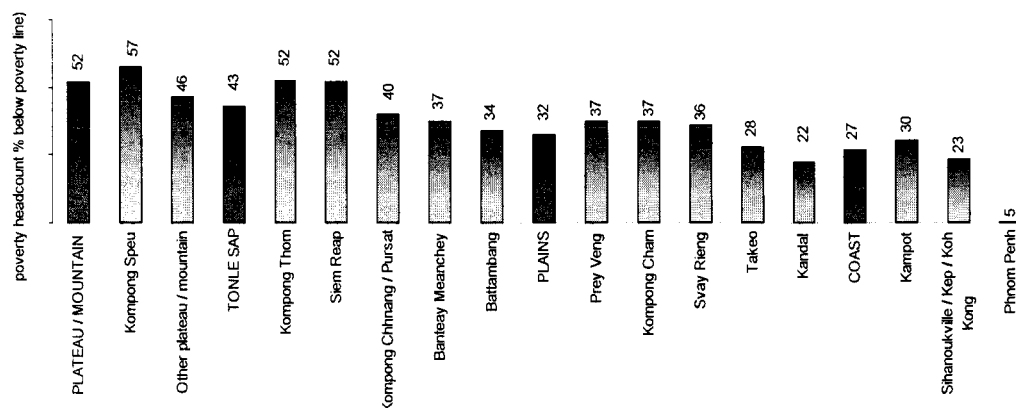
Note: Only comparable samples from the identical (1993) sampling frame are used for each survey.

Differences in growth rates and inequality

There are clear geographical components to patterns of inequality of opportunity and outcomes within the countryside. These spatial inequalities can be picked out at a variety of scales. In terms of outcomes there are, for example, very large inter-Provincial variations in the incidence and severity of poverty (Figure 2.3). These Provincial averages may themselves conceal considerable spatial variation at a more fine-grained resolution: with severely underdeveloped rural roads network, communities next to a national road can enjoy dramatically better opportunities, and as a result demonstrate significantly better outcomes, than communities located a mere 5 kilometers away.

The MOPS research found that over the three years between surveys, inequality in income had grown both between the nine study villages; and between rich and poor households within most of the villages. In 2001, average incomes in the richest village were 2.4 times those in the poorest village; by 2004/5, this had grown to 2.9.

Figure 2.3 Poverty rates in upland areas are significantly higher than on the coast



Source: CSES 2004 analyzed in Knowles 2005a.

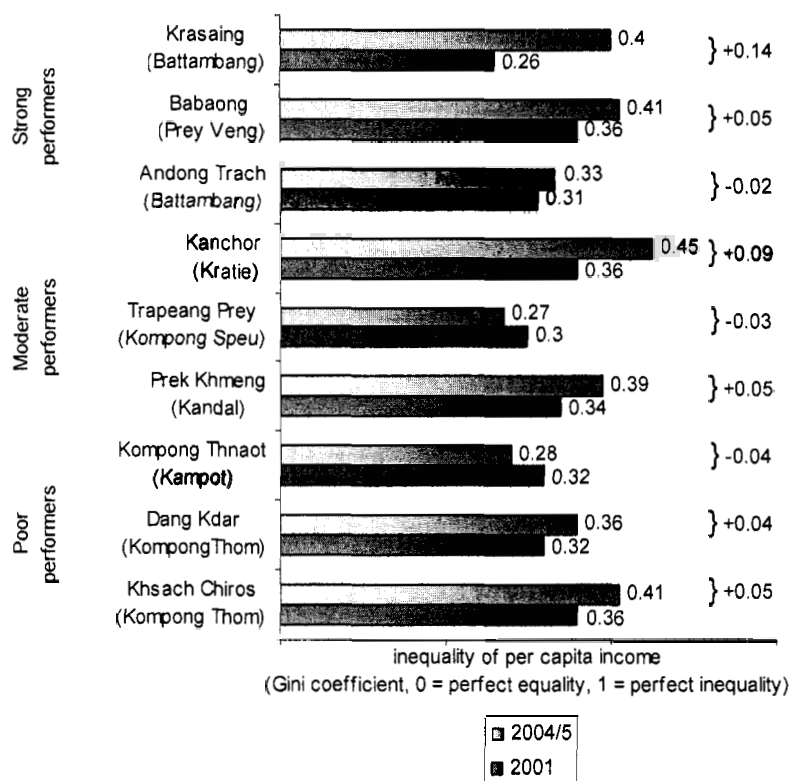
Within the MOPS villages, meanwhile, groups with different mobility status saw their incomes diverge further. The chronically poor (those who remained poor in both rounds of the panel) saw their incomes rise by 33 percent; the comfortably rich (those who remained non-poor in both rounds) experienced double that rate (61 percent). As a result, the ratio between the incomes of the two groups changed from 1:3.2 to 1:3.9. This widening gap is reflected in the income Gini, which increased by around 0.05 in most villages, with more dramatic jumps in inequality in two sites and small *declines* in inequality in another two sites (Figure 2.4).

Richer provinces have higher inequality

If within-quartile inequality in the richest quartile group is one of the main causes of inequality, we would expect to see that Provinces with greater population shares in the richest quartile group experienced higher intra-provincial inequality. Figure 2.5 demonstrates the relationships between provincial Gini coefficients and rural population shares in the richest quartile group¹. The top panel (a) of Figure 2.5 presents the level-by-level relationship between inequality and population shares in the richest quartile. By pooling all observations in the survey years of 1993, 1997 and 2004, it is possible to plot provincial inequality levels on the y-axis and provincial population shares in the richest quartile group on the x-axis. The plot shows a (statistically) significantly positive relationship. Richer provinces with higher percentages of their populations belonging to the rural richest quartile group tended to experience higher inequality.

¹ All analyses in this section are carried out on only the sample of rural households. Note that only compatible samples with identical sampling frame of 1993 are selected from each survey to be analyzed.

Figure 2.4 In the MOPS dataset, most villages recorded an increase in the income Gini averaging 0.05; two registered much higher increase



Source: CDR 2007b (forthcoming)

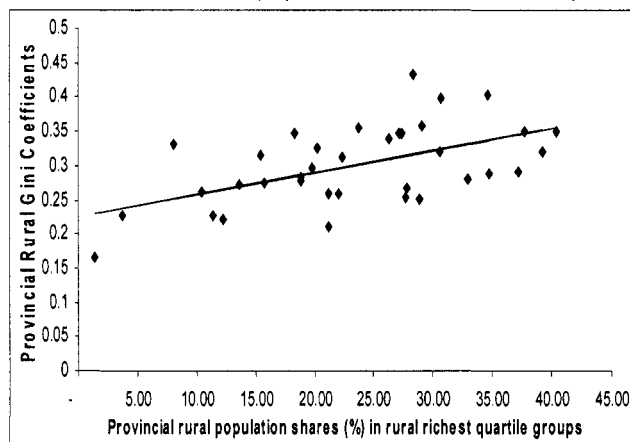
Provinces that grew much richer have faster growth in inequality

The bottom panel (b) of Figure 2.5 presents the difference-by-difference relationship of provincial inequality and population in the rural richest quartile. By pooling the two sub-periods of 1993-1997 and 1997-2004, we plot percentage point differences of provincial Gini coefficients on the y-axis and percentage point differences of provincial population shares in the rural richest quartile on the x-axis. The results also indicate a (statistically) significantly positive relationship between *changes* in inequality and *changes* in the proportion of rich people.

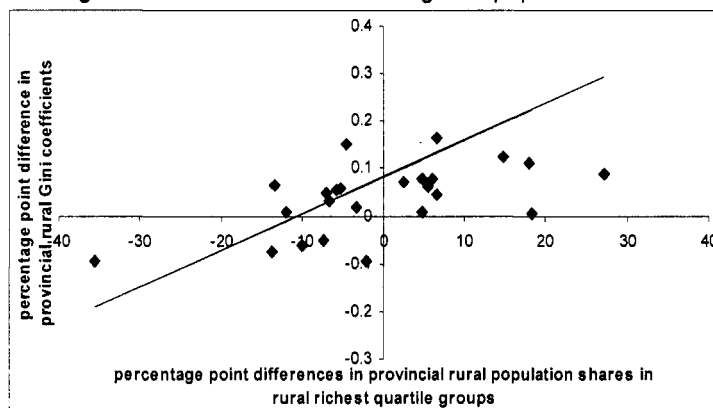
These results suggest that provinces that grew richer or more rapidly as more of their residents becoming rich (i.e., greater movement into rural richest quartile) tended to experience rising inequality. Equally striking is the finding that provinces that regressed or observed falling shares of their populations falling in the rural richest quartile tended to experience stable or declining inequality.

Figure 2.5 The relationships of provincial Gini Coefficients and the population shares in the richest quartile group (rural areas), 1993-2004

a. Levels: Gini coefficients vs. population shares in richest quartile groups



b. Differences: changes in Gini coefficients vs. changes in population shares in richest quartile



Source: SESC 1993; CSES 1997; CSES 2004.

Note: Only comparable samples from the identical (1993) sampling frame are used for each survey.

The analysis and findings in this section supplies three messages:

- Rising rural inequality was due to rising inequality within the richest quartile group.
- Rising provincial inequality coincided with increasing shares of the richest (provincial population).
- Rising rural inequality coincided with faster growth.

The first message is a description of basic facts. The second message is a result from time-series analysis that shows provinces with increasing proportions of rich residents are more likely to experience rising inequality. A note to highlight is that there is no evidence of concentrated wealth in any particular provinces and the fluctuations of provincial inequality appear random. Thus, the speed and magnitude with which the

population in any province makes it into the rural richest quartile are very likely to be a result of economic growth. The third message is a direct implication from the data that provinces with higher inequality are those with greater shares of rich people; and provinces that have more rapidly rising inequality have also grown much richer.

Drivers of inequality in the rural population

Current patterns of inequality within the Cambodian countryside reflect a complex interaction among many processes. These processes operate at the individual, household, community and national level; and came into play—and in some cases, have faded out again—at different stages over the last fifteen years of transition. The remainder of this chapter will provide analyses of some underlying factors of rural inequality.

History and geography

Equality in initial conditions?

The state that replaced the Khmer Rouge, the People's Republic of Kampuchea (PRK), was premised upon socialist ideals of equality. In the early years, as the PRK sought to prevent famine following the collapse of the Khmer Rouge regime, low-level collectivism was mandated, with land and scarce productive assets such as draft animals shared in *krom samaki* (solidarity groups). Within a few years, however, there was increasing popular pressure for a return to individual family farming, and the *krom samaki* were gradually abandoned (Frings 1993). Research in the late 1990s (Box 2.1) suggests that at this stage—and perhaps even earlier—small but significant differences began to emerge in household asset endowments and production opportunities.

Box 2.1 Initial conditions and the re-emergence of difference

Overall, the Khmer Rouge revolution succeeded in deliberately and comprehensively breaking the pattern of wealth which had existed in the 1960s, to the advantage of some and the disadvantage of others. (In a few cases people were able to reclaim wealth that they had held before the revolutionary cataclysm: some families managed to dig up gold, jewellery or other wealth that they had buried before the Khmer Rouge took over.)

Nonetheless, devastated as Cambodia was when the new regime took Phnom Penh in January 1979 and set about re-establishing the state, the situation of “equality in poverty” was subject to some small but important variations at the local level. Villagers in Kompong Chhnang related how those who were able to gather and transport cattle, buffalo, carts, tools and the like back from the hills when the Khmer Rouge cadre fled, effectively gained ownership of these assets. Many respondents stressed that single women and the seriously ill were disadvantaged at this stage, lacking the physical strength or power (*komluhng*, a term with inherently masculine connotations: Ledgerwood 1990 pp. 23-4) required to claim and move such goods. Although these assets were then collectivized and came to belong to the *krom samaki* as the PRK established control, with *de facto* decollectivization in 1982 or 1983 they reverted to those who had “owned” them in 1979. In 1982, such productive assets were in short supply and those families who did have them had a head start on productive use of the land they received.

Source: Conway 1999 pp. 207-8.

The lack of private markets for products or imports, reinforced by Cambodia's political and economic isolation, meant that the economy before 1990 was largely subsistence-oriented, with very few opportunities for individuals to exploit their differential sets of endowments or to accumulate wealth. The equality that existed before the Paris Peace Agreement was somewhat less complete in practice than principle, which meant that when market relations were reintroduced from 1989 some households did enjoy a head start, even if only a small one. To some extent the difference that has emerged since the early 1990s reflect these different starting positions. For example, favoritism in the allocation of land provides a second caveat to the picture of decollectivisation as an egalitarian process in which distribution of resources reflected consumption needs at that time. On a number of occasions, relatives of village and commune authorities received more than their fair share (Frings 1994).

"Location and legacy" explain the geography of inequality

The complex set of interacting environmental, economic and political processes have thus created and sustained expanded opportunities in some localities relative to others. Households living in settlements close to towns, roads and markets had an early lead on households living in remote areas. These advantages took the form of better access to social services (preventative and curative health services, basic education) that might enable the accumulation of human capital; dramatically lower time and cost to move goods to market; and much greater probability of benefiting from a donor, NGO or Government development scheme. Lowland settlements with national roads running through them tend to be located where they are in the first place because of favorable production conditions (better soils or, more typically, better water control conditions); communities away from roads are almost by definition generally upland, poor quality, and difficult or impossible to irrigate. The final aspect to geographical "legacy" is the date at which armed political conflict ended in the locality: this effectively defines the point at which economic activity and accumulation could start. Those parts of the country which came out of conflict late—in MOPS, several of the sites were vulnerable to Government-Khmer Rouge clashes right up until 1998—lag those regions which have had peace since 1993 (Box 2.2).

Well-connected provinces enjoyed higher levels and faster growth of consumption

Using the CSES data, this section² examines the impact of isolation and remoteness on inequality or the rich-poor gap. Figure 2.6 shows the levels and growth in mean daily real consumption for all provinces (in comparable samples, based on an identical 1993 sampling frame) during 1993-2004. The top Panel (A) reveals that mean consumption levels in Battambang, connected to fast-growing Thailand, were more than twice those in a poor, upland, central province such as Kompong Speu. The growth rates of consumption for provinces connected to the world markets (e.g. Kandal surrounding Phnom Penh; or Kampot on the coast) were also higher than inland provinces,

² All analysis in this section is carried out on only the sample of rural households, and only between compatible samples within the identical (1993) sampling frame.

Box 2. 2 Peace has opened up opportunities for investment, trade and accumulation

In the MOPS research project, participants consistently emphasized how the end to armed political conflict lifted the burden of fear and opened up livelihood opportunities.

(Ksach Chiro, Kompong Thom)

Before Pol Pot troops defected to the Government, most villagers dared not sleep in their houses; most of the time they slept on the ground close to a safety hole. Whenever Khmer Rouge or government troops came to the village, they took our chickens and ducks or burned our houses if we were not willing to give our belongings to them.

In 1993, we could not move freely because we had to ask for a permit from local authorities. By contrast, in 1998 we got more freedom, because we could go everywhere and our community was secure after the integration of the Khmer Rouge.

(Dang Kda, Kompong Thom)

Before the Khmer Rouge integration in 1998, this community was unsafe because this area was a stronghold of the Khmer Rouge. At that time, the situation was not stable. People had to be well prepared and ready to escape from the bombing. They felt unsafe, so never cared about building or improving their houses... That's why security always came first to our mind and we had less time to think about our economic life.

At that time I cared only about my pots and dishes rather than other useless things when each time serious fighting took place in this community. I never thought about earning money and how to improve my family's standard of living because I had no time to think about it. The only one thing I had to do was to learn how to escape from bombing.

Kanchor, Kratie

This village was free from armed conflict after the defection of all Khmer Rouge troops in 1998. Having security significantly helps improve people's livelihoods in this area.

Source: CDRI 2007b (forthcoming).

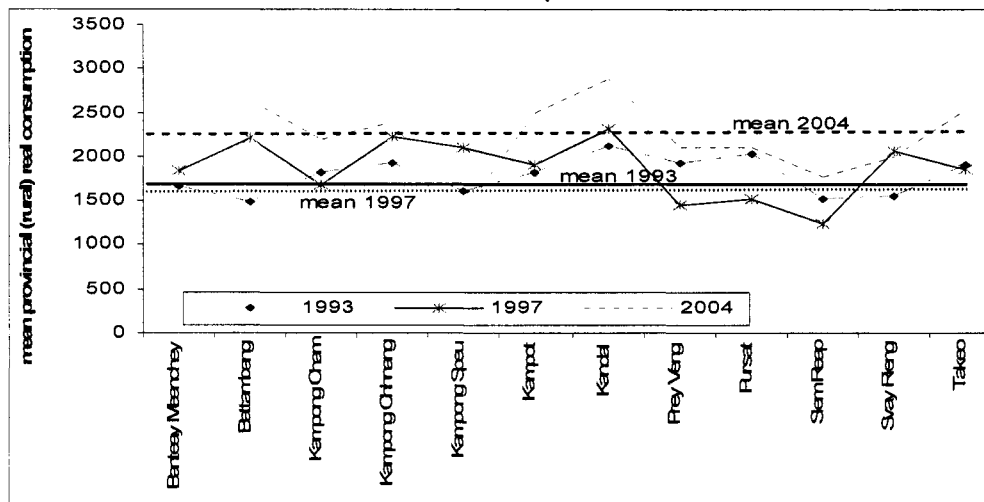
particularly Tonle Sap provinces. Siem Reap is a curiosity, and highlights the importance of examining spatial variations at a fine-grained level: although the provincial town is the center of a multi-billion dollar tourism industry, the surrounding province, much of which has poor soils, limited irrigation and poor roads, remains extremely poor.

However, lagging provinces are catching up overtime

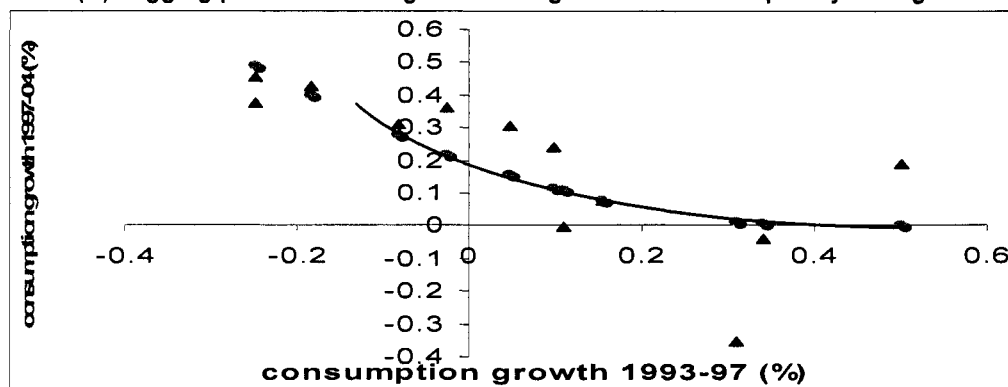
The bottom Panel (B) plots growth during 1997-2004 on the y-axis and growth during 1993-1997 on the x-axis. The plot suggests evidence of catching-up among provinces. In other words, provinces which grew less or grew more slowly during 1993-1997 tended to grow more rapidly in the subsequent period of 1997-2004. These results suggest not only that geographic isolation plays an important role, but that roads play a critical role in overcoming this isolation. As remote areas become more connected through additional road investments, an increasing proportion of the rural population can participate in the country's development and growth. During this process, some locations or provinces will grow sooner than others. Encouragingly, the data suggest that over time lagging provinces are catching up.

Figure 2.6 Levels and growth of provincial (rural) mean real consumption, 1993-2004

Panel (A) Better connected provinces experienced greater mean and higher growth in consumption



Panel (B) Lagging provinces during 1993-1997 grew faster subsequently during 1997-2004



Source: Socio-economic Survey Cambodia, 1993; Cambodia Socio-economic Survey 1997; Cambodia Socio-economic Survey 2003-04.

Note: Only comparable samples from the identical (1993) sampling frame are used for each survey.

Welfare levels are lower in remote localities

Differences in living standards can be compared by classifying households into either remote or connected villages on the basis of location-related attributes. Two measures of remoteness or connectivity are used. The first defined by the existence of any all-weather road in the village: villages with at least one all-weather road are classified as connected, and all other villages classified as remote. The second measure is defined by the distance to the district headquarters: villages further than 10 km are classified as remote.

Table 2.4 shows the mean levels of consumption for the two types of households for 1997 and 2004. Partition (1) uses the all-weather roads measure, and partition (2) uses the district headquarters distance measure. We observe a consistently higher mean

consumption levels among connected villages in both years. Mean consumption in connected villages was about 10-13 percent higher, according to both measures of remoteness. The results indicate that geographical location contributes to rural inequality through the income gap or consumption disparity between richer connected and poorer remote localities.

Table 2.4 Differences of mean consumption between connected and remote households in rural areas (compatible samples), 1997 and 2004

	(1) measured by existence of all- weather road in the village: with <i>versus</i> without		(2) measured by distance to district headquarter: less than <i>versus</i> more than 10 km away	
	1997	2004	1997	2004
Connected villages	1,651	2,380	1,764	2,470
Remote villages	1,930	2,130	1,945	2,180

Source: based on comparable sub-samples from the 1993 sampling frame, CSES 1997, and CSES 2004.

Note: motor-road is used for 1997 because information on all-weather road was not collected.

Poverty rates are higher in isolated localities

Rural households can then be classified into villages of varying sizes and degrees of connectivity. Village size serves as a proxy for population density, whereby large villages tend to be in densely populated areas and small villages in sparsely populated regions. Remoteness is defined as when the distance to the nearest all-weather road exceeds 5km. Table 2.5 presents the poverty rate (proportion of population with consumption less than the national poverty line), for these four types of rural villages. In small or sparsely populated and isolated rural villages, more than half of the population lived below the national poverty line. In larger or more densely populated and well connected villages, less than a third of the population lived in poverty in 2004. These results suggest that isolation due to lack of infrastructure affects poverty and the existing gap between rich and poor, in turn, underpins inequality.

Table 2.5 Percentage of population below the total poverty line, by village size and distance to the nearest all-weather road, 2004

Village size	Distance to the nearest all-weather road	
	Less than 5km	More than 5 km
More than 1,000 persons	32.5 (±0.7)	38.0 (±1.7)
Less than 1,000 persons	43.4 (±0.9)	52.5 (±1.8)

Source: based on the sub-sample from the 1993 sampling frame, 15-month sample, that included both urban and rural areas, based on 15-month sample, CSES 2004.

Household-level difference in opportunity and outcome

Returns to individual ability

As in any society, wealth differences at least in part reflect returns to individual ability and hard work. Cambodian culture is often described by sociologists as being at one level very individualistic: certainly, when asked to list the factors explaining why some households are richer than others, rural Cambodians will credit that for many, their success is due to “good ideas” (*khomnuht alohr*)—even as others among the rich are seen to have got ahead due to connections, corruption or inheritance.

The perceived importance of individual ability and application is also apparent in the IRL opinion poll. The poll asked the respondents to assess whether their economic situation was better, about the same, or worse than the average people in their village or communities. Some 61 percent replied that they were about the same as the average. For those who answered that they were worse off, they were asked two further questions. The first asked them to choose from a list of reasons why others are better off. The second asked why they think they are worse off. In both cases, more than one answer could be given. 81 percent reasoned that others were better off because they “worked hard, had ideas, and took initiative” (Table 2.6).

Inequality of opportunity, poverty traps and capital ownership

As would be expected, central to the poverty trap is a clear relationship between consumption poverty and poor health. The poor work hard in physical jobs involving greater risk of accidents and injury and have poor nutrition, and have less access to clean water, poorer housing conditions, and less contact with preventative health service, all of which make it more likely that they will need medical treatment—which they can less well afford, and which may well push them deeper into poverty. A critical difference between the rich and poor lies in their relationship to capital (see Box 2.3 for accounts from the MOPS fieldwork). Whereas the poor have to borrow to meet subsistence needs, and frequently then become trapped in a situation in which they work to repay loans and so have no opportunity to save or invest, those with a little security start to lend money to their neighbors at interest, providing a supplemental source of family income.

Table 2.6 Ability, family background and education were seen as the most important reasons why some people can get ahead

- answers to the question "If others in your community are richer than you, why do you think they are richer? (no prompts)

If others are better off than you in your community, why do you think they are better off?	% of respondents
they work hard, have ideas, and take initiatives to make money	81%
they have family members who work in cities or abroad	25%
they have education and good skills	63%
they have privileges because they're connected to the government, army officials, police etc.	17%
they are from a rich family	70%
they engage in illegal activities	4%
they have farms or plantations	10%
they have good luck	16%
they have good karma	4%
they have good health	3%

Source: IRL 2007

Box 2.3 Poverty and debt traps

It is not easy for the poor to catch up with the medium because the poor have lots of outstanding debts accumulated over time ... How can they move out of poverty in such a situation? ... In the end, they have to sell their small plots of land to repay their loans ... Losing land is a loss of food security ... The poor have no land or other assets to rely on ... no capital to invest in alternative businesses ... Most poor here take a new loan to repay an outstanding loan, meet food shortages or cure sick household members ... If someone falls into this vicious poverty, it is almost impossible for them to escape ... Unlike the poor, the medium are free of debt. If they do take a loan, they use it for raising a cow that produces a calf, which then can be sold to repay the loan ... There is no hope for the destitute to escape chronic poverty without help from a humanitarian programme ..." (Trapeang Prey, Kampong Speu)

The have-nots earn just enough for food and consumption and cannot make any savings. The rich can earn more than household consumption... [and] make some savings for investing in new income-earning activities. (moved-out, Krasaing Village, Battambang)

Source: CDRI 2007b (forthcoming)

Investments in enhancing human capability address poverty and inequality

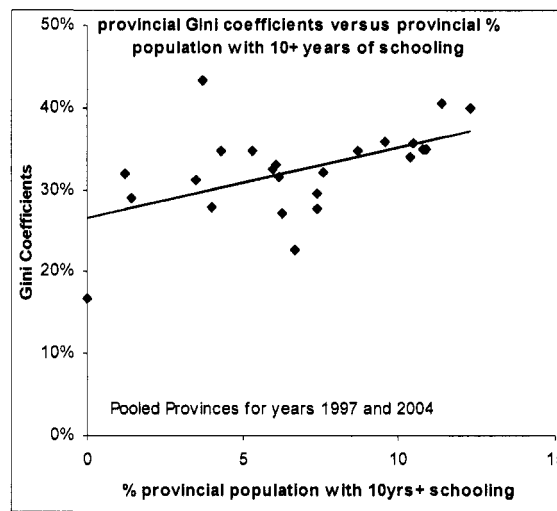
To examine the relationship between education and living standards, household consumption inequality is related to the skills of the head of household. Two measures of skills are used: literacy and levels of schooling attainment. Table 2.7 presents mean consumption levels according to these two measures of skill levels for 1997 and 2004. Partition (1) presents estimates for literate and illiterate households, while partition (2) presents estimates for those with 7+ years of schooling and those without. The main findings are that consumption was significantly higher among the skilled, and the differential increased overtime.

Table 2.7 Mean levels of consumption are significantly higher for households with skilled heads than those with unskilled heads

	(1) measured by literacy: literate <i>versus</i> illiterate		(2) measured by years of schooling: 6 or fewer <i>versus</i> 7 or more years	
	1997	2004	1997	2004
household heads with skills	1,906	2,480	2,323	2,824
household heads without skills	1,740	1,990	1,733	2,137

Source: based on comparable sub-samples from the 1993 sampling frame, CSES 1997, CSES 2004.

Provincial and time variations can be used to analyze the relationship between inequality and the educational stock of Cambodia's population. By pooling provinces in years 1997 and 2004, it is possible to plot provincial Gini coefficients on the y-axis and the proportions of provincial populations with 10 or more years of schooling on the x-axis in Figure 2.7. The result is a statistically significant positive relationship that suggests provinces with greater shares of highly educated population experienced higher inequality. Thus, individual attributes such as educational attainment influence inequality through the channel of increasing disparity of incomes between educated and uneducated workers, especially (as in Cambodia in recent years) during a period of rapid growth and expansion of economic opportunities in manufacturing and services.

Figure 2.7 Inequality rose with greater education stocks

Source: CSES 1997; CSES 2004.

Note: Only comparable samples from the identical (1993) sampling frame are used for each survey.

Thus, the role of Government in providing the services necessary to increase human capability for the young generation, as well as for the adult generation, is critical. An aggressive and inclusive nation-wide universal literacy campaign, with particular attention to out-of-school prime-aged individuals, should be a pressing priority. Because of its history, Cambodia has the least educated adult population in East Asia. If it is able to turn this entire generation of adults into literate citizens, the Government will undoubtedly be able to multiply productivity and growth. As Chapter 3 will show, the returns to schooling have been high and increasing in recent years.

Investment in physical capital will also address inequality

In addition to human capital, differences in investments in other capital, such as land, are also important factors for income differentials. Investments in land depend on security of tenure. To illustrate this, investments, productivity and consumption are compared between households with and without any paper proof of ownership. Table 2.8 shows different types of households with varying shares of land held with any form of papers proving land ownership (e.g., application receipts, land investigation papers, certificates), and the average consumption and yields for these households. Those with at least half of their plots of land held with some form of papers enjoyed daily *real* total consumption of 12,609 Riel, which is 18 percent higher than those households with less than 30 percent of their plots held with papers. Households with *all* of their plots held with papers enjoyed the highest yields of 9.05 million Riel of annual outputs per hectare, which is 32 percent higher than households with less than 30 percent of plots titled.

Table 2.8 Household consumption and crop yields, by shares of land with land papers, 2004

Share of land held with any papers of proof of ownership	real daily household consumption (in Riel, 1993 prices)	yields measured by value of output per hectare (Riel, current 2004 prices)
households with less than 30% of plots	10,290	6,134,149
households with at least 50% of plots	12,609	8,350,061
households with 100% of plots	12,407	9,049,014

Source: CSES 2004.

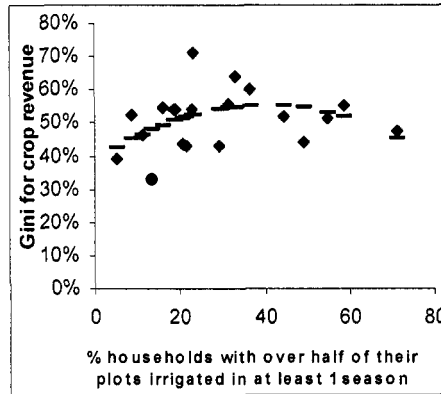
We now utilize variations of investments, crop revenue, and consumption across provinces to analyze the relationship between inequality and investments. Figure 2.3 presents the Gini coefficients of outcomes, either measured in consumption or crop revenue, on the y-axis, and actual investment in irrigation works or potential investments (i.e., land titles) on the x-axis. Panel A shows a robust quadratic relationship between inequality and actual investments in irrigation works. Panel B also plots a significant quadratic relationship between inequality and potential investments (i.e., land titles). The results suggest that inequality tends to rise as the economy is just starting to have small proportions of households investing in their land, but as the proportions of households with investments increased, inequality tapered off. In other words, when the economy has little capital stock, the income gap between the investors (capitalists) and non-investors (the poor or net consumers) is high, and inequality would keep rising with additional investments when the capital stock is low. However, once the economy has sufficiently large capital stock, the income gap begins to close as the proportion of non-investors (net consumers) is dwindling (as we see in the downward turn of the quadratic part of the curve).

The *Poverty Assessment* (World Bank, 2006) found that households with secure land tenure tend to invest, which resulted in higher yield, larger cultivation revenue, and greater income and consumption. Thus, another measure to close the disparity of rural income is to create incentives for households to invest in their land.

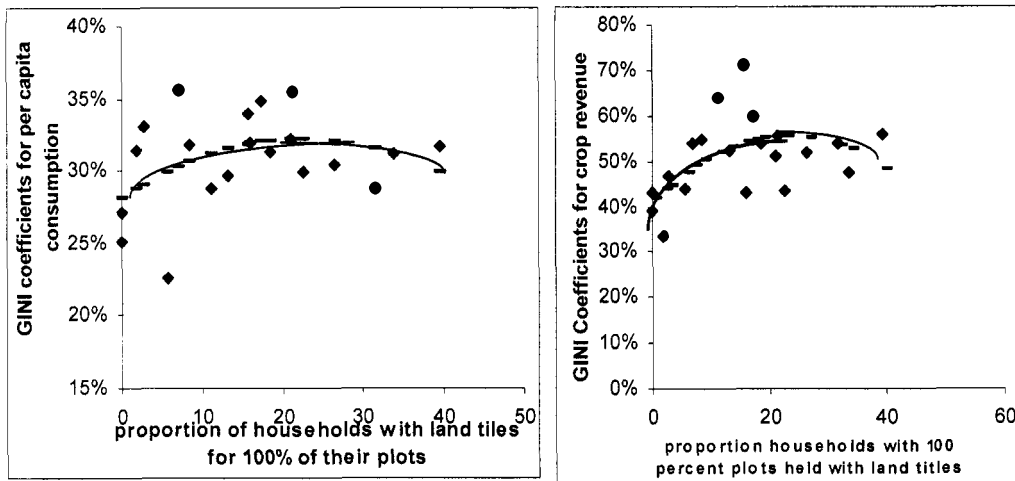
Figure 2.8 Inequality and investments (actual and potential), 2004

Panel A.

Inequality of crop revenue increases with additional actual investments (in irrigation) when the economy has very small capital stock (of irrigation infrastructure) but inequality begins to fall off with additional investments when there is sufficiently large capital stock in the economy

**Panel B.**

Inequality of consumption and crop revenue rose with additional potential investments (secure land tenure) when the capital stock is small but inequality tapers off with additional investments once the capital stock is sufficiently large



Source: Cambodia Socio-economic Survey 2003-04.

Institutions, governance and inequalities in power

Both the MOPS and the PPA generated detailed discussion about the nature of power in village life and identified high levels of concern about the behavior of local authorities. MOPS suggests that satisfaction with local authorities is greater in poor and/or slow-growth villages: in dynamic villages where there were resources to be allocated and rents to be extracted, there is less confidence that local authorities will act in the public good. Confidence is particularly low, unsurprisingly, in communities in which households are heavily dependent upon access to local natural resources.

The final chapter of this report (Chapter 7) will look at the theory regarding the influence that institutions have on economic outcomes (such as equitable development). It will do this by focusing loosely on two key roles of the state—namely (i) raising and spending public money and (ii) establishing viable and equitable laws to provide essential regulation and protection to interaction between citizens, between citizens and the state, and between the state and the private sector.

Box 2.4 Individuals with a “strong back” (connections or corrupt influence) enjoy greater—often illegal—economic opportunities

Two kinds of power were identified, negative and positive power. The concept of power is essentially paternal in nature, positive power is associated with the qualities of a good father, often described in terms of the parent child or teacher student relationship...[whereas] negative power is abusive and corrupt; self-interested and greedy...This kind of power is associated with wealth, greater rights and freedom and the ability to control access to resources and decision-making. Power is also associated with having or buying connections and influence, or “strong back” [*keh norng thom*, literally “big back”]. In some communities, those with this kind of power included rich households within the village; in other villages power was concentrated in the hands of outsiders, and no villagers were perceived to have this kind of power over other villagers. For example, in Babaong, rich households control access to markets, and in Kompong Thnoat local traders control prices, while in several villages, participants said that money-lenders had considerable power over their lives. In Dang Kdar and Kanchor, some households with money were able to access rights to logging which were denied to ordinary villagers... It is very difficult for ordinary villagers to question the behaviour of those who have economic power over them or complain about abuse or exploitation.

“It is easy to buy power here since the pockets of all high-ranking officials are open ... Those with power just make a few trips to the forest and cut trees; then they can earn enough money to cover their expenses for a position ... It would be fortunate for us if they didn’t use their power to reap profits from us ... but that is not the case. Normally they threaten other villagers for money ... How can the poor survive? ... The poor are normally the victims and the powerful people are those who benefit ... Unlike before, the powerful should not be respected. But what can we do? They have guns and always make money from our backs.”

(Community timeline focus group, Dang Kdar)

“The rich have more power. They have power to control the local market price... They have lots of jobs and have money to hire us. Since there are neither companies nor factories in or nearby this village, and there are only 8 salt-farms in our area, the salt farm workers’ wage depend on the farm owner’s words.”

(Moved in focus group, Kampong Thnoat)

3. Urban inequality

Summary

- Offsetting forces left urban inequality largely unchanged between 1993 and 2004. Trade and globalization tended to widen inequality of earnings, as wages for skilled workers rose rapidly. On the other hand, there were also equalizing forces from structural transformation of the urban economy: with increased trade and foreign direct investment, labor force participation has increased, and employment has shifted from low productivity agriculture and allied sectors to the higher value-added garment manufacturing and service sectors. The fastest growing sectors are intensive in unskilled labor, the most abundant asset of the poorest Cambodians.
- While urban inequality remained stable, it remains considerably higher than rural inequality, reflecting a more diversified set of economic opportunities that result in a wider spectrum of income. The other reason for higher inequality in urban areas is the greater importance of capital, which is relatively unevenly distributed in a poor country.

Chapter 2 showed that rural inequality rose between 1993 and 1997 and only edged upward modestly between 1997 and 2004. Consumption growth was concentrated in the extreme top end 1993-97, but widely shared among the rural majority 1997-04. The two factors that drove rural inequality were (i) between-quartile inequality and (ii) within richest quartile inequality. The latter rose rapidly, and constituted an increasing share of total rural inequality overtime. The causes of inequality were both spatial and social. Isolation or geography matters because spatial disparity contributes to the income gap between the rich (and connected) and the poor (and isolated). Individuals' initiative and investment matter because social disparity in terms of schooling, skills, and initiative contributes to both inequality within the rich and inequality between rich and poor.

This chapter examines why urban inequality remained essentially unchanged between 1993 and 2004, and remained higher than rural inequality. The first section explains *what* took place during the past decade by presenting inequality and consumption growth in sub-periods of 1993-97 and 1997-04. The second section analyzes the components of urban inequality, by examining between-quartile and within-quartile inequality. The third section presents *why* inequality remained at a higher level than rural inequality. The last section investigates *how* the urban economy was transforming in such a way that it resulted in falling inequality during this decade.

What happened to inequality?

This section presents what happened during the 1993-2004 period in terms of inequality and household consumption growth in urban Cambodia. Table 3.1 presents the Gini coefficients for real total consumption in years 1993, 1997 and 2004. Between 1993 and 1997, the Gini coefficient fell from 0.465 to 0.433. It remained unchanged between 1997 and 2004.

Table 3.1 Gini coefficients of consumption for comparable samples of urban areas (i.e., Phnom Penh and other urban), 1993, 1997 and 2004

	1993	1997	2004
total household real consumption	0.465 (.006)	0.433 (.008)	0.432 (.007)

Source: SESC 1993; CSES 1997; CSES 2004.

Note: comparable samples refer to sub-samples from the identical (1993) sampling frame for each survey year.

The growth incidence curves in Figure 3.1 track the percent change in real consumption between two points in time for every percentile of the consumption distribution. Figure 3.1 presents three growth incidence curves for (i) the decade of 1993-2004; (ii) the sub-period of 1993-1997; and (iii) the sub-period of 1997-2004, respectively. The top panel shows that growth between 1993 and 2004 was widely shared, with the bottom half growing at a more rapid rate than the upper half of the distribution. The growth rate at the median of about 20 percent was significantly higher than the mean growth rate of 8 percent, suggesting an equalizing effect.

This fall in urban inequality between 1993 and 2004, as in rural areas, masks two sub-periods of very different changes. The consumption changes for each percentile during the earlier sub-period of 1993-1997 are plotted in the growth incidence curve in the middle panel of while those for 1997-2004 are represented in the bottom panel.

Sub-period 1993-1997: Negative, albeit equalizing, growth

Over 1993-1997, growth was negative for the entire distribution. (See chapter 1 on how this might be explained as an across-the-distribution under-reporting of consumption in 1997 due to political tensions in the survey month.) However, the losses in consumption were more substantial for the top half than for the bottom half. Starting from the 5th percentile of the distribution, growth decreased monotonically. Growth was about zero for the poorest 20th percentiles of the urban population, but about minus 25 percent for the richest urban quartile group. The period of 1993-1997 can be characterized on the basis of the SESC and CSES data as one of equalizing but falling welfare. Two striking features for the period of 1993-1997 are:

- Growth was recorded as negative for all households except for a few bottom percentiles of the urban distribution.
- Consumption losses were greater for the upper half than the bottom half.

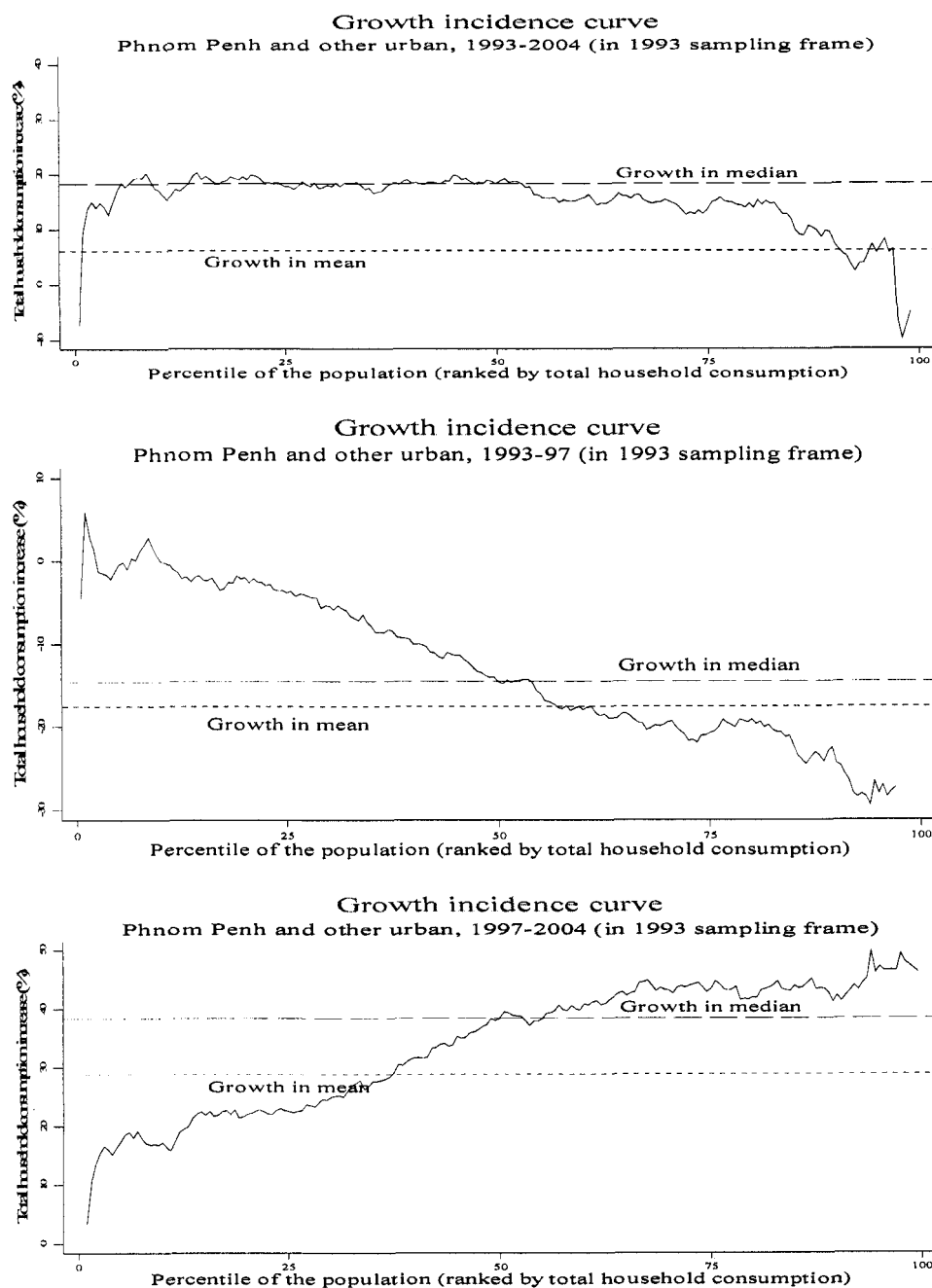
The implications of these features are a negative median and a negative mean growth rate; as well as a substantial, statistically significant, fall in urban inequality between 1993 and 1997.

Sub-period 1997-2004: sharing growth broadly

The changes in the second sub-period *appeared* to be an (opposite) mirror image of the first period. Despite the fact that growth in consumption rose almost monotonically from the lower to the higher percentiles, this period saw growth being broadly shared. While the bottom half experienced lower growth than the upper half, the differentials were not drastic. Growth at the median was about 40 percent, compared to growth in the mean at 30 percent.

Thus, the combination of different experiences in 1993-97 and 1997-04—that is, an earlier period of negative growth with more substantial consumption losses among the rich than then poor, and a subsequent period of broadly shared growth—has resulted in falling urban inequality, and broadly egalitarian growth of 20 percent for the median, and 8 percent for the mean, during the decade. The trend during 1993-2004 is promising, and suggests that something went right in the urban sector.

Figure 3.1 Changes in real consumption, percentile-to-percentile, for periods (i) 1993-2004, (ii) 1993-1997, and (iii) 1997-2004.



Source: SESC 1993; CSES 1997; CSES 2004.

Note: comparable samples refer to sub-samples from the identical (1993) sampling frame for each survey year.

The components of urban inequality

The previous section discussed the changes in inequality during 1993-2004. This section explores the current state of urban inequality. A symmetric approach to rural inequality is used to analyze this question by dividing urban households into four quartile groups. Urban households are ranked by their household consumption within an urban-only distribution. The poorest quartile group comprises households from the 1st percentile through the 25th percentile and the second quartile group consists of households from the 26th percentile through the median. The third quartile group consists of households from the 51st percentile through the 75th percentile. The fourth and richest quartile group contains households from the 76th percentile through the 100th percentile.

The disparities among the rich contributed the most to inequality: gaps among the rest also contributed, albeit modestly

Table 3.2 presents the inequality measures of Gini coefficients for each of the quartile groups in years 1993, 1997 and 2004. As in rural areas, inequality in the richest quartile group was the highest in all three survey years. However, contrary to rural areas in which there was practically *equality* in the two middle rural quartiles, there was modest inequality in the two middle urban quartiles throughout these 11 years. Also in contrast to rural richest quartile, inequality within the urban richest quartile fell over time. The Gini coefficients for the urban richest quartile group were 0.33 in 1993 and 0.35 in 1997, but fell to 0.25 in 2004. In a similar manner to the rural poorest quartile group, inequality was modest within the group, and remained essentially unchanged throughout the decade.

Table 3.2 Gini coefficients of real household consumption by quartile groups, 1993, 1997 and 2004

Urban households in comparable sub-samples	1993	1997	2004
Quartile group 1: 1 st - 25 th percentiles	0.156	0.150	0.162
Quartile group 2: 26 th percentile through median	0.087	0.068	0.103
Quartile group 3: 51 st – 75 th percentiles	0.090	0.075	0.091
Quartile group 4: 76 th – 100 th percentiles	0.332	0.345	0.247
Total	0.465	0.433	0.432

Source: SESC 1993; CSES 1997; CSES 2004.

Note: comparable samples refer to sub-samples from the identical (1993) sampling frame for each survey year.

The drastic fall in inequality among the rich, and a negligible narrowing gap between rich and poor, lowered urban inequality

Table 3.3 presents a decomposition of urban inequality using the Theil Index. Total urban inequality is decomposed into within-quartile inequality for each of the four quartiles and between-quartile inequality *across* the four quartiles. For example, in 1993, of the total 0.449 points, between-quartile inequality contributed 0.289 points (64 percent) and within-inequality of the richest quartile contributed 0.153 points (36 percent). Table 3.3 reveals three findings:

- As in rural areas, within-quartile inequality was insignificant among the bottom three quartile groups (i.e., between the 1st percentile and the 75th percentile): their joint contribution to total urban inequality is essentially zero.
- In contrast to rural experiences, however, inequality within the richest quartile group became relatively less important over time. Its contribution to total urban inequality fell from 34 percent in 1993 to 22 percent in 2004.
- As in rural areas, between-quartile inequality remained the largest share in total urban inequality.

These results, as summarized in Figure 3.2, suggest that the gap between the rich and the poor groups (i.e., between-quartile inequality) is one of the two determinants of urban inequality. This gap is narrowing only negligibly and gradually over time.

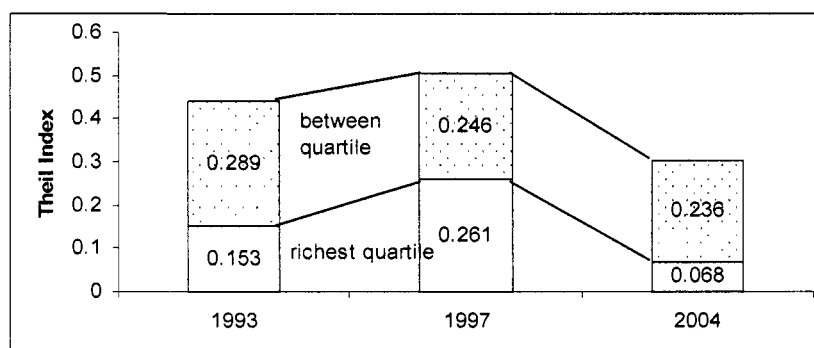
The other determinant of urban inequality is the inequality within the richest quartile group. This within-richest-quartile inequality fell drastically, especially during 1997-2004. This reversal of inequality among the richest during a period of high growth is an empirical puzzle which needs further research, beyond the scope of this report. Some potential explanations include (i) the classic case of truncation, i.e., the rich may not accurately reveal their full income and wealth information even if they are sampled in the survey; (ii) the measurement of welfare (consumption aggregate) can be sensitive to the imputation of services from durable goods. Consumption aggregates are originally computed to arrive at a basket of basic needs which are pertinent primarily to the patterns of livelihood of the bottom half of the population. Thus, consumption aggregates for the richest quartile may not be a true reflection of their consumption, wealth or welfare; (iii) there may be a divergence between income and consumption. Increasing inequality in income in the richest quartile and a falling inequality in consumption may be due to increased savings. The divergent trends are consistent with each other, provided that the rich are increasing savings and investments.

Table 3.3 Theil Indices: a decomposition of within-quartile and between-quartile inequality of household consumption, 1993, 1997 and 2004

Urban households in comparable sub-samples	1993	1997	2004
Quartile group 1: 1 st - 25 th percentiles	0.003	0.003	0.003
Quartile group 2: 26 th percentile through median	0.001	0.001	0.002
Quartile group 3: 51 st - 75 th percentiles	0.003	0.002	0.003
Quartile group 4: 76 th - 100 th percentiles	0.153	0.261	0.068
Between Quartiles	0.289	0.246	0.236
Total Theil Index	0.449	0.513	0.312
Inequality in the Richest Quartile Group 4 as a % of Total Urban Inequality	34	51	22
Between Quartile Inequality as a % of Total Urban Inequality	64	48	76

Source: SESC 1993; CSES 1997; CSES 2004.

Note: comparable samples refer to sub-samples from the identical (1993) sampling frame for each survey year.

Figure 3.2 A decomposition of Urban Theil Indices

Source: SESC 1993; CSES 1997; CSES 2004.

Note: comparable samples refer to sub-samples from the identical (1993) sampling frame for each survey year.

Why did urban inequality remain higher than rural inequality?

The previous section shows that, as in rural areas, urban inequality is due to two components: between-quartile inequality, or the disparity between rich and poor; and inequality within the richest quartile. However, the evolution of these two components in urban areas differed from that in rural areas. This section examines why urban inequality remained significantly higher than rural inequality.

Urban inequality is higher due to a larger disparity between rich and poor

As a first, descriptive cut on the issue, Table 3.4 presents the mean per capita consumption levels of the poorest and richest quartile groups, in urban and rural areas, separately. The ratio of richest quartile's mean consumption to that of the poorest was about 7 in urban areas. This ratio increased from 3.2 to 4.4 times in rural areas, between 1993 and 2004. Thus, the rich-poor gap in urban areas is almost twice of that in rural

areas. The following section, with additional analyses, shows that this disparity is a result of differentials in human capital and the greater diversity of opportunities in urban areas.

Table 3.4 Mean consumptions of richest and poorest quartiles, 1993, 1997 and 2004

Urban Areas	1993	1997	2004
mean consumption of poorest quartile	1,113	1,201	1,472
mean consumption of richest quartile	7,953	7,479	10,011
Ratio of consumption between richest and poorest quartile	7.1	6.2	6.8
Rural Areas	1993	1,997	2004
mean consumption of poorest quartile	987	843	1,041
mean consumption of richest quartile	3,198	3,570	4,534
Ratio of consumption between richest and poorest quartile	3.2	4.2	4.4

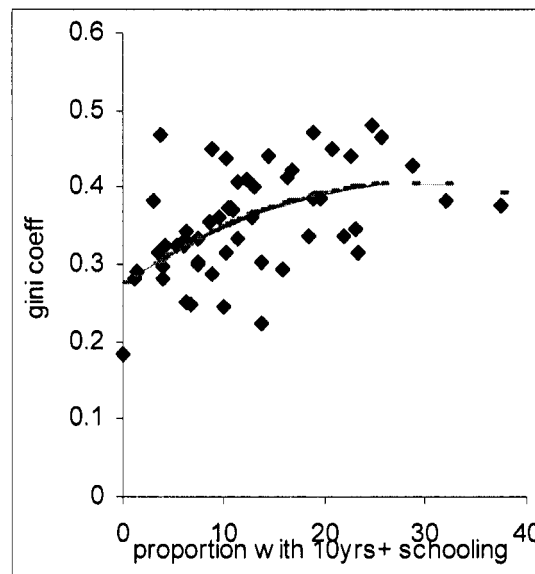
Source: SESC 1993; CSES 1997; CSES 2004.

Note: comparable samples refer to sub-samples from the identical (1993) sampling frame for each survey year.

Urban inequality is higher because of greater human capital stock

Drawing from insights in Chapter 2, this section will examine whether education has a role in increasing the income or consumption gap between the rich and poor in urban areas.

The rural and urban samples of 1997 and 2004 have been pooled to examine the relationship between the education stock as measured by the population shares with at least 10 years of schooling and inequality. Figure 3.3 plots the proportion of provincial populations with at least 10 years of schooling on the x-axis and provincial Gini coefficient on the y-axis. The graph shows that there is a statistically significant quadratic relationship between inequality and education stock (in the population). The quadratic relationship suggests that inequality tends to rise as the economy is starting to accumulate education stock (human capital), as increasing proportions of households acquired higher education. This rising inequality is due to the increasing gap between those with human capital and those without. However, once the economy reaches a level at which it has a sufficiently high stock of human capital, inequality begins to taper off and starts to fall with any additional investments or increase in the proportion of the population that is educated. This unchanged or falling inequality is due to the closing gap between mean years of schooling or differential human capital in the population. In Cambodia the level of human capital is still relatively low, and increments of education stock would likely drive up inequality. In particular, urban areas have a larger stock of human capital or higher mean years of schooling than rural areas.

Figure 3.3 The relationship of inequality and education stock

Source: SESC 1993; CSES 1997; CSES 2004.

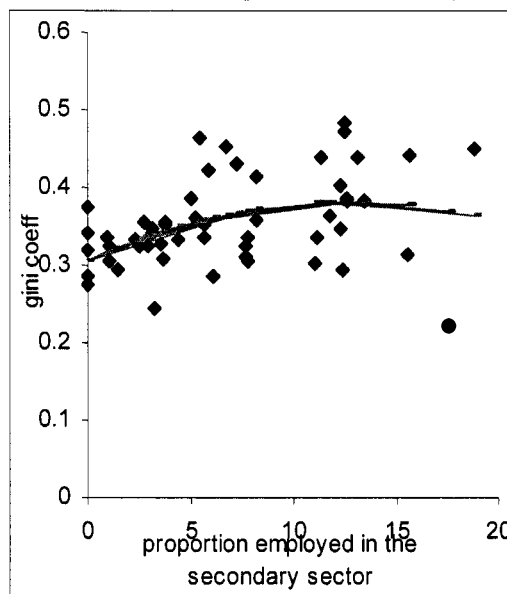
Note: comparable samples refer to sub-samples from the identical (1993) sampling frame for each survey year.

Urban inequality is higher because of a more diverse economy

Also drawing from findings in Chapter 2 on rural areas, this section investigates whether a more diverse economy with a larger set of productive opportunities is affecting urban inequality, using population shares (by provinces) employed in the secondary sector (i.e. manufacturing and construction) as a measure of the extent of diversity of economic opportunities. Figure 3.4, based on pooled provincial data from 1997 and 2004, plots the population shares employed in the secondary sector on the x-axis and provincial inequality measured by Gini coefficient on the y-axis. There is a statistically significant quadratic relationship between inequality and diversity of economy. As the economy is starting to diversify, inequality tends to rise. Inequality continues to rise as the economy is diversifying—a consequence of some people getting richer sooner as a result of their participation in the modern sector of the economy—but inequality tapers off as structural transformation takes hold and gains are spread more widely in the economy.

The next section analyzes in greater depth and rigor this structural transformation in urban areas in Cambodia. It is argued that urban Cambodia has reached a level of diversity in its economic activities at which urban inequality has started to taper off. The observed fall in urban inequality is a result of the structural transformation, from an agrarian to a manufacturing- and services-based economy, driven by growth in the garment sector, construction, and tourism.

Figure 3.4 The relationship of inequality and population shares in the secondary sector (i.e., manufacturing, construction)



Source: SESC 1993; CSES 1997; CSES 2004.

Note: Only comparable samples from the identical (1993) sampling frame are used for each survey.

How did transformation of the urban economy influence inequality?

Cambodia, with approximately US\$450 per capita income, is one of the poorest countries in the world. At this stage of development, its economy is moving along the path of diversification from subsistence agriculture. This transformation implies that the economy should be taking advantage of its abundant factor. Export-led growth in labor intensive sectors was the hallmark of early East Asian experiences that lifted many of Cambodia's neighbors from low to middle income status. As employment and value-added spread throughout the economy, it is anticipated that inequality falls (see Gill and Kharas 2006 on the East Asian experience over recent decades).

As is well-documented, garment manufacturing and tourism services are concentrated in urban areas, and both sectors, driving Cambodia's growth in the last decade, are intensive in unskilled labor. This section will investigate whether some structural transformation has taken place in Cambodian urban areas, similar to the experiences of other East Asian countries in their early stages of development, through promotion of unskilled labor-intensive sectors.

Wage employees: employment in hotel, restaurant, and personal services increased 3-fold

This section assesses the extent of structural transformation that has taken place in urban areas. Inequality of real wages (as measured by the Gini coefficients) in urban areas fell from 0.456 to 0.415 between 1997 and 2004. During this period, real wages rose by 63 percent and the share of female workers in the labor force went up. The proportion of paid employees in hotel and restaurant and in social, community and personal services rose about three-fold (from 1.2 percent to 3.9 percent, and from 6.6 percent to 17 percent, respectively). The proportion of wage workers in agriculture about doubled while that in the civil service declined. Those in construction and manufacturing remained stable. The proportion of workers with tertiary education (i.e., class 12 or above) increased from 15 to 23 percent during these years (Table 3.5).

Table 3.5 Summary statistics of paid employees in urban areas, 1997 and 2004

	1997	2004
Gini Coefficient	0.456	0.415
Real monthly wage (Riel)	114,310	188,231
Male (%)	72.5	60.7
Industry during the past 7 days (%)		
Agriculture, hunting and forestry; Fishing	3.2	5.8
Mining and quarrying; Manufacturing; Electricity, gas, and water supply	12.6	17.8
Construction	8.9	9.2
Wholesale and retail trade; repair of motor vehicles, motorcycle and personal and household goods	5.1	3.4
Hotels and restaurants	1.2	3.9
Transport, storage and communications	7.2	3.1
Financial intermediation	2.8	0.8
Real estate, renting and business activities	1.1	0.7
Public administration and defense; compulsory social security	34.8	22.8
Education	8.1	9.9
Health	2.3	2.2
Other community, social and personal service activities	6.6	17.2
Extra-territorial organization and bodies	2.2	3.1
Highest grade level successfully completed (%)		
Class 3 or below	13.7	16.4
Class 4-6	17.4	18.6
Class 7-9	30.5	26.0
Class 10-12	23.8	16.3
Class 12 or above	14.6	22.7
Number of observations	1,425	3,267

Source: SESC 1993; CSES 1997; CSES 2004.

Note: Only comparable samples from the identical (1993) sampling frame are used for each survey.

Many moved from agriculture to higher value-added modern sectors

Regression results are presented in Annex 2. Table 3.6 summarized the main and year effects of education and industry from the decomposition of equation (7) in that

analysis. Details of the specific industry's effect can be found in the Annex. The results suggest that a significant portion of wage variation between 1997 and 2004 can be attributed to education and industry effects. The changes in returns to schooling attainment explain as much as 43 percent of wage variation. The changing composition of industry—as the labor force reshuffled from low productivity sector to higher value-added sectors—combined with the changing industry premium account for 22 percent of wage variation. These results suggest that a structural transformation has taken place in urban areas as employment in manufacturing and services absorbed a larger segment of the labor force; a significant number have also shifted from self-employment in (lower productivity) agriculture to be paid employees in higher value-added secondary or tertiary sectors.

Table 3.6 Effects of education and industry on wage differences between 1997 and 2004 for urban employees

	Main effects (changes in the stock of schooling attainment or composition of industry)	Year effects (changes in returns to schooling or in industry premia)	Total effects
education	0.40%	43.1%	43.5%
industry	15.2%	6.9%	22.1%

Source: CSES 1997; CSES 2004.

Thus the story of industrial and service sector growth in Phnom Penh and other urban areas to date appears to have tracked that of the East Asian miracle countries in their early stages of development. Because of the phenomenal growth in garment manufacturing, construction and tourism services, notably labor intensive sectors, in Cambodia's urban hubs, workers and especially the unskilled in the lower end of the distribution have benefited disproportionately. The country's general economic reform strategy, which includes globalization or opening up of the economy to trade and foreign direct investment, has transformed the livelihood opportunities of the urban population.

Returns to education reflect the relative supply and demand of skills

The effects or benefits of reform's consequential transformation of the urban economy are shown in Table 3.7. As recently as in 1997, the rate of return to schooling was flat across all levels of schooling among wage workers: returns to secondary and tertiary different rates of returns to schooling were distinguishable across categories. Workers with tertiary education experienced significantly higher returns than their secondary educated compatriots, who in turn gained significantly higher returns than their primary educated fellow countrymen.

The successively higher returns for higher levels of schooling observed in Cambodia in 2004 were consistent with the stylized facts of functioning labor markets in other developing countries. The Cambodian Government's economic reforms freed up market forces that promote efficient reallocation of resources. Workers in 2004 could self-select

through into jobs that value their particular comparative advantage (attributes, skills, etc). The higher returns to greater skills in Cambodia reflects increased demand for skills from globalization and technology, as in other open economies. Because paid employees only constituted half of the labor force, the results may not be representative of the reality in urban areas. Using household consumption as proxy for income for all urban households reveals very similar results (see Annex for details).

Table 3.7 Rates of return to various levels of schooling, 1997 and 2004

Highest grade level successfully completed (reference group: Class 3 or below)	1997	2004
Class 4-6	0.196 (0.080)**	0.166 (0.050)***
Class 7-9	0.009 (0.070)	0.195 (0.040)***
Class 10-12	-0.091 (0.070)	0.341 (0.050)***
Class 12 or above	-0.079 (0.080)	0.473 (0.050)***

Source: SESC 1993; CSES 1997; CSES 2004.

Note: These coefficients are obtained from running a standard Mincerian wage regression with dependant variable as logarithm of real wages, and other explanatory variables include age, gender, marital status (see details in ANNEX); standard error in parentheses; *** denotes significant at the 1% level; ** denotes significant at the 5% level;

4. Addressing asset inequality: a focus on land

Summary

- Without off-farm employment or self-employment alternatives, over half a million landless poor find it hard to improve their situation or participate in the economy. Levels of inequality in land ownership are high in Cambodia, and significantly higher than most other countries in Asia.
- As in other countries in Asia, small farms in Cambodia are more productive than large farms. In crude terms, a more equitable distribution of land will deliver higher agricultural yields and increase the rate of economic growth, with indirect as well as direct gains for the poor. In contrast, a process that concentrates land ownership with *de facto* redistribution from smallholders to very large plantation-type holdings (as has occurred under the economic land concession program) may slow the rate of growth.
- Two policy initiatives appear to offer ways to improve equity and efficiency. First, social land concessions (SLC) that redistributes to poor landless households unused land originally allocated as large commercial concessions would provide a basis for livelihood to a significant number of rural poor households. Drawing on the experiences of other countries, the SLC program would complement land distribution with a package of supporting measures to improve access to markets and social services.
- Second, systematic titling to improve tenure security would reduce vulnerability and uncertainty of those currently working land, reducing conflicts and encouraging productivity-enhancing household investments in agriculture. Although in much of Cambodia locally-accepted *de facto* ownership is adequate, ownership proof in any paper form is still extremely valuable. Empirical evidence suggests a robust and strong correlation between secure land tenure and investments in land. Even among poor farming households, the incentives to invest are as strong as the richer households' provided that they have secure land tenure, manifested in holding some paper proof of ownership.
- Structured contextual/qualitative research, combined with statistical analysis of economic and welfare outcomes associated with other forms of land title in the CSES 2004 data, indicate a number of benefits of secure land tenure. The challenge in the future will be to extend titling from the densely-settled, stable communities where it has operated to date (and where formalization of ownership is relatively straightforward) to more conflict-prone, marginal areas where titling will need to engage with carefully-managed reclassification of state land.
- Irrigation is extremely important for improving productivity and income. While policies such as systemic titling will promote private incentives to invest in capital inputs such as water pumps, public investments in irrigations are indispensable for improving the livelihood of an overwhelming 80% of the rural majority whose primary sector of employment is agriculture

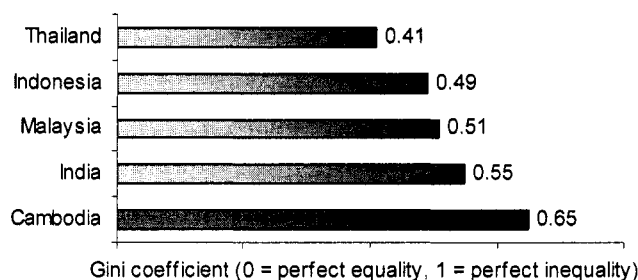
Why is land so important?

In looking at how individuals and households can or cannot command access to factors of production, and the implications of this for equitable development, land constitutes a special case (World Bank 2005 pp. 162-168). As land is to all intents a finite resource, the distribution of land ownership and access rights is particularly sensitive to the operation of formal and informal institutions. The importance of land is exaggerated in a primarily agrarian society such as Cambodia in which the majority of the population makes a living as small-holding farmers, meeting the majority of their food and income needs directly from the land. With low levels of education and constrained access to capital, rural Cambodians have limited off-farm employment or self-employment opportunities. This is changing with economic growth and diversification, but for the near and medium term land will remain a critical resource for the poor, 91 percent of whom live in the countryside.

Indeed, economic growth, and the necessary long-term structural transformation from an economy dominated by subsistence-oriented, land-based agricultural self-employment to a more diversified economy in which manufacturing and services play major roles, entail some considerable risks of their own. With investment and growth since the early 1990s, land has for the first time begun to acquire significant market value. In the past, a low population density and limited economic potential of land underpinned a traditional “legal” framework based on principles of usufruct: that is, a popular understanding that someone who cleared land and cultivated it was assumed to enjoy title. Since the 1990s, however, population growth and market integration have resulted in increasing competition for land, bringing this traditional concept of usufruct into conflict with commercial, state and environmental interests and claims.

These processes help to explain in part the high levels of inequality in land seen in Cambodia. Surprisingly, given the near-zero inequality in landholding when land was distributed in 1989, the inequality of land distribution in Cambodia is very high in comparison to other Asian countries. This inequality reflects a skewed distribution in which there are a large number (an estimated 46 percent) of rural households that are landless or land-poor (that is, own less than 0.5 hectares); and a very small number who control vast areas of land (Figure 4.1, Box 4.1).

Figure 4.1 Land distribution in Cambodia ranks amongst the most unequal in Asia

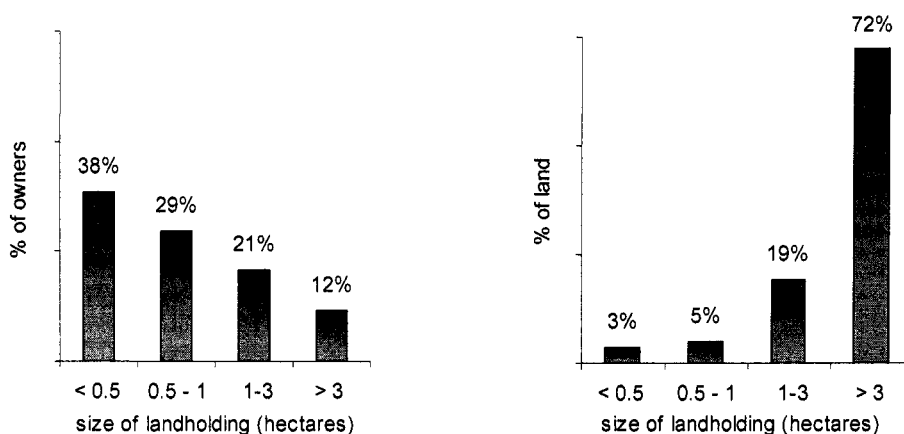


Source: WDR, IFAD

Box 4.1 Patterns of landholding: findings from a land survey

The inequality of landholding is underestimated by household sample surveys, as much land may be held by companies or individuals (generally very rich households not necessarily present in the community) who are unlikely to be covered by a survey. Oxfam GB recently conducted a survey of landholding patterns in 433 villages, selected through a multi-stage process. Although the sampling design means that results cannot be taken to be nationally representative, the findings are still interesting, in that they suggest that in many localities a large proportion of “normal” land (that is, privately-owned land, not including state land allocated as an economic land concession) is held by powerful individuals generally not resident in the community. In each sampled village, the researchers sought to identify the owners of all land. The finding was a high degree of inequality: 12 percent of owners with holdings of greater than 3 hectares each owned a total of 72 percent of the land.

a. 67 percent of owners holdings under 1 ha... b. ...collectively own < 8 percent of all land



The report also found that, as would be expected, intensity of land utilization was related to size of holdings: while on average 98 percent of holdings under half a hectare were worked, only 71 percent of holdings larger than 3 hectares were under cultivation. Amongst those owning more than 500 hectares each, 31 percent were described as businesspeople; 23 percent as high-ranking officials bearing the title “His Excellency”, 23 percent were *okhna* (a social title conferred by the Government in recognition of financial contributions of US\$100,000 or more); 15 percent were military officers referred to as Generals; and 8 percent were members of the National Assembly. These figures should be taken as broadly indicative only, in part because there is presumably considerable overlap between these social and occupational categories.

Source: Oxfam GB 2007.

In respect to land management as in many other aspects, development policy issues in Cambodia must be worked out in the context of both dramatically uneven power relations and a pronounced legal pluralism (a concept developed further in chapter 7). Land policy issues in Cambodia are complex in part because of the importance of land to a variety of actors pursuing a variety of goals. Cambodia currently has no real consensus on the principles on which land claims should be based. This makes it hard to establish and sustain strong institutions for land management that command legitimacy and compliance from all actors. To a significant degree, this situation is a legacy of Cambodia’s

protracted conflict and political turmoil: Cambodia has gone through radically different political regimes, each associated with markedly different principles and institutions for allocating land property rights (see Box 4.2).

Box 4.2 Competition and confusion in land management reflects Cambodia's turbulent history

The current era of land administration began with the emergence of a land market in the late 1980s and early 1990s (Ashley 1999; Cooper 2004; Oxfam 2005). Prior to this, Cambodia experienced a rapid succession of radically different regimes of land administration. Before 1970, a mixed system of traditional usufruct and French-style administration predominated; between 1975 and 1979, private property rights were abolished by the Khmer Rouge; and from 1979, Vietnamese-style low-level collectivization was introduced and then gradually disappeared. As collectivization began to break down in the mid-1980s, the Government passed a sub-decree allowing land to be occupied and farmed by individual families. In 1989, as the shift from a socialist to a market economy accelerated, a partial return to private land rights began in April 1989 with a sub-decree allowing ownership rights over residential property. This was followed soon after by Instruction No. 3, which formally ended the collective farming systems and reconfirmed household possession rights over agricultural land.

The 1992 Land Law consolidated the market for land, providing for a system whereby ownership could be conferred upon legal possessors of land. However, it was not long before the Government, influenced by spiraling land values, uncontrolled encroachment on state lands and widespread land conflict, decided that a new land law was necessary (Williams 1999). Prospects of increasing economic growth and investment on the one hand, and social pressures on the other, created incentives to modernize land management systems. Donors also played a role in the development of the new law, signaling that large scale support for land administration was contingent on the development of a satisfactory legal framework.

Work began on re-drafting the land law in 1996, with technical assistance from the ADB, and the new land law was passed in 2001. Some of the major changes included extending private ownership rights to residential land and agricultural land; establishing a system for the systematic titling of land under the control of the Ministry for Land; creating an administrative system for the resolution of disputes over unregistered land (the Cadastral Commission); and bringing to an end the possibility of legally entering into possession of vacant state land.

This chapter examines land issues and possible policy responses through the lens of equitable development. Firstly and importantly, it notes that there appears to be a strong complementarity between equity and efficiency considerations when it comes to land management: smallholdings are more productive than are large holdings. Secondly, the chapter looks at the magnitude of poverty and landlessness, and the case (both in terms of growth and equity) for a carefully-managed program to redistribute unused land to the landless poor. Finally, the chapter examines the issue of land title and the growth and distributional outcomes that might be expected from a program of systematic titling.

In respect to land distribution, equity and efficiency are fully complementary

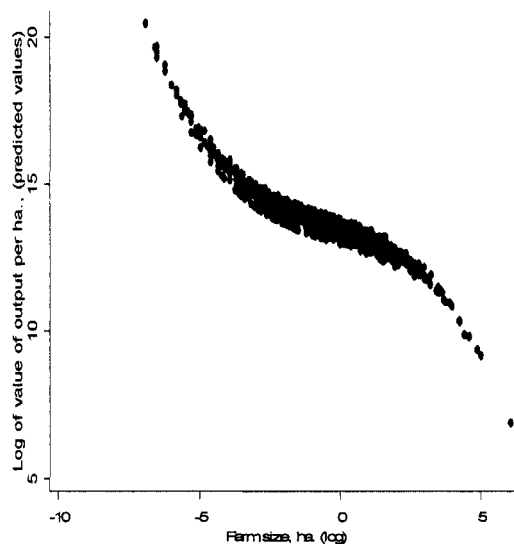
Analysis of CSES 2004 data shows—as in many developing countries—a clear *negative* relationship between size of household landholding and a number of desirable economic outcomes (including crop output / hectare and crop income / hectare). In other

words, small farms are clearly more productive, and generate more wealth, than do large farms (Figure 4.2).

Figure 4.2 Small farms are a better economic proposition than large farms

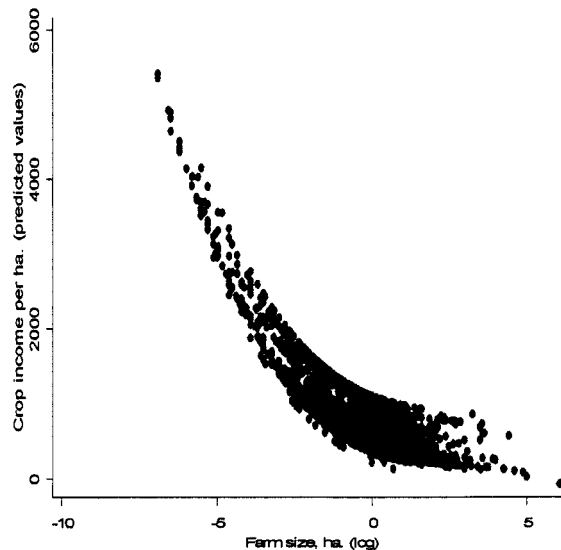
a. Small farms have higher outputs per hectare...

(y axis plots log of output value / ha.)



b. ...and higher crop income per hectare

(y axis plots crop income / ha.)



Source: CSES 2004.

This analysis, and other land analysis based on the CSES data, is complicated by a number of other considerations. Firstly, it is important to remember that the CSES is based upon a sample of households; it does not necessarily represent the full picture of land ownership. Very large plots (in theory, limited to 10,000 hectares each, but in practice often exceeding this limit) allocated as economic land concessions (ELCs) are not captured in the CSES data. In the particular case of concern here, however—that is, the case of land-productivity relationships—the inclusion of the ELCs would only further strengthen the case for smallholdings, as the vast majority of these concessions have not been planted since they were allocated, strongly suggesting that they are being held as speculative rather than productive investments, and currently make no contribution to the economy.

A further qualifying observation would be that an observed inverse relationship between plot size and productivity does not automatically lead to the conclusion that smaller is always better, and smallest is best. Higher productivity notwithstanding, there is a minimum size of landholding below which it cannot support a family. High productivity in this case reflects in part a lack of viable household alternatives: in a process sometimes described as “self-exploitation”, additional unpaid family labor is invested in agricultural work even as diminishing returns set in (and a commercial farmer

would cease to invest further in paid labor), simply because the family lacks other, more profitable sources of food security and income.

Thirdly, while smallholdings tend to be more efficient in production, large farms tend to be more efficient in marketing, where there *are* returns to scale. There are several ways in which smallholders can overcome this scale disadvantage—for example, through contract marketing arrangements or organizing themselves for collective marketing—but in the absence of these institutions, they do face difficulties translating productive efficiency into improved incomes and accumulation.

With these qualifications in mind, the point nonetheless remains that small farms enjoy a considerable advantage over large farms in productivity. This implies that in aggregate, a national distribution of agricultural land dominated by smallholdings is likely to deliver significantly higher agricultural yields and agricultural contribution to GDP than is a distribution in which landholding is concentrated in a small number of very large plantation-type holdings. A redistribution of land from large holdings to small will increase the rate of economic growth, with indirect as well as direct gains for the poor; a process that concentrates land ownership with redistribution from smallholders to large holdings will *slow* the rate of growth.

Landlessness and poverty

Numbering over half a million, the landless rural poor are a significant concern

It needs to be remembered that not all rural poor are landless, and not all rural landless are poor. In 2004, the incidence of poverty in Cambodia was higher for rural households with land (35.2 percent) than those without (25.3): see Table 4.1. This pattern is seen in each zone by urban and rural sectors, except that in rural Plains region, poverty rates were similar between landless and landed households.

However, the static picture of landlessness being associated with higher living standards may give an erroneous picture of trends over time. It is possible that the very poorest farmers are forced to sell their land because of debt or catastrophic illness, and that joining the ranks of the landless leaves them worse off with fewer income earning opportunities. Alternatively, a proportion may become landless by choice in order to pursue better income opportunities through migration and wage work. However, we can examine whether the landless are worse off in other respects.

Table 4. Table 4.2 shows that on average the landless poor in Cambodia are not necessarily worse off or more disadvantaged than landed poor. The landless poor were not worse off in terms of access to primary and secondary schools or availability of amenities in their villages (e.g., bank, permanent market). Furthermore, the landless poor and landed non-poor seem to have similar likelihood of renting in land for cultivation.

Table 4.1 Poverty and land-holding status in Cambodia by zone and urban/rural sector in 2004

	Households with land			Households without land		
	%	Mean daily consumption per capita	Poverty rate (%)	%	Mean daily consumption per capita	Poverty rate (%)
National	72.2	2,794.8	34.8	27.8	5,191.7	19.4
Total Urban	32.6	4,033.8	28.6	67.4	7,593.7	8.9
Urban Phnom Penh	5.1	13,477.2	2.6	94.9	10,445.6	2.0
Urban Plains	41.2	3,902.7	19.9	58.8	7,333.6	4.7
Urban Tonle Sap	40.6	3,646.0	35.4	59.4	5,245.3	16.2
Urban Coastal	44.2	3,746.2	28.5	55.8	5,036.3	10.6
Urban Mountains	56.8	3,082.0	28.8	43.2	4,391.2	23.4
Rural Cambodia	79.0	2706.7	35.2	21.0	3,861.3	25.3
Rural PP	8.4	6,129.5	3.1	91.6	6,553.2	7.5
Rural Plains	80.9	2,957.7	28.7	19.1	3,154.8	28.2
Rural Tonle Sap	79.6	2,447.5	42.0	20.4	3,346.9	30.7
Rural coastal	90.6	2,772.3	29.4	9.4	4,492.0	7.9
Rural Mountains	89.5	2,117.6	51.1	10.5	3,229.6	40.4

Source: Van de Walle, "Land inequality in Cambodia," unpublished manuscript, the World Bank, 2007.

Table 4.2 Landless poor are not more disadvantaged than the landed poor

	Poor		Non-poor	
	landless	landed	landless	landed
Village characteristics				
% with Primary school in village	54.63	48.55	59.97	54.43
Distance to primary school (km)	1.48	2.49	1.44	1.90
% with lower secondary school in village	10.32	8.01	17.98	11.59
Distance to lower secondary school (km)	5.70	7.30	3.73	5.28
Distance to bus stop (km)	15.72	25.87	12.3	23.31
% with all weather road in village	78.54	69.68	81.8	74.84
Distance to all weather road (km)	2.86	4.62	2.7	3.58
% with a Bank in village	11.05	9.27	12.0	11.25
% with Agricultural extension agent in village	7.49	5.64	8.2	6.67
% with Permanent market in village	12.42	4.90	26.4	7.33
% with Development project in village	41.17	39.64	37.4	38.88
% with Land available for rent	82.00	74.18	69.70	76.33
Household characteristics				
Head's years of education	2.97	3.03	4.84	3.97
Spouse's years of education	1.41	1.63	2.75	2.29
Number of children	2.89	2.75	1.37	1.75
Number of elderly	0.13	0.18	0.43	0.24
Number of able bodied adults	2.48	2.81	2.56	2.60
Observations	650	3303	1908	6120

Source: Van de Walle, "Land inequality in Cambodia," unpublished manuscript, the World Bank, 2007.

Landholding data from the MOPS research confirms this finding at the local scale, and seems to confirm the obvious explanation: the rich typically have more profitable and dependable sources of livelihood than farming. By extension, it is true that land distribution is not necessarily the best solution for *all* landless poor households: some, like the rich landless, may have identified more promising non-land employment or livelihood opportunities. Finally, it is recognized that Government development strategy

can and should seek to facilitate the gradual long-term transition of the population out of agriculture and into higher value-added manufacturing and service sector activities, and not seek to set in stone a pattern of subsistence-oriented low-input smallholder farming.

With all these considerations in mind, there remains a very strong case for using redistributive policy to improve the welfare of the rural landless poor (and, based on the evidence of smallholder productivity, to boost aggregate agricultural production). While the share of landless poor in the total population seems relatively small at 6 percent, in absolute terms the problem is considerable, and a serious challenge for Government. There were about 11 million people in rural areas, and therefore, over 600,000 people were in the ranks of the landless poor. Cambodia faces a tremendous challenge in ensuring productive employment for its rapidly expanding labor force. With rapid growth in the working age population as the post-Khmer Rouge and post-PRK baby booms grow into adulthood, and to date limited growth in non-agricultural employment or livelihood opportunities, the involuntarily landless are likely to suffer from much reduced opportunities and much increased vulnerability to poverty. Regional experience suggests that even under very favorable conditions, the growing off-farm economy absorbs labor only slowly. The share of employment in agriculture in Thailand and Indonesia in the 1970s was similar to that in Cambodia today (c. 65 percent). After thirty years of rapid (if variable) growth that has fundamentally transformed these economies, agriculture still employs 40-50 percent of all workers (Butzer *et al* 2003).

Government strategy recognizes the need for land redistribution

In attempting to bring land ownership and land management within the rule of law, the Government recognizes the need for a redistributive component, including in the Land Law a provision for “social land concessions” (SLCs) by which the Government would allocate state land to the poor for housing and agricultural use, with ownership rights granted after five years of continuous occupation and use. The design of the SLC program attempts to build on key lessons learned from previous international and Cambodian experiments in land distribution (see Box 4.3).

Are SLCs the best use of state lands for growth and employment?

Social land concessions have the potential to be an important component of Cambodia’s overall agricultural development strategy. There is a strong rationale for redistribution from the perspective of employment generation and equity. Given increasing competition for land resources, particularly in the areas most suitable for agricultural development, it is then reasonable to ask how social land concessions can contribute directly to agricultural growth.

The first issue to be addressed is the potential for small farms to produce efficiently and profitably relative to larger farms. As mentioned above, overwhelming international evidence suggests that there is no dichotomy between growth and poverty reduction when it comes to defining preferable outcomes in terms of land distribution: in fact, small- and medium-sized family run farms are generally more efficient in terms of productivity per hectare than large commercial enterprises (see Heltberg 1998 for a review). The observed predominance of large farms in developed countries is generally a consequence of the high costs of labor relative to capital compared to developing countries (Hazell 2001). In

some developing countries, particularly in Latin America, the relatively large proportion of large farms reflects the legacy of policy distortions from the colonial and post-colonial periods which favored *haciendas*—creating the basis for continuing social unrest in a number of countries, such as Columbia (Binswanger, Deininger and Feder, 1995).

Box 4.3 Lessons learned and applied in Cambodia's land distribution program

Lesson 1: Objectives need to look beyond just the transfer of land: for land to be effective in improving livelihoods, it requires complementary interventions (access to basic services and infrastructure).

Lesson 2: Mechanisms for identifying land need to be based on local context and work efficiently. The decision to focus on redistributing state land presents several challenges: much is unsuitable for cultivation, under forest, already distributed as economic concessions, or informally occupied. For SLCs to succeed requires finding ways to recover illegally-claimed tracts and reach consensus on reallocation of specific state lands. Policy documents provide the basis for recovery, mapping and allocation of state lands, but it is not yet clear if these mechanisms can be implemented in a manner that meets all the desirable process criteria.

Lesson 3: Information, transparency and participation are essential in identifying land recipients. The credibility of land distribution depends largely on its integrity in selecting recipients (who must be both poor and landless or near-landless). This requires clear and relatively simple selection criteria, and engaging communities in a transparent process. Engaging third parties (farmer organizations, NGOs, religious authorities) can help. Finally, dispute resolution mechanisms are needed to deal with inevitable disagreements. The program can draw on mechanisms, developed in respect to other programs in Cambodia, to address these challenges.

Lesson 4: Let beneficiaries take the lead in the allocation of plots and land use planning. The allocation of specific plots to households can be a source of conflict. The SLC approach to land reform requires groups, rather than government agencies, to take responsibility for the selection of land and how it is allocated amongst group members through a participatory land use planning process.

Lesson 5: Focus delivery of services and infrastructure at the local level

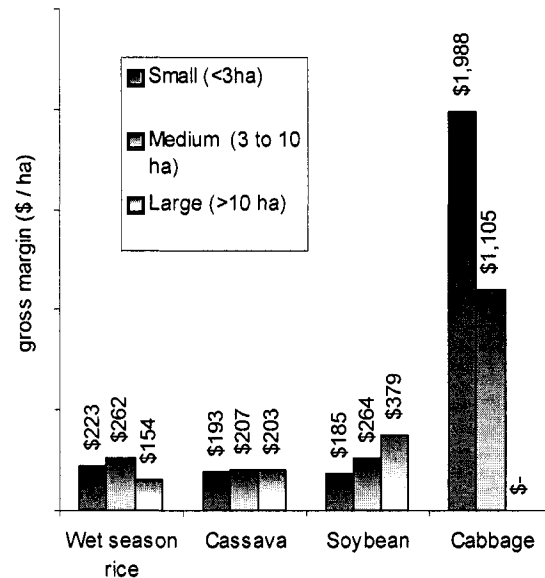
As with beneficiary selection, provision of complementary livelihoods investments and services is best organized at the local level through locally-based, participatory planning and delivery. For many complementary services, ensuring economic and political sustainability suggests that the best approach is one which emphasizes a proactive guarantee of inclusion and universalism, rather than narrow targeting to beneficiaries of the land redistribution.

Source: World Bank 2002; van den Brink *et al* 2006; Habib 2002, cited in Schonberger 2007.

There is limited systematic assessment of the issues or evidence related to farm size and productivity and broader agrarian structure in Cambodia. Initial results from enterprise models commissioned by the World Bank with MAFF indicate that even under very difficult conditions for factor markets (e.g. for credit on good terms), for most crops grown in Cambodia there are limited if any economies of scale in terms of land productivity (see Figure 4.2 above). When economies of scale are apparent in profitability for some crops, they are quite small (Figure 4.3), and outweighed in importance by significantly lower rates of employment utilization. Small farms can generate as much as five times more employment per hectare at similar levels of productivity and profitability (MAFF). This holds true not only for traditional

smallholder crops such as rice and vegetables, but also for a number of rapidly expanding cash crops such as cassava.

Figure 4.3 For most crops, there is no significant economy of scale effect



Source: CSES 2004

The primary challenge to a small farm-based approach is to improve the linkages of small farmers to the rest of the supply chain. Agriculture is increasingly moving towards higher value-added products based on closely integrated supply chains to control quality and timing of production. Small farmers have been able to integrate into these supply chains when they have been effectively organized through farmer associations and/or through contracting arrangements with processors or aggregators. Cambodia has limited but important experience with contract farming, and extensive experience with informal aggregators supplying processors across the Vietnamese and Thai borders. In addition, increasing attention is being focused on developing farmer associations which can reduce the cost for processors and marketers to engage with small farmers, as well as to better defend the interests of farmers in contracting negotiations and accessing input markets (ibid).

Social land concessions alone cannot provide the basis for improved agricultural growth and employment, but neither can economic land concessions. Both social and economic land concessions are simply mechanisms for intensifying land use: one is based on labor and the other on expected capital investments (see Hiyami in SNEC 2005). In both cases, their success will depend largely on their ability to integrate into higher value supply chains. These, in turn, require improvements in the investment climate and infrastructure which will attract additional investment into the downstream links such as processing, transport and marketing. Experience from numerous countries, particularly in Southeast Asia, has demonstrated that either a small or large farm approach can work when the downstream investment is in place (Swinnen). Government may therefore wish to focus, as have several countries in Southeast Asia, on facilitating domestic and foreign capital investment into agricultural processing, transport and marketing, rather than focus

almost exclusively on primary production (which can be implemented as efficiently by small farmers). Alternatively, or as a complement, Government can prioritize investments in transport and communications infrastructure in order to better integrate into the expanding regional production networks which can improve linkages between Cambodian farmers and processors and markets in East Asia.

To summarize, the allocation of land for social land concessions over other, more extensive approaches to intensification of land use is not a trade-off between growth and poverty reduction. Rather it is a choice between prioritizing the use of Cambodian employment relative to imported machinery and labor in improving land use for agricultural growth. As the review of international experience with land distribution programs highlights, to obtain both the additional employment benefits and growth through land redistribution requires that the Government take a much more proactive role in supporting investment and service delivery (particularly during the initial years of redistribution) than would be required if the Government opted instead for leasing land for plantations. However, if complemented with improvements in the investment climate and linkages to regional production networks for processing and marketing, social land concessions can support the effective integration of land recipients, along with the other 90 percent of Cambodia's farmers with less than three hectares, into a growing agricultural sector, with significantly greater effects in terms of growth, employment and poverty reduction.

Land titles and agricultural development

Conventionally, secure title to land is seen as very important for economic development. Clear property rights backed up by impartial courts are seen as critical underpinnings of a market economy. Without such security of tenure, it is argued, those working the land will be unwilling to invest in productivity-enhancing improvements (irrigation, land improvement such as leveling, etc.) or diversify production into more profitable cash crops, especially perennial crops such as fruit trees which require considerable investment and a lag of several years before yielding a harvest. There is also an argument that secure title makes it easier to use land as collateral: thus, formal title may make it possible to obtain a loan when one wouldn't have been obtained before, or it may improve the terms of a loan, as borrowers pay a premium to obtain money against un-titled land.

Amongst those owning land, the rich are more likely than the poor to possess papers—although undocumented ownership is high for both

Table 4.3 shows that the proportion of plots or percentage of operating area held with some forms of papers as proof of ownership increases steadily with wealth (per capita consumption). Amongst the poorest quintile, 40 percent of land is held with papers; amongst the richest quintile, just under 60 percent of is held with such papers. Thus, a significantly larger proportion of wealthier households enjoy the greater security of land tenure that comes with documentation. However, it is also worth noting the even amongst the rich, a significant proportion of land (40 percent) is held without papers.

Table 4.3 The richest are 50 percent more likely than the poor to possess papers supporting land ownership

- Distribution of paper proofs of land ownership, 2004

land held with some form of land paper as proof of ownership	Poorest	Next poorest	Middle	Next richest	Richest	All
% of operating area within each quintile	40.9	50.8	55.0	63.1	59.8	54.5

Source: CSES 2004 (15-month sample)

Note: papers refer to application receipts, land investigation papers, certificates/titles, contracts, others.

Land titles and legal pluralism

Greater tenure security for small farmers in Cambodia, in the form of universal possession of formal land titles, would undoubtedly be beneficial. However, the current baseline or control situation—that in which land title is available for only a proportion of all plots—may not be at present be as restrictive as theory would suggest. Tenure in Cambodia is arguably more secure than might be assumed given the fact that few households have formal title (Adler *et al* 2007 p.7). While land disputes are common and high profile, it is hard to substantiate a picture of general tenure insecurity (Box 4.4).

Box 4.4 In much of the Cambodian countryside, land markets appear to work reasonably—for now—despite weak or non-existent titles

In CSES 2004, only 1.8 percent of plots are reported as having ever been subject to a conflict. Of these disputes, two thirds would appear to be minor, having been resolved (presumably at the local level) within three months. Although only 49 percent of plots are reported as having any paper proof of ownership (including titles and receipts for title applications), 77 percent of plots are reported as being usable as collateral for a loan. These findings are supported by a variety of qualitative and quantitative sources which show that in much of the countryside, land is bought, sold, rented and used as collateral without formal title. Thus the Tonle Sap PPA found that in much of Cambodia, locally-accepted *de facto* ownership suffices under normal circumstances: “In most villages, the traditional land titles over residential and farm land seems to be fairly well established and generally accepted as collateral for loans and for financial transactions, such as sale, lease or other. Many of the villagers do not have land titles, but this is rarely mentioned as an obstacle.” (CDRI 2007a p. 156)

Research suggests that, rather than constituting a general problem, tenure insecurity is concentrated among vulnerable groups, particularly poorer households who occupy lands outside of core residential or farming zones, such as those which are or were forests, flood plains, seasonal lakes, marshes and informal urban settlements—that is, land contested by the state (WB/CAS 2006a, 2006b; O’Leary 2005).

One of the key characteristics of these vulnerable areas—and the poor within them—is that land use here is subject to different, conflicting sets of principles and norms regarding land rights. Case study research suggests at least three sets of norms are at work. The first is that of *social norms*, or “living law”: the historical concept of usufruct—namely, the idea that vacant land can be occupied and that the act of farming land gives rise to ongoing usage rights—is deeply embedded (despite civil war and changes in state law) in rural Cambodian perspectives and practices. Secondly, contested

land is often the object of *neo-patrimonial administrative conventions*, deriving from both previous regulatory regimes and from informal state practices that empower government officials at various levels to authorize transactions over lands within their administrative jurisdiction. Finally, lands that are under conflict are, as with all land in Cambodia, subject to *formal statute*, in the form of legal principles derived from the 2001 Land Law and other regulations currently in force.

Social norms of usufruct were both reaffirmed and limited by the 2001 Land Law which converted possession rights into ownership in certain cases. At the same time, however, the 2001 law restricted legal possession of other lands, most notably ‘state public land’ and lands which entered into private possession after the promulgation of the law. But the 2001 Law is far from being implemented systematically. As such, it is unable to take on the role which Law plays (theoretically) in a liberal democracy—that of establishing the meta-norm around which all other norms should harmonize. Instead, the Law becomes one of a number of competing norms and practices to which people may turn in their struggles to secure land rights (CAS/WB 2006a). Where these different sets of norms—social, administrative and statutory—line up, there is little conflict and efforts at formalization run smoothly. Where, however, these sets of norms compete, conflict arises, with conflicting parties basing their claims on different normative orders. Competing claims emerge even where none appear to be ‘legal’ in the narrow sense of the word. The problem, from an equity perspective, with the emergence of these sorts of ‘competing (il)legalities’ is that elites are often better able to ‘forum shop’—that is, select the normative framework which is most likely to legitimize their claims¹.

Do titles promote investment in land?

One of the key arguments in the case for systematic land titling is, as outlined above, that households will invest in productivity-enhancing capital improvements if they have the confidence that their land is not at risk of appropriation. This section first examines levels and patterns of household investment in agriculture, before then examining whether it is possible to trace a link between this and possession of a land title.

Household investments in agriculture

Amongst the poorest quintile, one third make substantial capital inputs in their land to improve quality and productivity through terracing, construction of ditches or bunds, planting perennial crops, or using better seeds, fertilizer, and pesticide. (“Substantial” is defined here as investment per hectare over the median average value.) Amongst the richest households, the proportion is roughly twice as high. Irrigation may be taken as an indicator of either long-term household-level capital investment in land (albeit a slightly less definitive one) and / or as willingness to pay for annual inputs (see Box 4.5). The disparity of access to irrigation among quintiles is apparent but not very significant: about 41 percent of households in the richest quintile, compared to 27 percent in the

¹ The “legal pluralism” seen in Cambodia is far from exceptional: see for example Wardell 2006 on how formal law provides a “significant, though not exclusive” reference point around which negotiations over rights and duties takes place in respect to forest law in Africa; or Moser *et al* 2001 on interactions between levels in a hierarchy of “rights regimes” (pp. 21-31).

poorest quintile, irrigated at least half of their plots. This pattern of investments in capital inputs and irrigations mirrors the pattern of land tenure security as a result of some paper proof of ownership (Table 4.4).

Box 4.5 Interpreting household-level irrigation data

The cost of irrigation has both public and private components, and capital and recurrent components. In Cambodia irrigation structures such as canals are largely built by Government, donors or NGOs; as such, whether or not a household is located in usable proximity to a source of water may have nothing to do with household wealth or spending. (In fact, the causality may run the other direction: households fortunate enough to own irrigable land next to a water body are more likely to be non-poor.) However, getting water into fields often does require an additional household-level investment in a water wheel or scoop (and the labor required to use it) or a pump (and the petrol required to run it). Ownership of water pumps is four times as high amongst the non-poor (12 percent) than amongst the poor (3 percent: World Bank 2006 p. 90, based on CSES 2004).

Similarly, while purchase of a pump could be taken as a one-off and long-term investment, fuel and maintenance (or hiring a pump) would be regarded as a recurrent cost. Household data on use of irrigation may thus be taken as in part a capital investment (although, as a movable asset that can be rented out or sold if the owner cannot use it, a pump is not a very precise indicator of fixed investment in land); and in part as an indicator of ability and willingness to make recurrent investment.

Table 4.4 Secure land tenure is positively correlated with land investments

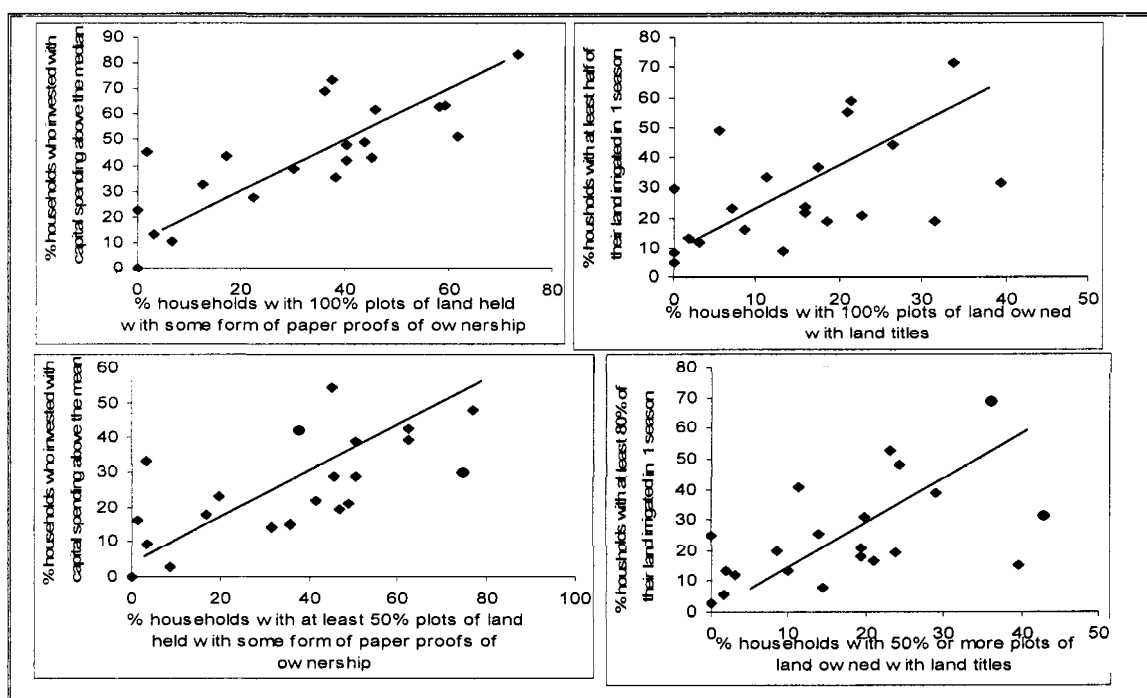
% rural households within each quintile with	Quintile of rural households					All
	Poorest	Next poorest	Middle	Next richest	Richest	
% of operating area held with some paper proof of ownership within each quintile	40.9	50.8	55.0	63.1	59.8	54.5
capital spending per hectare greater than the average (median) level within each quintile	35.6	43.4	51.0	59.5	67.0	51.3
at least half of the operated plots irrigated within each quintile	27.0	30.3	33.4	38.4	41.2	34.1

Source: CSES 2004 (15-month sample)

Two interesting findings emerge. First, the patterns are remarkably persistent in both measures of investment. Second, the differential likelihood of investment between the richest and poorest quartiles was only 30 percentage points. Specifically, the probability (67 percent) that a household in the richest quintile would invest at above-average rates was nearly twice the likelihood (36 percent) of a household in the poorest quartile. However, this is a much smaller gap considering that the consumption of the richest quintile is 5 times that of the poorest quintile. The contrast with wealth-based differentials in household spending on health and education (in economic terms, investment in human capital) is striking: households in the richest quintile are found to spend on average 19 times as much as the poorest quintile on health care, and 25 times as much on education (see Chapter 6 below).

That investment in agriculture is only weakly related to the spending power of households is somewhat counter-intuitive. One would expect that the marginal propensity to save and invest would be much greater among the rich, given the ratio in average consumption between the richest and poorest quartiles. On the other hand, this empirical puzzle is fully consistent with the hypothesis that secure land tenure is the primary incentive for land investments, regardless of one's wealth or income status. Using the variations across provinces, we find a significantly positive and robust relationship between security of land tenure and a number of investment measures. Thus, secure land tenure is positively correlated with land investments. In provinces with greater proportion of households holding some paper proof of ownership which is synonymous with secure land tenure, investments in capital inputs and investments in irrigations are significantly higher.

Figure 4.4 The relationship between investments and secure land titles



Source: Cambodia Socio-economic Survey 2003-04 (15-month sample)

A simulation of the potential impact of land titling

In this section, we carry out a simple simulation exercise to estimate the impact of land titling on poverty. We only allow the impact to work through increased productivity in crop agriculture, and is based on the effects of titling on agricultural productivity. We assume that land title enhances yields, measured by value of output per hectare, by 73 percent than plots without titles. We further assume that titling affects only income from crop agriculture. Details of the mechanics of the simulations are presented in Annex 3. Table 4.5 shows the estimated impact of titling programs of varying coverage or size. We consider a few scenarios for the progress of the titling program. The current

coverage or size of the LMAP is about titling 650,000 titles. The model estimates that the LMAP will lift about 280,000 people out of poverty, which is equivalent to reducing the national poverty rate by between one and two percentage points. Complete titling of 2.5 million would, according to the model, lift between a half and one million people out of poverty, reducing the national poverty rate by 4 to 8 percentage points. Naturally, these effects will not occur overnight. It is likely to take several years for the effects of titling to work their way through investment and access to credit and trade, through productivity growth, to increased income and consumption.

Table 4.5 Simulated effect of titling programs on poverty

<i>Number of titles issued</i>	<i>Number of households affected</i>	<i>Number of households escaping poverty</i>	<i>Number of individuals escaping poverty</i>	<i>Change in national poverty rate, percentage point changes</i>
650,000	361,988	50,135	284,924	-2.19
1,000,000	556,904	77,131	438,345	-3.36
2,000,000	1,113,808	154,262	876,690	-6.73
2,500,000	1,392,260	192,828	1,095,863	-8.41

Source: CSES 2004

The model in this simulation exercises is rather conservative (i.e., providing the lower bound of the effects) and ignores many potentially important and positive effects of titling, e.g., multiplier effects, effects on other non-crop income, network and general equilibrium effects (see details in the Annex).

The current pace and coverage of the LMAP would have only titled on average about 125,000 titles a year, and attained titling of 26 percent of total plots in the country by the Project's completion year at the end of 2007. The potential productivity and income gains are sizable that warrants a serious consideration of expanding the systemic titling program more intensively and comprehensively into every part of the country. Nonetheless, to maximize gains for the poor, incentives of land cadastral must be aligned to map, register, and title even in remote or isolated areas. It is also important to resolve the issue that a large tract of the land operated by the poor is deemed state land or illegal settlement, and therefore, is excluded from the systemic titling program.

Systematic titling appears likely to deliver significant benefits

The Royal Government is currently engaged in a large-scale program of systematic land titling under the Land Management and Administration Project (LMAP), supported by the World Bank and other donors². Having contributed to strengthened policy and regulatory frameworks and institutional development in the land sector, LMAP began to

² LMAP is conceived as the first phase in the Government's 15-year Land Administration, Management and Distribution Program (LAMDP), which explicitly emphasizes equity goals in its three objectives ("strengthen land tenure security and land markets, prevent and resolve land disputes; manage land and natural resources in an equitable, sustainable and efficient manner; promote land distribution with equity").

distribute titles in 2004. In 2006, 300,000 titles were issued, bringing the cumulative total to almost 1 million.

It is too early to assess the impact of this systematic titling approach: the program only started in 2004, and the full extent of behavioral changes is likely to take more than two years to emerge. That said, it is possible to obtain some early insights into perceptions of impact, and perhaps some preliminary and suggestive indicators of emerging actual impact. The value of LMAP, and a more nuanced understanding of its likely effects in different places and over time, can be summarized in Box 4.6.

Box 4.6 Systematic titling has positive effects, which can be expected to increase with time and with the extension of the program into more remote and less densely-populated areas

At this relatively early stage in systematic titling and on the basis of a quick and light study, it is possible to draw some preliminary conclusions with regard to impact to date, likely effects over the longer term, and changes needed to increase the benefits to poor households. The LMAP titling process functions well in the villages it reaches, and appears to confer clear benefits:

- Titles are seen to reduce land conflict and increase tenure security for almost all respondents.
- Titles make it easier to sell land to buyers from outside the local community, although the high tax for registration is a major concern. Titles probably have a moderate, positive effect on land values.

Some other aspects of post-titling behaviour are not as anticipated, and some of the other benefits often attributed to the creation of property rights are not yet apparent:

- It is uncommon to register titled land with cadastral authorities following sale: rather villagers are selling property by physically handing over the title under cover of contracts witnessed by local authorities. The most important reason for the lack of registration is that households expect to pay a high and unpredictable tax for registering sales. It does not signal that households do not value titles or that titles do not affect behaviour.
- Even before titling and in areas still without titles, credit markets have been active, formal lenders play a significant role, and the practice of putting down land as collateral for loans is common, both with formal and informal lenders. Thus, receipt of title does not create credit markets where they did not exist before. However, credit is very expensive and titles appear to have a moderate but definitely positive effect on access to credit at reasonable prices.

With a few important exceptions, respondents do not yet perceive an effect of titles on agricultural production and welfare. However, given the impact on tenure security and conflict and the more minor but nonetheless positive influence on credit and land markets, it is reasonable to expect these benefits to feed through into positive effects on production and welfare outcomes in the longer term.

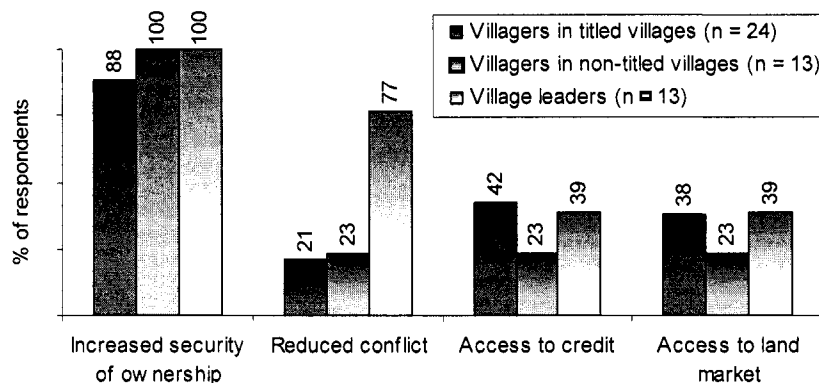
The decision to develop procedures for systematic titling in areas in which the process is least likely to be contentious makes good sense. As a result, however, at present the program seems to reach poor and conflict affected areas last, and leaves significant areas of household-operated, agricultural land untitled because it is claimed by the state. Fees for titling make it difficult for poor households with large plots to participate in the program.

Public opinion is favorable

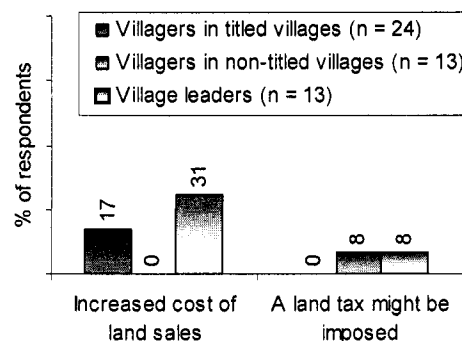
As might be expected, there is general enthusiasm for land titles. Villagers and local authorities perceive a number of benefits and limited disadvantages to land title (Figure 4.5). Although the numbers of respondents are very small, these findings are at least suggestive of how titles are perceived, both by those who have them and those who do not yet have them.

Figure 4.5 The benefits of title are clearly seen to outweigh any problems

- a. % of respondents who mention the impact in response to the open question "Do you see any benefits of land titles?" (no prompts provided)



- b. % of respondents who mention the impact in response to the open question "Do you see any disadvantages of land titles?" (no prompts provided)



Source: Markussen 2007 pp. 14-15

Beyond a general enthusiasm for titles in principle, households that had received titles over through systematic titling were also very positive of the LMAP process. While there were minor grumbles about the accuracy of the boundary mapping in a few cases, there was no evidence of elite capture or corruption.

Amongst the general public, too, perceptions of the benefits of a land title are overwhelmingly positive, with almost everyone expressing a belief that title conferred

benefits (see Table). This reflects opinion amongst both those who have already acquired title and those who have not. The primary concern is that the process of obtaining title was difficult and expensive. Given the numbers who perceived this problem, this perception probably reflects experience of previous titling schemes and the *expectation* of difficulties, rather than actual experience (direct or relayed by others) with the contemporary process of systematic titling.

Table 4.6 Public perceptions of land titling are unambiguously positive

Statement (read out to respondent)	% respondents who agree
It's better to have land titles than not	98.7
Land titles signifies ownership and nobody can take it away against his/her will	97.6
Land titles help secure loans or credit	98.5
Land titles can be passed on to your children	99.4
Land titles facilitate leasing out land	94.4
Land titles increase sale prices of land	97.6
Land titles are difficult and expensive to obtain	69.3
Land titles complicate sales or transactions	5.6

Source: IRL 2007 p.

Titles are seen to improve tenure security and reduce the likelihood of conflict

For most recipients, land title appears to further strengthen an already robust feeling of ownership security. For a minority of households, however, it may have a more significant effect in conferring security when before there were reasons to fear that the land could be claimed by someone else (see Box 4.7). Many recipients emphasize that the titles would ensure that in the future they can pass their land on as inheritance to their children.

Box 4.7 Among recipients, titles are perceived as improving tenure security

Case 1: A rich household in Tuol Lveang village, Battambang, owns 9 ha of agricultural land. The land was acquired already in the early 1990s, and the household has constantly worried that some of the plots would be confiscated by the state, because the holding is unusually large. After receiving titles, the household no longer worries.

Case 2: A woman from Kandal recently bought land in Tek Thear village, Kompong Speu. She only lives there for a few months each year. She is on good terms with the villagers, but is still very keen to receive titles as soon as possible. Land prices in the area are going up, and she is worried that powerful outsiders may try to take her land. She expects that titles will protect her “even against powerful people, against whom local authorities are of no use”.

Case 3: A household in Sla village, Kompong Speu had a longstanding conflict over a plot of land with a cousin of the wife in the household. The conflict could not be resolved during the LMAP titling process, and has been sent to the national Conflict Resolution Committee. The household is happy about the titles they received for other plots, and are keen to get a title for the plot in dispute. They expect titles to prevent such disputes in the future.

Source: Markussen 2007 p. 16.

Conflicts may actually rise during the process of systematic titling, as the mapping that precedes distribution of titles may bring latent conflicts to the surface. However, the impression is that (i) most of these appear to be resolved at the local level with assistance from local officials and LMAP staff; and (ii) once titling is completed, the level of land conflicts has fallen to significantly below the level seen before titling. It is too early to tell whether titles will prevent conflict in the long term as competition for land increases further, especially given ongoing weaknesses in the judicial system. At this point, however, titles are clearly seen as much stronger proof of ownership, with the critical advantage that the titles specify plot boundaries in a way that other documents do not.

Recipients perceive land titles to improve access to credit

As mentioned above, credit markets do function in rural Cambodia and land can be used as collateral even without documents proving ownership. However, rural households interviewed perceived titles as improving the terms of access to credit: and collateralized loans (on terms that are better than those for loans obtained without collateral) appear to have increased in the wake of titling in the villages he visited. Title may enable a household to obtain a loan from a formal lender, when in the absence of a title the household might have been able to borrow only from an informal lender, at higher interest rates. Alternatively, title may enable households to borrow from an informal lender who might not have loaned money without a land title as collateral.

Titles do appear to have advantages over existing documents

Given that the benefits of “title” derived from the CSES 2004 should probably be read as effects of application receipts rather than full titles³, this raises the question: if Cambodia already had a reasonably effective system of “quasi-formal” property rights to land before the LMAP titling program, does it actually need these new titles? It would be cheaper to issue documents similar to application receipts to those 52 percent of plots which, according to CSES 2004, are not held with any paper.

It seems likely that the new titles do in fact mark a significant improvement over earlier forms of “ownership” document (and application receipts in particular) in several respects. Firstly, several households may have application receipts for the same plot. Secondly, application receipts do not specify plot boundaries and so will not help prevent or resolve boundary conflicts. Thirdly, in transactions with people from outside the local community, application receipts will sometimes not provide sufficiently strong documentation of ownership for the buyer (although under some circumstances they will). Fourthly, in legal terms application receipts represent evidence but not proof of ownership. This is of minor concern to most rural households, as using the courts to resolve disputes is generally not considered a realistic option: nonetheless, case studies suggest that people perceive that application receipts have a weaker deterrent effect than titles against would-be land grabbers from outside the local community. Finally, it is easier to obtain loans from formal lenders with titles than with receipts.

³ By the end of 2004—the year in which the CSES was conducted—only one percent of all plots in Cambodia would have been covered by titles allocated through the systematic process. As such, the odds of LMAP-titled plots being recorded in CSES was extremely slim.

These observations suggest that the older application receipts do not adequately prepare Cambodia for a future in which land market interactions between strangers (people not from the same community) will become steadily more important. Land titles of the kind now being distributed through the systematic titling program do have the potential to fulfil this role (Markussen 2007 pp. 7-8).

Trade-offs in process: pursuing equitable development through interim institutions

To begin with, it needs to be recognized that land titling alone cannot be an adequate solution to the challenge of promoting equitable, efficient land management that promotes pro-poor growth. On its own, titling could be argued to be inherently regressive, in that households benefit in proportion to the amount of land they own, and the program has no direct effect on the welfare of the landless.

A number of pieces of evidence point to LMAP and the systematic titling process it supports having a positive impact in the areas it has covered to date. Such an approach, which sets out to title all land in a Commune at one time (hence “systematic”), seems to be clearly superior to earlier attempts to title land through “sporadic”, on-demand titling, which suffered from capacity constraints and high fees, such that only a little land (predominantly that held by the rich) was titled. In that the landed poor tend to be the losers in conflicts over land ownership, providing them with strong titles is likely to improve their ability to retain their key productive asset in the face of increasing competition over land resources. A minor concern is that the area-based formula for the calculation of titling fees, while not excessive, may deter applications from poor households with large plots.

However, the more important consideration is whether the success of the program so far in part reflects some deliberate choices regarding the process of implementation. These choices have arguably limited the impact of systematic titling on the most vulnerable landholders—and thus on equity—to date. In most Provinces, LMAP has started out in the more long-settled, more productive and probably better-off rice-growing communities close to the provincial town; and seems likely to reach remote, recently-cleared areas, which are poorest and most prone to land conflicts, last. This sequencing reflects incentives in the administration of the titling process: fees are paid to the titling teams based on the area of the plot, leading to a preference to work first in areas with a large number of small, easy-to-measure plots and a low incidence of land conflicts (as titling can only proceed once conflicts are resolved). Adler *et al* argue that systematic titling has so far succeeded largely as a formalization of reasonably well-established local understandings of land ownership. In other words, it has succeeded in bringing local “legal” understanding and practice into alignment with formal, Government law through a process of transparent and structured negotiation, in which inclusion of the poor (i.e. equitable process) is supported by the provision of information and processes to facilitate their participation.

This approach makes sense from a long-term perspective that, informed by considerations of the political economy of land and the policy process, emphasizes the importance of creating improved (transparent, rules-based) institutions for formalizing land rights. These institutions need to be given time to develop technical capacity,

independence and legitimacy. This is best achieved by focusing first on the relatively more tractable, densely-populated core regions of the country, before taking on the contentious areas on the forest frontier where widespread encroachment of local populations, based on traditional concepts of usufruct, are in direct contradiction to (i) state law that classifies these lands as “state public” or “state private” land and (ii) national and sub-national authorities’ assumption of the right to distribute these lands to commercial interests, generally on an informal, neo-patrimonial basis only tenuously rooted in the law. A somewhat sobering conclusion is that reform initiatives that either consciously or unconsciously seek to create sustainable institutional improvements as a precondition for equitable development in the long term—the approach described by Adler *et al* in terms of a focus on “interim institutional arrangements”—probably do *not* target the poor in their initial stages.

Some recommendations for building upon the gains achieved by LMAP to date include

- changing the fee policy so that it lowers the rate charged for poor quality land, reducing the cost barrier for poor households seeking to register large plots with low productivity.
- changing the compensation schedule for LMAP titling teams to create incentives for them to visit remoter, less densely populated areas with lower productivity (for example, by basing pay on the area titled as well as the number of plots). And,
- engaging with the reclassification of state lands in order for titling to benefit the poor living in remoter areas on the land frontier. A comprehensive policy framework for land management, and one that would serve growth and equity objectives simultaneously, is therefore likely to require a complex process of integrating titling and redistribution processes.

Other policy recommendations would include to conduct more rigorous review of the status of the economic land concessions, so that those which are not in compliance with the law (because they are too large, or have not conducted environmental or social impact assessments, or overlap with a cancelled forest concession, or are not active) are cancelled and reallocated to alternative, productive uses; and, related to this, that Government and partners work together to identify ways of putting the social land concessions principles into operation.

5. Addressing inequality in access to infrastructure: a focus on rural roads

Summary

- There has been substantial progress in narrowing the gap in access to roads, water, and reliable lighting, during 1997-2004, across the board. Despite the progress, considerable disparities remain between urban and rural sectors, and between rich and poor within each sector.
- Isolation or geographic remoteness is a key factor in perpetuating poverty and income inequality. Provision of infrastructure such as roads improves connectivity, and helps reduce both poverty and inequality.

Chapter 2 found that remoteness due to poor access to infrastructure such as rural roads is a correlate of poverty and hence a factor behind disparity and inequality. As explained in Chapter 2, one measure to lower inequality is to reduce poverty, through raising income or consumption of the bottom segments of the population to close the income gap. This chapter focuses only on road investments. Roads are publicly provided in Cambodia. By helping to connect the isolated segments of the population, the Government can enhance the rural population's opportunities to participate in the broader and more diverse economy. Roads integrate communities into regional and national networks of production and trades. Especially in rural areas, additional and improved roads reduce transaction costs, expand access to markets and enhance rural income. Investments in roads can also enhance the vitality (e.g., growth in trading and commercial activities) and expand diversity (e.g., growth in services) of the rural economy itself. It is estimated that nearly two-thirds of African farmers are effectively insulated from national and world markets because of poor roads. In contrast, substantial investment in Indonesian roads throughout the previous 30 years enabled the poor to participate in the market economy (World Bank 2005 p. 169).

Economic opportunities are shaped by access to infrastructure and especially roads (the focus of this chapter). As shown in Chapter 2, lack of access to roads is a factor contributing to poverty, and hence, inequality. Access to roads also has a well-being dimension, i.e., a non-money metric aspect of living standard, as roads bring people closer to goods and services and improves one's daily existence. Furthermore, many of the rural roads in developing countries are labor intensive public works, creating jobs for unskilled labor.

This Chapter first analyzes the distributions of infrastructure such as access to (i) market; (ii) roads; (iii) electricity; (iv) piped water; and (v) lighting, in order to understand the extent of disparity or inequality within urban and rural areas and between these two domains. The second section presents the distributions of access to (i) access

markets; (ii) roads; (iii) piped water; and (iv) lighting for years 1997 and 2004 for comparable samples, based on the 1993 sampling frame to assess progress, if any, in closing the disparity between the rich and the poor, and between rural and urban areas. The third section shows the importance of rural roads for economic outcomes, measured by total household revenue, net cultivation income or crop profit, non-agriculture revenue, and wage income.

Distributions of infrastructure

This section presents the distributions of access to infrastructure for Cambodia's population in 2004, separately by regions and for rural and urban sectors, starting with a presentation of the distributions of populations within various zones (regions) and sectors according to their positions or rankings in the national consumption distribution.

These distributions in Table 5.1 provide information about the relative welfare levels of populations in various zones. For example, 87 percent of Phnom Penh's population belongs to the top two richest quintile groups of the national consumption distribution, whereas only 20 percent of rural Plateau/Mountain population made it to the top two quintile groups. Between 40 percent (of the urban Plateau/Mountain population) and 64 percent (of urban Plains) of other urban residents belonged to the country's richest 2 quintile groups. The richest urban zone was Plains, followed by Coastal, Tonle Sap and Plateau/Mountain. Similarly in the rural areas, the richest zone was Plains, followed by Coastal rural areas, and the poorest rural zones were Tonle Sap and Plateau/Mountain. About 62 percent of rural Plateau/Mountain populations (c. 720,000) and half of rural Tonle Sap (c. 1.7 million) belonged to the poorest 2 quintile groups in the national consumption distribution.

The following Tables then present the proportions of populations within each quintile with access to various public amenities and infrastructure. The population is ranked by its consumption level, within zone (region) and sector, into respective quintile groups in the zone and sector.

Table 5.2 shows the distribution of access to an improved water source, as defined by households with access to water pipes or public tap. Improved water is widely available in Phnom Penh, and for over half of the richest quintile groups in urban Plains and urban Coastal regions. Even among the richest quintile in rural areas, such access is extremely limited.

Table 5.1 Population distribution by national per capita consumption quintile and by region and region*sector

Region	Quintile					Totals
	1	2	3	4	5	
Cambodia	20.0	20.0	20.0	20.0	20.0	100.0
Phnom Penh	2.5	2.7	7.5	21.1	66.1	100.0
Plains urban	5.1	10.0	21.2	24.8	38.9	100.0
Tonle Sap urban	16.2	14.2	17.3	20.1	32.2	100.0
Coastal urban	10.3	15.6	18.7	21.3	34.0	100.0
Plateau/mountains urban	14.9	19.6	24.2	19.9	21.4	100.0
Plains rural	16.9	22.0	22.4	23.3	15.5	100.0
Tonle Sap rural	28.3	22.4	20.8	16.3	12.1	100.0
Coastal rural	14.6	23.6	23.6	22.5	15.7	100.0
Plateau/mountains rural	38.0	24.1	16.6	11.6	9.6	100.0

Source: CSES 2004 (15-month sample).

Table 5.2 Percentage of population in dwelling with water piped or from public tap

Region	Quintile					Totals
	1	2	3	4	5	
Cambodia	1.7	2.5	4.0	10.5	34.7	10.7
Phnom Penh	65.6	55.1	54.8	70.2	89.6	81.3
Plains urban	7.8	9.1	9.2	20.6	57.7	30.8
Tonle Sap urban	3.1	5.4	11.0	18.9	30.4	16.8
Coastal urban	0.0	10.7	16.6	28.2	48.6	27.3
Plateau/mountains urban	3.2	7.7	9.1	15.9	39.4	15.8
Plains rural	2.0	2.7	1.8	3.8	5.8	3.1
Tonle Sap rural	0.4	0.0	0.6	0.6	3.4	0.7
Coastal rural	0.0	0.0	0.0	1.6	4.3	1.0
Plateau/mountains rural	0.0	0.0	1.5	0.1	12.6	1.5

Source: CSES 2004 (15-month sample).

Table 5.3 presents the distribution of population with access to battery- or generator-powered lighting in their dwellings. Almost everyone in Phnom Penh and among the richest quintiles in other urban areas has lighting. The proportions of populations with access to lighting fall monotonically as we move from richest to poorest quintile groups. While in Phnom Penh as much as 98 percent of its population had battery- or generator-powered lighting in their dwellings, only 46 percent of the urban Plateau/Mountain zone had such access; half in rural Plains; and a quarter in other rural zones.

Table 5.3 The distribution of population in dwellings with lighting, powered by city power, generator or battery

Region	Quintile					Totals
	1	2	3	4	5	
Cambodia	18.4	30.3	41.7	56.6	80.3	45.5
Phnom Penh	93.5	86.4	91.8	97.4	99.2	97.8
Plains urban	49.7	60.5	82.5	82.6	98.2	84.8
Tonle Sap urban	12.1	34.0	52.8	77.4	94.3	61.8
Coastal urban	18.2	24.0	53.1	67.3	91.1	60.9
Plateau/mountains urban	9.8	25.6	40.7	59.7	81.6	45.7
Plains rural	29.1	40.1	49.8	58.9	72.6	49.8
Tonle Sap rural	9.2	17.5	25.4	35.5	61.2	25.0
Coastal rural	9.8	16.2	21.3	40.4	55.8	28.1
Plateau/mountains rural	14.8	22.9	26.8	35.2	59.4	25.4

Source: CSES 2004 (15-month sample).

There is a similar pattern in access to electricity (Table 5.4). In Phnom Penh and urban Plains, about 80 percent of their populations have access to electricity. In contrast, only 10 percent of rural Plateau/Mountain region, and between 18 and 25 percent of populations in rural Plains, Tonle Sap and Coastal areas had access. Within each zone and sector, the proportions of populations with access declines monotonically as one moves from the richer to the poorer quintile groups. For example, only a third of the poorest quintile in urban Tonle Sap population had access to electricity compared to 93 percent of the richest quintile in the same urban zone. The disparity is just as wide between the richest and the poorest quintile group in other zones with lower average access rate. For example, 6 percent of the poorest quintile group, compared to 30 percent of the richest quintile group in rural Plateau/Mountain region had electricity access.

Table 5.4 The distribution of population with access to electricity (%)

Region	Quintile					Totals
	1	2	3	4	5	
Cambodia	13.6	18.8	24.8	36.0	57.9	30.2
Phnom Penh	89.4	85.2	79.3	84.0	83.3	83.4
Plains urban	56.9	61.5	72.3	80.2	94.2	80.9
Tonle Sap urban	32.5	64.4	71.7	86.1	92.7	73.8
Coastal urban	66.5	57.0	71.2	72.6	96.0	77.2
Plateau/mountains urban	32.5	31.7	45.0	52.4	69.5	47.3
Plains rural	9.6	13.2	15.9	23.1	29.6	18.0
Tonle Sap rural	13.9	20.3	24.0	32.0	45.5	24.2
Coastal rural	12.5	17.3	18.1	32.6	45.0	24.6
Plateau/mountains rural	6.3	6.6	10.0	9.4	29.6	9.6

Source: CSES 2004 (15-month sample).

Table 5.5 presents the average distances to the nearest all-weather road. In Phnom Penh and urban Tonle Sap, just about every village has all-weather roads, and hence the average is zero km in every quintile group. Except for Plateau/Mountain, all other urban zones have good access to all-weather road, averaging 1.5 km for Plains and Coastal. In urban areas, average distance to roads falls monotonically from poorer to richer quartiles. The average distances to roads were several times higher among the rural populations. The distance differential between the richest and the poorest in rural areas was rather small and in rural Tonle Sap and Coastal regions, the richest quartiles had on average greater distance to travel to the nearest roads than the poorest quartiles.

Table 5.5 Average distance to nearest all-weather road (in km)

Region	Quintile					Totals
	1	2	3	4	5	
Cambodia	4.82	3.55	3.21	3.09	2.03	3.34
Phnom Penh	0.00	0.00	0.00	0.01	0.03	0.02
Plains urban	4.94	2.06	2.64	1.24	0.24	1.41
Tonle Sap urban	0.18	0.47	0.33	0.01	0.01	0.16
Coastal urban	3.32	2.62	2.34	1.54	0.34	1.62
Plateau/mountains urban	14.83	3.55	2.75	0.29	0.36	3.85
Plains rural	6.12	3.66	3.75	3.31	1.86	3.75
Tonle Sap rural	2.46	3.41	3.05	4.86	6.58	3.68
Coastal rural	3.40	4.70	3.58	3.82	8.58	4.71
Plateau/mountains rural	8.20	4.37	3.42	3.60	1.24	5.31

Source: CSES 2004 (15-month sample).

With regards to market access, Table 5.6 presents the average distance to the nearest permanent markets, which is approximately 1 km in Phnom Penh, and 2km in the urban Plains, Tonle Sap and Coastal regions. The urban Plateau/Mountain region is more

isolated, averaging 6km, with a huge gap between the richest and poorest quintile groups. The poorest quintile group has to travel as far as 12km, compared to 3 km for the richest quintile group, in urban Plateau/Mountain region, to reach the nearest market. On average, distances are several folds longer in rural areas, even among the richest quintiles.

Table 5.6 Average distance to permanent market (in km)

Region	Quintile					Totals
	1	2	3	4	5	
Cambodia	10.86	9.54	8.07	7.13	4.22	7.97
Phnom Penh	0.68	1.40	1.51	1.32	0.77	0.96
Plains urban	5.19	4.23	4.17	2.76	1.10	2.67
Tonle Sap urban	4.54	3.28	2.55	1.45	0.80	2.21
Coastal urban	5.27	3.75	2.65	1.84	0.38	2.15
Plateau/mountains urban	12.26	5.27	7.32	4.32	3.28	6.19
Plains rural	9.40	8.84	7.77	7.19	5.73	7.85
Tonle Sap rural	12.27	10.32	8.50	9.36	7.14	9.95
Coastal rural	6.04	6.89	7.00	7.26	8.38	7.11
Plateau/mountains rural	14.33	16.61	17.52	17.17	13.43	15.66

Source: CSES 2004 (15-month sample).

Access to improved water, electricity, lighting, roads, and markets are distributed relatively equally distributed among residents in Phnom Penh. Consumption-based inequalities in access to infrastructure appears to be much lower within the capital than in other realms. In other urban areas, access to these infrastructure and amenities is more limited than in the capital city but nonetheless significantly better than in rural areas. In rural areas, some amenities (such as water from an improved source) are non-existent even to the better off households. With the exception of Phnom Penh, in every zone and sector, access to infrastructure and amenities increases monotonically from poorest to richest quintiles. Thus, the disparities between rich and poor, especially in rural areas, and inequality between urban and rural households in accesses to infrastructure, utilities, and public amenities are substantial.

Substantial progress in closing the rich-poor gap

Despite large disparities remaining, Cambodia had made noticeable progress in closing gaps in access to infrastructure. For example, investments in roads have shortened significantly the average distance to the nearest motor road. Table 5.7 shows the average distance to motor roads by quartile groups in rural and urban areas in years 1997 and 2004. In rural areas, the poorest quartile group in 1997 on average traveled 2.8km to get to the nearest motor road. By 2004, the average distance was less than 1 km. In urban areas, there was also improvement. The poorest quartile group in 1997

traveled on average 0.53km to get to the nearest motor road, and by 2004, the distance was halved. While there is absolute progress in better access to roads across the distribution, the rich-poor gap is actually now larger. It is unclear whether this reflects a bias from the changes of the definition of roads (i.e., from all-motor road in 1997 to all-weather road in 2004).

Table 5.7 Average distance (in km) to motor roads by quartile, 1997 and 2004

Rural	poorest quartile	second quartile	third quartile	richest quartile
	0-25%	25%-50%	50%-75%	75%-100%
1997	2.810	2.949	4.085	2.625
2004	0.875	0.738	0.499	0.378

Urban	poorest quartile	second quartile	third quartile	richest quartile
	0-25%	25%-50%	50%-75%	75%-100%
1997	0.535	0.581	0.301	0.129
2004	0.204	0.095	0.008	0.026

Sources: CSES 1997; CSES 2004 (15-month sample)

Note: there is no information collected for motor roads in 2004, and thus the above estimates of 2004 are derived from information collected for all-weather roads. All-weather-road is a more expensive and more durable than all-motor roads.

Table 5.8 presents the distributions of utilities and other public amenities, e.g., markets, improved water, and reliable lighting for years 1997 and 2004. The results suggest that there have been remarkable improvements for all income groups, in both rural and urban areas. Especially in rural areas, the increases in access to these amenities and utilities were most substantial among the poorest quartile and thus the disparities between rich and poor have shrunk during this period. Among the poorest quartile in rural areas, the proportions of population with access to a permanent market in their villages rose 3-fold from 3.4 percent to 9.1 percent; those with access to improved water jumped 20-fold from 0.1 percent to 2.2 percent; while the percentages with access to reliable lighting increased 4-fold from 4.7 percent to 18 percent. With increases in the numbers of permanent markets in villages, the average distance to market also improved during this period. In rural areas, the average distance fell from 7.13km in 1997 to 6.87km in 2004. In urban areas, the average distance improved from 2.26km in 1997 to 1.45km in 2004.

Table 5.8 Distributions of utilities and amenities by quartile, 1997 and 2004

Rural		Quartile Groups			
		poorest 0-25%	second 25%-50%	third 50%-75%	richest 75%-100%
% with a permanent market in the village	1997	3.4	7.1	9.8	10.6
	2004	9.1	8.5	9.8	15.2
distance to the nearest permanent market (km)	1997	8.36	7.45	7.08	5.65
	2004	8.55	8.24	6.85	5.77
% with clean water (piped or public tap)	1997	0.1	1.7	5.3	2.7
	2004	2.2	1.5	1.9	5.1
% with reliable lighting (by city grid, battery, generator)	1997	4.7	7.8	11.9	9.5
	2004	18.2	29.0	39.3	55.9
Urban		Quartile Groups			
		poorest 0-25%	second 25%-50%	third 50%-75%	richest 75%-100%
% with a permanent market in the village	1997	16.9	22.3	27.2	31.7
	2004	16.1	25.7	29.3	29.9
distance to the nearest permanent market (km)	1997	3.26	2.81	1.65	1.31
	2004	2.78	1.38	0.77	1.41
% with clean water (piped or public tap)	1997	13.4	26.4	45.4	68.1
	2004	19.5	45.1	67.4	78.1
% with reliable lighting	1997	35.8	56.0	75.0	87.2

Sources: CSES 1997; CSES 2004 (15-month sample)

Note: Only comparable samples, from both surveys, based on the identical (1993) sampling frame are used in the analyses.

The most remarkable public investments involved the construction of schools. Across the country, increased access to schools, at all levels, has been notable between 1997 and 2004. Table 5.9 shows that the distances to primary school and secondary schools have fallen precipitously, by bringing schools closer to the populations. In rural areas, the average distance to the nearest primary school fell from 5.6km in 1997 to 1km in 2004; and the average distances to lower and upper secondary school fell 10-fold from 49km to 4km, and from 118km to 10km, respectively. Similarly in urban areas, the average distances have fallen about 9-10 fold as well.

In 2004, there was little disparity in distances to primary school between the richest and poorest quintile groups in many regions of the country. For example, the average distance to the nearest primary school within rural areas in the Plateau/Mountain zone was 2.5km for the poorest quintile, and was 2.0km for the richest quintile. In urban areas within the coastal region, the distance was 0.52km for the poorest quintile, and was 0.50km for the richest quintile (Table 5.10).

Table 5.9 Average distances (in km) to schools, 1997 and 2004

Rural	distance to nearest primary school	distance to nearest lower secondary school	distance to nearest upper secondary school
1997	6.59	49.0	118
2004	1.02	3.99	9.55
Urban	distance to nearest primary school	distance to nearest lower secondary school	distance to nearest upper secondary school
1997	4.72	19.5	28.5
2004	0.47	1.73	3.01

Sources: CSES 1997; CSES 2004 (15-month sample)

Table 5.10 Average distances to primary schools, 2004

Region	Quintile				
	Poorest	Next poorest	Middle	Next richest	Richest
Cambodia	2.25	1.79	1.94	1.60	0.93
Phnom Penh	0.35	0.32	0.42	0.39	0.54
Urban	0.46	0.42	0.55	0.43	0.48
Plains urban	0.34	0.53	0.33	0.44	0.45
Tonle Sap urban	0.45	0.31	0.32	0.34	0.22
Coastal urban	0.52	0.73	1.15	0.38	0.50
Plateau/mountains urban	0.43	0.29	0.40	0.39	0.26
Rural					
Plains rural	1.22	1.22	1.73	1.04	0.67
Tonle Sap rural	3.23	1.80	2.17	2.09	2.38
Coastal rural	5.05	2.99	3.58	5.80	1.49
Plateau/mountains rural	2.49	4.59	3.69	4.73	1.96

Sources: CSES 1997; CSES 2004 (15-month sample)

Disparity of outcomes from the disparity of access to roads

Chapter 2 showed that there are noticeable differences in welfare due to differential access to infrastructure. Mean real consumption in remote areas was lower than that in connected areas, and poverty rate was higher in isolated villages than better connected villages. This section presents the differences in additional economic outcomes between rural households with access to all-weather roads and those without. We focus on rural areas because despite significant progress in closing the gap during the last decade, the rural majority are still considerably less well-connected, compared to the urban population.

In addition to consumption differences which were observed in Chapter 2, there are also significant differences in other outcomes. Table 5.11 presents provincial averages of annual total household revenue, crop profits, non-agriculture revenue, and wage income for 2 categories of households. One category consists of households with all-weather road in the village. The other category of households do not have an all-weather

road in the village. Except for Kompong Chnang and Pursat, the means of total household revenue of all other provinces are significantly higher¹ among households connected to an all-weather road in the village. An examination of profit from crop cultivation shows that mean averages are not necessarily higher among the connected households in every province. About half of the provinces have higher average crop profits among households without all-weather road in the village than the average of households with all-weather road in the village. The bottom half of Table 5.11 presents provincial averages of non-agriculture revenue and wage income. With the exception of Kompong Chnang and Pursat, all other provinces have significantly higher average non-agriculture revenue among households connected to a road. Similarly, with the exception of Kompong Speu, wage incomes on average are significantly higher among connected households in all provinces.

The results suggest that access to infrastructure such as roads raises household income primarily through the provision of better access to non-farm opportunities. Total household revenue is higher among those with access to roads than those without. However, revenue from cultivation or crop profitability is not systematically higher among those with better road access. It would be expected that roads facilitate access to input and output markets, lowering costs and enhancing revenue. However, there is no systematic pattern of higher agriculture revenue linked to access to roads. On the other hand, access to roads improves access to other non-farm opportunities, e.g., facilitating small enterprise businesses, as seen with systematically higher non-agriculture revenue among those with access to roads. Lastly, access to road facilitates connectivity to wider employment opportunities in other villages or in urban areas. Waged income among households with access to roads is significantly higher.

¹ The significance refers to 1 percent level or 99 percent confidence interval.

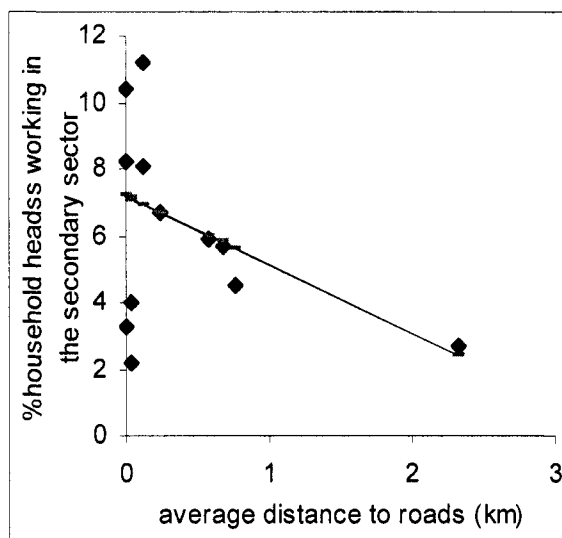
Table 5.11 Provincial averages of total household revenue, crop profits, non-agriculture revenue, and wage income, by existence of all-weather road in village, (annual, in Riel)

	average total household revenue			average profit of crop cultivation		
	connected to road	without road	differences in mean	connected to road	without road	differences in mean
Kompong Cham	7,057,633	3,477,119	3,580,514	568,475	284,463	284,012
Kandal	9,412,447	3,811,877	5,600,570	236,998	-241,174	478,172
Prey Veng	3,829,271	3,106,895	722,376	406,470	145,524	260,946
Svay Rieng	2,904,427	2,696,480	207,947	263,736	918,992	-655,256
Takeo	5,481,193	4,629,359	851,834	474,940	-281,745	756,685
Banteay Meanchey	8,674,462	3,447,005	5,227,457	560,648	363,837	196,811
Battambang	11,594,940	6,112,980	5,481,960	1,407,561	1,572,887	-165,326
Kompong Thom	4,918,124	3,056,538	1,861,586	476,226	606,672	-130,446
Siem Reap	12,598,708	2,863,314	9,735,394	462,508	286,844	175,664
Kompong Chhnang, Pursat	7,447,693	9,409,218	-1,961,525	372,531	388,189	-15,658
Kampot	5,166,382	2,334,716	2,831,666	550,960	282,502	268,458
Sihanoukville, Kep, Koh Kong	22,189,763	8,698,686	13,491,077	270,592	334,010	-63,418
Kompong Speu	4,030,935	3,109,317	921,618	419,710	568,778	-149,068
Other Plateau Mountain provinces	5,064,413	2,687,803	2,376,610	562,839	633,388	-70,549

	average non-agriculture revenue			average household wage income		
	connected to road	without road	differences in mean	connected to road	without road	differences in mean
Kompong Cham	4,091,138	1,100,222	2,990,916	796,789	641,101	155,688
Kandal	5,098,629	1,136,973	3,961,656	1,910,707	1,440,174	470,533
Prey Veng	1,441,157	1,096,272	344,885	475,443	412,523	62,920
Svay Rieng	773,121	208,697	564,424	526,925	223,327	303,598
Takeo	2,740,933	2,426,512	314,421	615,540	479,726	135,814
Banteay Meanchey	5,229,444	1,489,450	3,739,994	1,268,491	375,283	893,208
Battambang	7,071,883	2,110,211	4,961,672	1,119,217	407,162	712,055
Kompong Thom	2,224,397	913,975	1,310,422	840,040	348,801	491,239
Siem Reap	8,639,408	602,423	8,036,985	1,256,086	299,704	956,382
Kompong Chhnang, Pursat	4,881,231	5,161,625	-280,394	520,959	374,913	146,046
Kampot	2,242,902	486,869	1,756,033	535,698	101,203	434,495
Sihanoukville/Kep/Koh Kong	15,474,791	4,272,164	11,202,627	2,841,474	595,305	2,246,169
Kompong Speu	1,549,583	282,366	1,267,217	678,726	754,396	-75,670
Other Plateau/Mountains	2,375,261	463,780	1,911,481	571,756	186,098	385,658

Sources: CSES 1997; CSES 2004 (15-month sample)

Figure 5.1 plots the provincial average of distance to the nearest all-weather road and provincial proportion of households with heads working in the secondary sector. The plot shows that there is a negative relationship between the distance to an all-weather road and the proportion of household heads being engaged in a secondary sector of employment. Thus, with closer proximity to roads, one has lower transportation costs and greater ease to access other economic opportunities beyond agriculture and outside of his village.

Figure 5.1 Access to road and employment in the secondary sector

Sources: CSES 2004 (15-month sample)

6. Promoting equity through service delivery

Summary

- Education and good health are important intrinsically (as components in the definition of a good standard of living) and instrumentally, in facilitating economic development. For individuals, households and nations, there are strong connections between (i) human development (or human capital) in the form of knowledge, skills and health; and (ii) economic development, in terms of opportunities, incomes, living standards and growth.
- These causal relationships are two-way: skills and health affect income and consumption, which in turn affect access to education and healthcare. Such mutually-reinforcing ties can work in either poverty-reducing or poverty-creating, poverty-perpetuating directions. A virtuous spiral occurs when healthy, educated individuals are better able to secure good jobs or succeed in profitable self-employment; higher, more stable incomes in turn enable them to live better, save and, in turn, invest in nutrition, healthcare and their children's education.
- Many households, however, become caught in a downward spiral into poverty. Low and variable income and a hand-to-mouth existence make it more likely that the poor will become ill (incurring extra costs, debts, and possible loss of productive assets); and less likely that their children will be able to build up the skills and knowledge they need to diversify into new activities or obtain higher wages in non-agricultural employment.
- Given that skills, knowledge and health are critical determinants of individual opportunities, policies that shape equality or inequality in delivery of basic services (schooling, healthcare, water and sanitation) obviously play a major role in shaping the degree of equality or inequality of economic opportunity within society.
- Despite recent gains, pronounced inequalities still exist in educational opportunities and outcomes. The strong two-way relationship between education and living standards emerges from both the CSES 2004 and qualitative research: this link is critical in explaining how inequality of opportunity, and poverty / wealth outcomes, are now reproduced from one generation to the next.
- Poor households that depend on hard physical labor and lack adequate access to food or clean water are more likely to fall ill and less able to afford early, effective treatment. Ill health in turn creates or reinforces poverty: the poor depend more than most on manual labor, and the illness of an economically active household member implies reduced production and income as well as increased costs when treatment is finally sought. The economic impact of illness includes the distress sale of productive assets (e.g. land) and / or taking on interest-bearing debts.
- It is clearly a disadvantage for poor individuals and families that, because they suffer unnecessary ill health and cannot obtain an education that would enable them to make use of their innate talents, they have limited opportunity to participate in productive and profitable economic activity. However, it is also a problem for the economy as a whole. An uneducated workforce vulnerable to ill health is not productive or competitive. Cambodia is seeking to make the transition from a dualistic economy (in which narrow sub-sectors of manufacturing and services—i.e. garments and tourism—coexist with a large mass of subsistence-focused small farmers) to a diversified, robust, modern economy. To achieve this transformation, it will need to dramatically improve the health and education of the population.

Human development, equity and growth

Human development—taken to mean, broadly, good outcomes in education and health—has both an intrinsic and an instrumental value (Anand and Sen 1994; Sen 1999). Philosophically, education and health are generally seen as desirable as ends in their own right and important components in any definition of a good standard of living. The case is clearest with regard to health—no-one would choose to suffer ill health, disability or early death when these can be avoided—but most people accept that education expands an individual's ability to participate in society and enjoy a broader range of experiences.

Equally, however, good outcomes in education and health are a means to an end: they constitute human capital, improving the contribution of labor to productivity and economic growth. The knowledge and skills that are conferred by education (starting with literacy and numeracy) set a child up for greater or lesser opportunities in the labor market in adulthood. Meanwhile, there is a well-known mutually-reinforcing relationship between poverty and illness which makes the poor more likely to fall ill, less likely to be able to manage the economic consequences of that illness, and more likely to become further impoverished as a result. These interactions between human development and household wealth reproduce from one generation to the next: particularly striking is the influence that the level of education of a mother appears to have on her child's chances of staying healthy, receiving an education, and accessing opportunities. In Cambodia, this link between parents' socio-economic status and the unequal health and education of their children is particularly acute because households account for an unusually high proportion of total spending on health and education.

Defining equity in human development: service delivery and outcomes

In looking at the concept of equity in human development, it helps to distinguish between (i) equity in *access to social services*, in which different groups enjoy the same levels of access, utilization and financing of education and healthcare services; and (ii) equity in *human development outcomes* themselves, defined as the absence of systematic and potentially remediable differences in health or education across population groups (men and women, rich and poor, urban and rural, and so on).

This distinction has implications for policy responses to problems of equity in human development. Whereas equity in outcomes is a multi-factorial issue, the various dimensions of equity in access to services can be addressed through reform and development of service delivery systems.

Health and wealth

Good health status is an important component of development, firstly as an end in its own right. Enjoying good health and avoiding unnecessary pain and suffering is an intrinsic element in defining an individual's quality of life. As such, equity in health, defined as equality of health achievements (and corresponding capabilities and freedoms) is central to concepts of social justice. In many countries, this is seen as sufficient justification for a wide range of social policies designed to ensure equality of access to

essential preventative and curative healthcare (Sen 2002). This view of the intrinsic value of health, and the corresponding obligations of governments to ensure provision of health services to their citizens, is reflected in concepts of rights to health, and in the inclusion of health targets in the MDGs and national development strategies.

However, good health is also critically important in shaping individual and household opportunities and welfare; and, by extension, as a factor enabling or constraining a nation's economic development. A healthy population is more productive than one that suffers from high rates of preventative illness, unnecessary expenditure on low-quality healthcare, and early death. Healthy children learn better and have better future earning potential in adulthood; amongst adults, days lost to disease result in reduced earnings and diversion of scarce income to healthcare. In Cambodia, as in many societies in which there is limited protection against catastrophic out-of-pocket costs to treat illness, people often find themselves in trap in which poor health makes it difficult to escape poverty, and poverty makes it difficult to obtain the diet and services required to improve health.

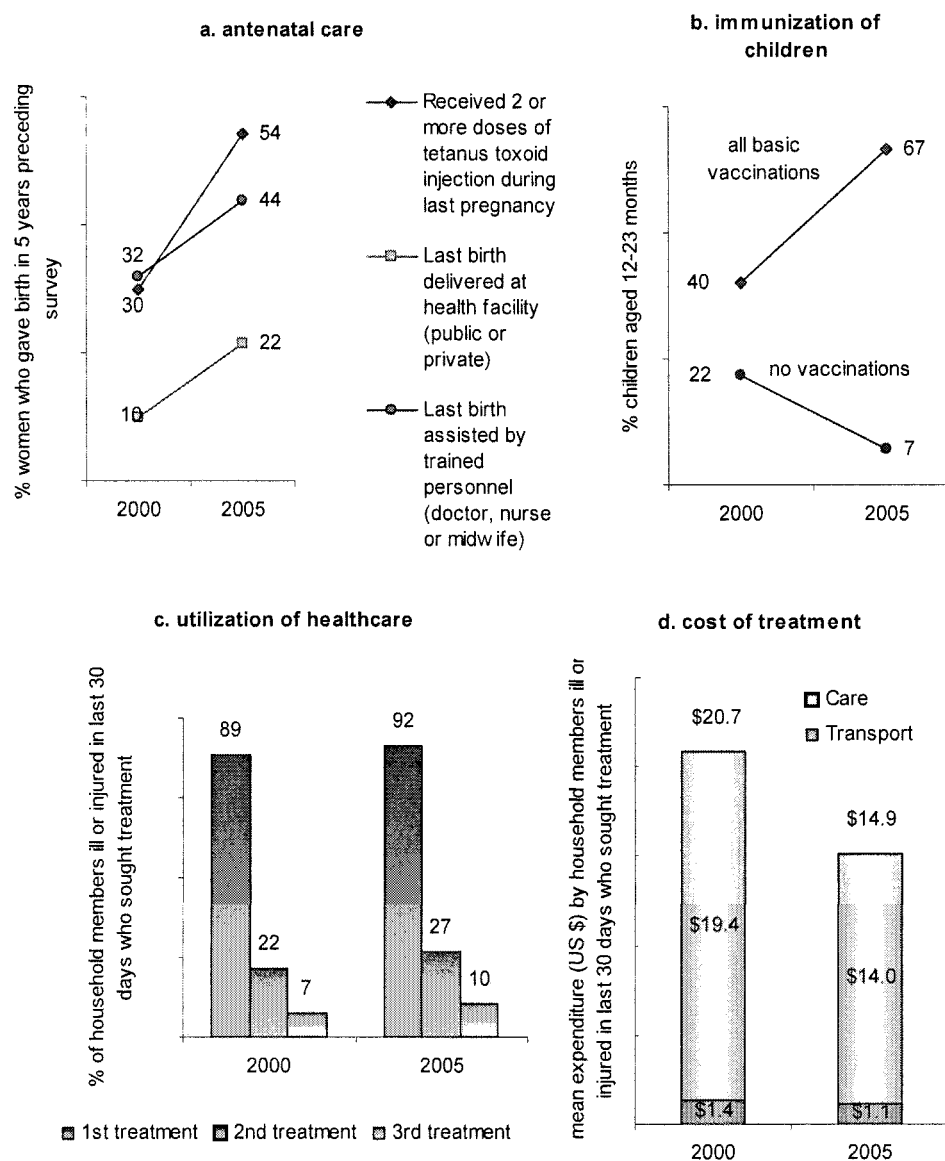
Internationally, for many years the focus of health policy debates has been on improving overall efficiency and achieving aggregate targets. Recently, however, attention is once again returning to health equity as an objective of health system reforms, recognizing that targets couched in terms of improving averages may mask increasing divergence between the outcomes of the rich and poor. This concern with equity reflects increasing recognition of important intr-sectoral links between health, education and monetary (consumption, income or asset) aspects of wellbeing and development. Cambodia has in many ways been a leader in policy experiments (for example, health equity funds and the contracting out of service delivery) that are consciously designed to achieve equity as well as efficiency objectives.

Health outcomes are poor, but improving

The health status of Cambodians remains far below that of their more prosperous neighbors in Thailand, Malaysia, Vietnam or Indonesia. However, when data from the 2005 Cambodia Demographic and Health Survey (CDHS) is compared to data from the 2000 CHDS, it is clear that considerable progress has been made over a five-year span (Figure 6.1). Contact with professional healthcare services during pregnancy and childbirth has expanded dramatically. Far more children now receive the full set of basic vaccinations by the time they are two years old¹. Willingness to seek treatment when ill or injured seems to have risen modestly; and, as importantly, the cost of healthcare (average spend over last 30 days by those seeking treatment) has fallen by a quarter.

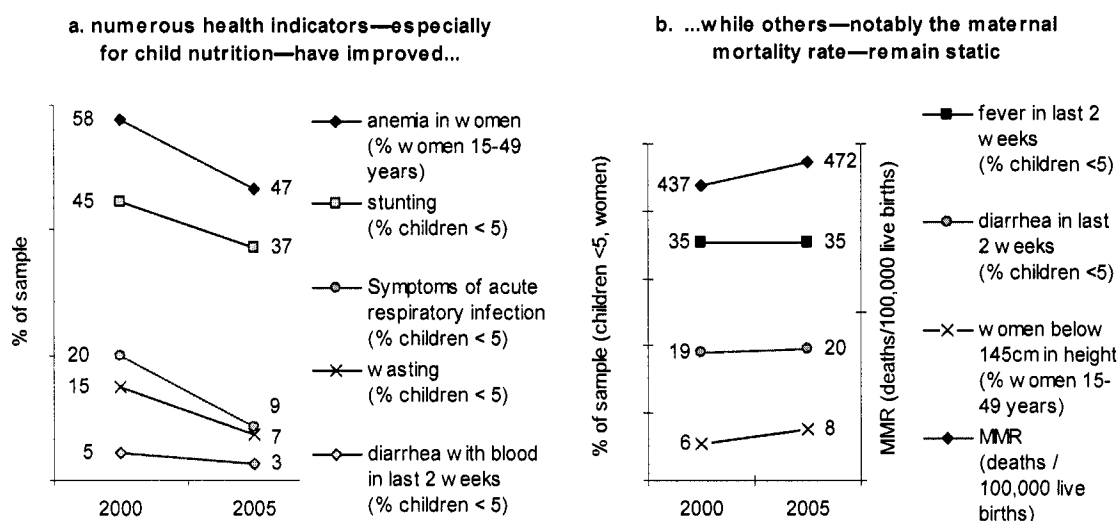
The health practices of households have also improved over the last five years, particularly with regard to early childhood feeding practices (most notably in the importance attached to breastfeeding). Three in four babies aged less than two months are now exclusively breastfed, compared to just one in six in 2000. This has almost certainly contributed to the fall in child malnutrition and rise in child survival. However, malnutrition rates increase once solid and semisolid foods are introduced at six months of age, probably due to poor feeding practices and childhood illnesses.

¹ The diseases covered by basic vaccinations are TB (one BCG injection); diphtheria, whooping cough and tetanus (three PT injections); polio (three injections); and measles.

Figure 6.1 Availability and use of healthcare have both expanded significantly

Source: CDHS 2000, 2005

Reflecting these improvements in service delivery (and in average incomes, which have expanded food security and access to care), a number of health and nutrition indicators have shown rapid gains, including child nutrition (see Box 6.2 for definitions), anemia amongst women, and rates of some of the commoner childhood illnesses (Figure 6.2, Box 6.1).

Figure 6.2 While some health outcomes have improved, others have not

Source: CDHS 2000 (pp. 117, 155, 158, 174, 177, 181); CDHS 2005 (pp. 120, 156, 158, 159, 168, 185)

Box 6.1: Rural healthcare has improved in many respects

Health conditions in this village have improved over the past ten years...The number of patients has decreased and TB is almost forgotten due to vaccination programs and training provided since 1993. Villagers now have access to the health centre in Kampong Preah Commune [2km away] and to private doctors in the village...In 1993, hospitals were very far from the village. (Battambang, MOPS)

People in the village have had health education about sanitation and clean drinking water. Moreover, children under 5 years of age have been immunized against diseases and pregnant women have also been given injections and education about how to take care of their babies. These services are provided by the health centre staff every month, and they have also educated local midwives to send women to hospital immediately when they have problems during delivery. (Female-headed household, Kompong Cham province, PPA)

Source: CDRI 2007a, 2007b, forthcoming.

Box 6.2 Technical note on selected health indicators

Stunting. Below-average height-for-age reflects growth defects due to cumulative effects of long-term chronic malnutrition (inadequate calorie intake) and recurrent and chronic childhood illness.

Wasting. Wasting or markedly below average weight-for-height is a measure of acute current malnutrition, reflecting the inability of a child to obtain adequate nutrition in the period preceding the survey, due to inadequate calories and/or a recent episode of illness resulting in weight loss.

Underweight. Low weight-for-age (WFA) is a composite indicator reflecting both chronic and acute malnutrition: underweight children are stunted, or wasted, or both.

Maternal mortality ratio (MMR). The MMR is derived by dividing age-standardized maternal mortality rates (maternal deaths per woman per year aged 15-49) by the age-standardized general fertility rate (annual births per thousand women aged 15-49). In the CDHS, this rate is calculated for the period 0-6 years before the survey (i.e., for 1999-2005).

Finally, there has been remarkable success in reversing the rise in HIV/AIDS. There is a good consensus that HIV incidence is now at or below one percent. Transmission through high-risk behavior has been tackled with considerable success: a new challenge is to address transmission from husband to wife (now the major mode of transmission) and from mothers to children (responsible for one third of new infections). Cambodia has also achieved considerable success with ARV treatment, and has committed to expanding this provision, including to HIV-positive pregnant women.

Other health outcomes, however, remain stubbornly bad (Figure 6.2 above). Rates of fever and diarrhea amongst children under five years have not changed; the proportion of women under 145 cm tall (an indicator of poor nutrition during childhood and adolescence, and a risk factor in giving birth) appears to have gone up.

Most notably, there appears to have been no improvement in the maternal mortality ratio (MMR)². This is out of line with improvements in other indices (e.g. falling fertility; rising proportions of deliveries that occur in health facilities or with the help of trained personnel; and the increase in antenatal visits), all of which imply that maternal deaths *should* be declining. This disjuncture may be partly due to the limits of the measure. As the MMR averages results over the preceding seven years, it is not very sensitive to change: it takes several years of safer births to shift the MMR.

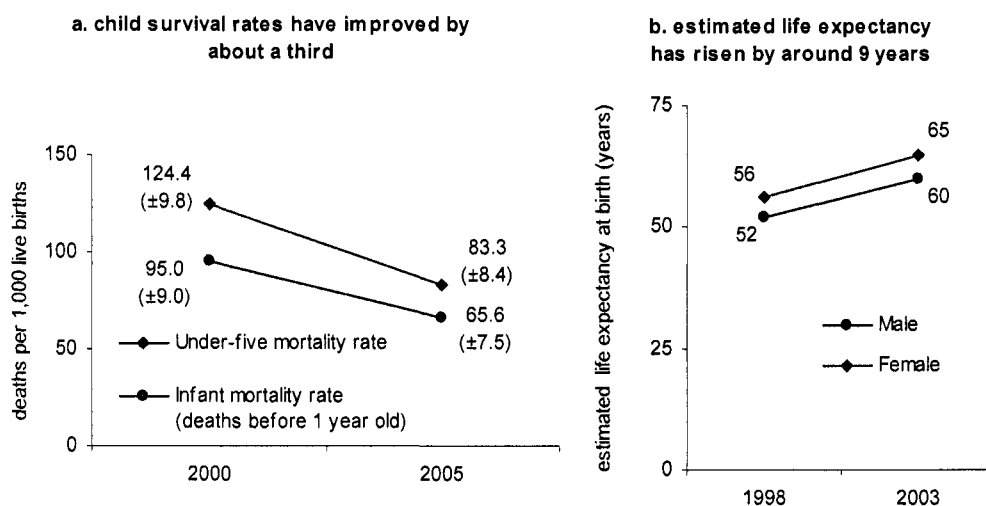
Nonetheless, it seems safe to say that, at the very least, MMR has not registered the kind of improvement seen in other indicators, and that this remains a problem and priority for the Ministry of Health. The lack of change seen to date is partly because achieving safe pregnancy and childbirth depends, to a greater extent than is the case for other aggregate health indicators, on the quality dimension of health services. To reduce the MMR significantly requires that complications are appropriately diagnosed and treated; which, in turn, depends on staff skills, diagnostic tools and treatment possibilities, and a properly functioning referral system.

Dramatic improvement *has* however occurred in other aspects of mortality. Since 2000, infant mortality rates (IMR) and under-five mortality rates (U5MR) have fallen by about a third. Although the methodology is problematic given the large gaps in the demographic data, careful analysis of the 2004 Cambodia Inter-Censal Population Survey (CIPS) suggests that life expectancy at birth has risen dramatically (Figure 6.3).

However, there are sizeable inequalities in health care and outcomes

Within the overall picture of low-but-improving health outcomes, there exist very substantial differences between different groups in Cambodian society in terms of access to services (water, sanitation and health care) and resulting health status. Individuals who are poor or born of mothers with little or no education are far more likely to be ill, and to die before their fifth birthday. There are also pronounced geographical differences in the patterns of illness and death, not only between the rural and urban populations, but also between Provinces.

² The slight deterioration in MMR—from 437 to 472 deaths per 100,000 live births—is not statistically significant: the margin of error is quite large (± 134 in 2005).

Figure 6.3 Children born now are more likely to live to adulthood and middle age

Source: CDHS 2000 and 2005; CIPS 2005.

Geographical inequalities remain considerable

Differences in health performance between urban and rural populations, and between Provinces, remain large, particularly for reproductive health (Table 6.1). Above- and below-average provincial health performance recorded in the CDHS 2005 correlate fairly well if not perfectly with living standards and proportion of the population living over the poverty line (as measured in the CSES 2004). Phnom Penh, with a poverty headcount far below the national average and a much greater density of both public and private healthcare facilities, shows clearly superior performance on almost all indicators. The coastal provinces and municipalities (Kompong Som, Kampot and Kep), however, do rather less well than might be expected for their (fairly good) poverty status, perhaps because of Koh Kong's weak spatial integration with the rest of Cambodia.

There is some variation between health status and living standards at the bottom end of the ranking, too. Amongst the provinces for which statistically significant CSES 2004 poverty estimates are available, the poorest (Kompong Speu) has, as would be expected, the worst outcomes in terms of child survival rates, female anemia, and babies delivered outside a facility or without trained assistance³. However, the third-poorest province—Siem Reap—registers rates of health-seeking behavior, unmet need for family planning, vaccination, and child malnutrition significantly worse than those in Kompong Speu. Poor female educational status may be part of the explanation for Siem Reap's worse-than-expected performance.

³ The worst health outcomes are found in the upland north-eastern provinces (Mondulkiri and Ratanakiri), where terrain and low population density result in poor physical access, exacerbated by low education and language barriers for the indigenous ethnic minority groups here. These provinces are known to be extremely poor but the absolute numbers are very small, making it impossible to produce statistically reliable poverty estimates.

Table 6.1 Health outcomes in rich provinces and municipalities are often twice as good as those in poor areas**a. use of services and child health**

Province / Municipality	Health service utilization**	Child health			
		IMR	U5MR	Vaccination coverage ¹	stunting (moderate or severe)
Phnom Penh (richest)	96	42	52	81	27
Kandal (second richest)	94	85	101	79	37
Sihanoukville / Koh Kong (third richest)*	95	88	104	65	53
Siem Reap (third poorest)	82	67	94	43	73
Kompong Thom (second poorest)	87	87	106	55	53
Kompong Speu (poorest)	90	107	122	81	43
Mondolkiri / Rattankiri	76	122	165	35	84
Rural	91	92	111	66	52
Urban	94	65	76	69	40
Total	92	66	83	67	50
Ratio, Phnom Penh (richest) to Kompong Speu (poorest)	1.1	0.4	0.4	1.0	0.6

Notes: *CSES aggregates Sihanoukville, Kep and Koh Kong; CDHS aggregates Sihanoukville and Koh Kong, linking Kep with Kampot
 ** % of individuals ill or injured in last 30 days who sought treatment
¹ % of children 12-23 months with all basic childhood vaccinations

b. female nutritional status and reproductive health

Province / Municipality	Female malnutrition		Reproductive health		
	anemia in women	unmet need for family planning	births at a facility	ANC from trained staff ["]	delivery assisted by trained staff ["]
Phnom Penh (richest)	29	16	78	85	86
Kandal (second richest)	46	23	37	78	74
Sihanoukville / Koh Kong (third richest)*	46	20	29	58	57
Siem Reap (third poorest)	56	30	20	69	29
Kompong Thom (second poorest)	57	19	9	59	25
Kompong Speu (poorest)	58	24	9	59	23
Mondolkiri / Rattankiri	43	29	9	28	14
Rural	48	26	17	68	39
Urban	38	22	50	79	70
Total	47	25	22	69	44
Ratio, Phnom Penh to Kompong Speu	0.5	0.7	8.7	1.4	3.8

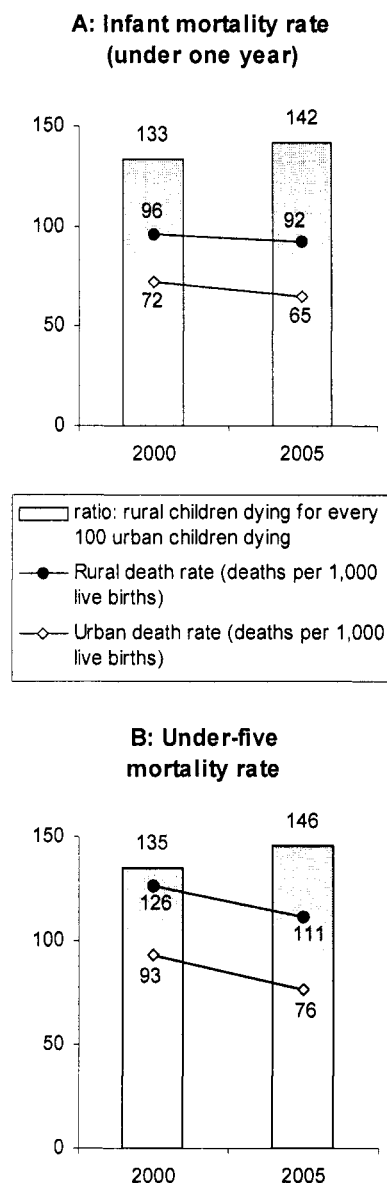
Notes: *CSES aggregates Sihanoukville, Kep and Koh Kong; CDHS aggregates Sihanoukville and Koh Kong, linking Kep with Kampot
["] doctor, nurse or midwife

Source: CDHS 2005; province wealth definitions from CSES 2004, analyzed in Knowles 2005a p. 41

...but most are closing over time

In most key measures, comparison of the 2000 and 2005 CDHS surveys suggests that geographical inequalities in health outcomes have become less pronounced over time. This finding is interesting as a proxy for trends in wealth-based health inequalities: as it is not possible to disaggregate trends by wealth quintile (as this disaggregation was not

Figure 6.4 Faster gains from a better base in urban areas are widening existing inequalities



Source: CDHS 2000 p. 125; CDHS 2005 p. 126

poor health. The poor are more likely than the rich to suffer injury or illness for a variety of reasons, including poor nutrition; inadequate access to clean water and sanitation;

applied in the 2000 CDHS), some sense of trends in wealth-based inequalities can be obtained from comparison of spatial data. Thus for example, the gap between the best and worst performing provinces in terms of child survival has narrowed as poorer, remoter provinces have caught up with the gains made earlier in urban areas and more accessible lowland parts of the countryside: Mondolkiri and Rattanakiri posted 40 percent and 39 percent declines in infant and child mortality respectively, while indicators held steady in Phnom Penh. While Pursat experienced the second highest rate of all early childhood mortality indicators in 2000, the CDHS 2005 shows that, although still relatively high, infant and under-five mortality rates have fallen markedly (by more than a third)⁴. Kompong Thom, where infant and under-five mortality both rose between 2000 and 2005 (from 65 to 87 and from 99 to 106 respectively), was perhaps a case of health indicators coming into line with consumption poverty (Kompong Thom is the second poorest of those provinces for which estimates are available).

The picture of narrowing inequalities is not, however, universal. Inequalities in child survival between the rural and urban populations are widening as improvements occur in both, but occur more rapidly—and starting from a much better initial level—in the urban centers (Figure 6.4). The very poor Kompong Speu and Preah Vihear / Stung Treng experienced an increase in under-five deaths (from 90 to 122 and from 120 to 146).

Inequalities in wealth give rise to inequalities in health

The poor are more likely fall ill

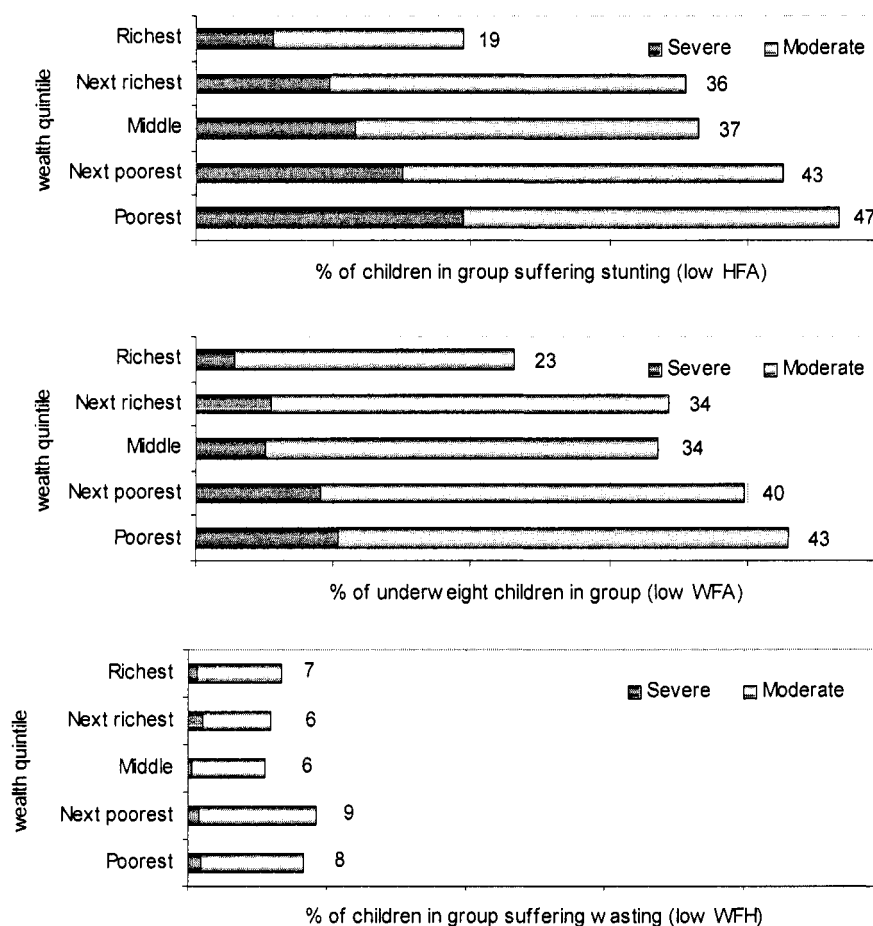
Central to the poverty trap is a causal relationship between consumption poverty and

⁴ Changes in the way provinces were aggregated between CDHS 2000 and CDHS 2005 may give an under-estimate of 2005 ratios.

hazardous occupations; low rates of contact with preventative health services; and, in some cases, lesser knowledge about good health practice.

To begin with, the poor consume less food than other groups. In 2004, 20 percent of the Cambodian population lived below the food poverty line: by definition, this bottom quintile consumed less than the daily 2,100 calories per capita taken to define the minimum intake required for healthy nutrition. This shows up in the rates of child malnutrition. Almost half of all children from the poorest quintile, and 43 percent of children from the second-poorest quintile, showed signs of moderate or severe chronic malnutrition in the form of stunting (Figure 6.5). Poverty significantly increases the risk of malnutrition; and malnutrition significantly increases vulnerability to illness⁵.

Figure 6.5: Child malnutrition amongst the poor is roughly twice that of the rich

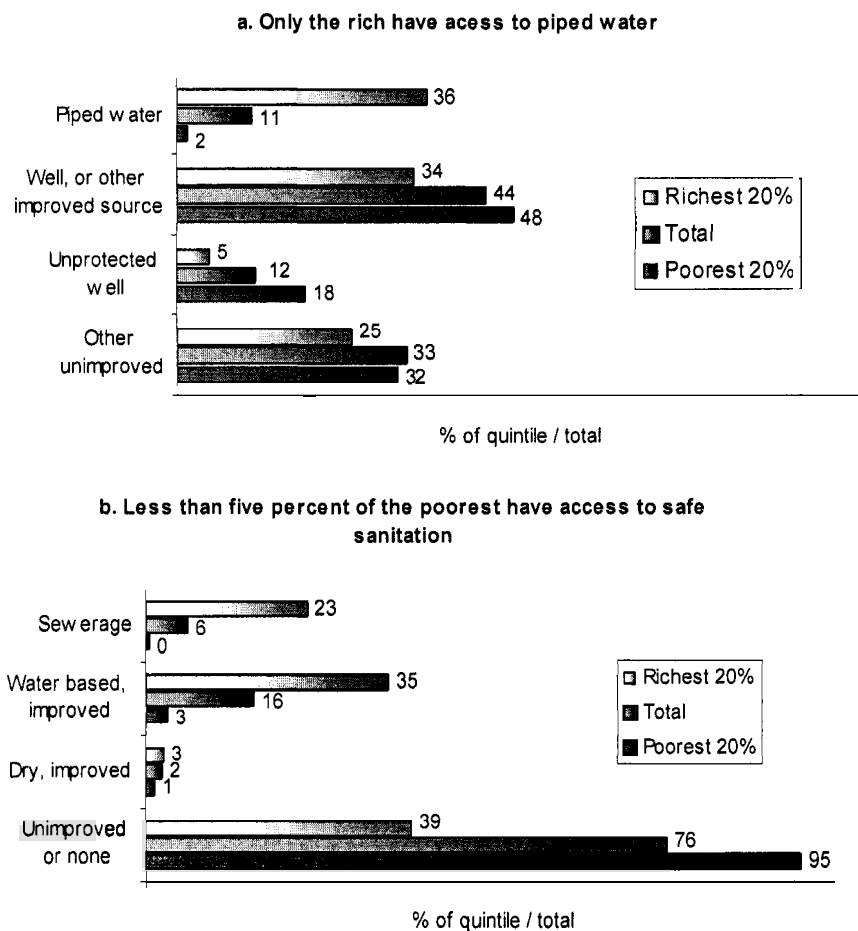


Source: CDHS 2005 p. 168

⁵ CDHS 2005 suggests a stronger correlation between living standards and malnutrition than did the 2004 CSES (World Bank 2006 pp. 113-115). As there are reasons to believe that the CDHS recorded anthropometric data more accurately, these are used in this report.

However, anthropometric measures of malnutrition such as stunting and wasting are not only an outcome of inadequate calorie intake that makes children vulnerable to illness: they are also themselves a reflection of the effects of chronic or recurrent childhood illnesses such as diarrhea. To a degree, then, malnutrition rates among the children of poor families reflect not only that poor children suffer from inadequate quantity and quality of food, but also the fact that they are much less likely to have access to clean water and sanitation (Figure 6.6).

Figure 6.6: The poor are at far greater risk of water-related disease

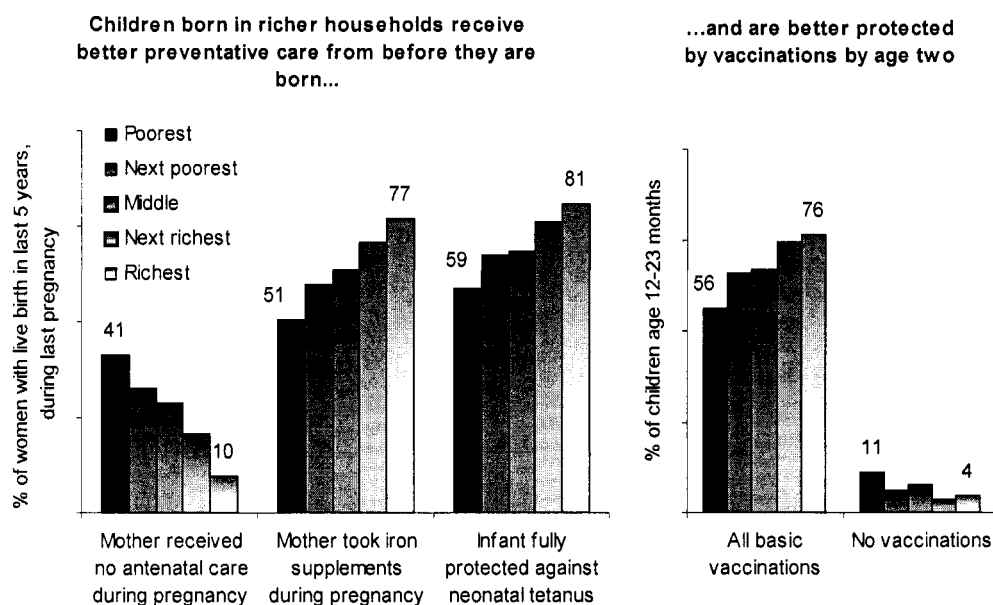


Unclean water and unsafe disposal of excrement makes children (and adults) much more vulnerable to disease, most notably water-borne illnesses (infectious diarrhea, intestinal parasites and hepatitis) but also respiratory and skin infections. (Extending the perspective slightly, the lack of “appropriate” water supply also tends to increase the risk of malaria and dengue: water stored in open wells or unsealed jars increases the breeding grounds for mosquitoes.)

Occupational differences between poor and non-poor also have health implications. The poor work hard in physical jobs involving greater risk of accidents and exposure to certain forms of disease. A significant proportion of the rural poor work in peripheral, forested areas where the risk of malaria is endemic (see Box 6.5 below).

The poor have less contact with preventative health services that might protect them against common illnesses. The best measure of this is probably that of antenatal care and vaccination rates amongst children (Figure 6.7). Note that these particular forms of preventative healthcare are in fact likely to underestimate access to other health services given that these services are provided free, cost is not likely to be a major barrier, but remoteness is.

Figure 6.7 Children from rich families are significantly more likely to be covered by preventative health services



Source: CDHS 2005.

Finally, the poor are distinguished from the rich in certain aspects of knowledge, attitudes and behavior with regard to health. On some issues—for example, regarding the cause and prevention of HIV/AIDS transmission—the differences are relatively small (and, when it comes to behavior, wealthier males are actually *more* likely to engage in commercial sex). Broadly speaking, however, wealthier and more educated groups in Cambodian society have (as would be expected) better knowledge of the causes of ill-health, and are more likely to reflect this knowledge in their behavior, than are the less educated poor. One key behavioral factor predisposing poor families to illness relates to household hygiene practices (Figure 6.8). Whereas *epidemics* of diarrheal diseases are clearly related to unclean drinking water, the transmission route of *endemic* diarrheal diseases (particularly in poor communities) may depend heavily on domestic hygiene, and particularly washing of food and hands (see Box 6.3).

Box 6.3 Sanitation and hygiene may be as important as drinking water quality

The second edition of *Disease Control Priorities in Developing Countries* (2006) notes five types of evidence to support the view that most endemic diarrheal disease is transmitted by water-washed routes and is not waterborne:

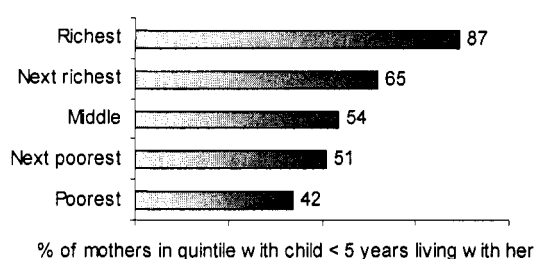
- *Negative health impact studies.* Esrey and Habicht (1985) and Esrey *et al* (1991) cite studies in which better water quality has not had a significant effect on diarrheal disease incidence.
- *Food microbiology.* Studies of the microbiology of foods in developing countries – particularly the weaning foods fed to children in the age group most susceptible to diarrheal disease – have shown such food to be far more heavily contaminated with fecal bacteria than is drinking water (Lanata 2003), even when the water is stored in open pots.
- *Seasonality of diarrhea.* In countries with a seasonal range in temperature, bacterial diarrheas peak in the warm season (and viral diarrheas in winter). This suggests that bacterial pathogens show environmental regrowth at some stage in their transmission route, implying that they have a nutritional substrate. Water is thus a less likely vehicle than food.
- *Fly-control studies.* Trials in rural Asia and Africa have shown that fly control can reduce diarrheal disease incidence by 23 percent (Chavasse and others 1999).
- *Hand-washing studies.* A recent review of the effect of handwashing with soap has shown that this simple measure is associated with a reduction of 43 percent in diarrheal disease and 48 percent in diarrheas with the more life-threatening etiologies (Curtis and Cairncross 2003).

These five types of evidence suggest that it is not drinking water quality but domestic hygiene—particularly washing food and hands—that is the principal determinant of endemic diarrheal disease rates. Tackling these channels of disease transmission requires (i) access to a sufficient *quantity* of water; (ii) access to a toilet or latrine; and (iii) good household hygiene behavior, influenced by health education.

Source: Cairncross and Valdmanis (2006) *Water Supply, Sanitation and Hygiene Promotion* pp. 777-778 in Jamison *et al* (2006) *Disease control priorities in developing countries: Second edition*

Figure 6.8: The rich practice better household hygiene than the poor

- % of households practicing safe (contained) disposal of children's stools



Notes: - safe ("contained") disposal of children's stools is taken to encompass the answers "Child used toilet or latrine"; "Put/rinsed into toilet or latrine"; or "Buried".

- Wealth quintiles based on factor analysis of asset data

Source: CDHS 2005 p. 164.

There is also a significant difference with regard to smoking. The CSES 2004 found that smoking is more prevalent in rural areas; and lower in urban areas, among richer, more educated groups. (It is also an overwhelmingly male habit: 42 percent of men were daily smokers compared to 4 percent numbers of women.) As demographic and epidemiologic transition proceeds in Cambodia, smoking-related non-communicable diseases (NCDs) are likely to increase among the poor (World Bank 2006). Significantly, the proportion of household consumption diverted

for tobacco consumption is twice as high in the poorest 20 percent of households as the richest 20 percent. Amongst the poorest quintile, the amount spent on tobacco was higher than on health care (8.7 percent compared to 6.6 percent).

All of these factors associated with poverty—food insecurity and malnutrition, livelihoods which entail higher risk of accident or injury, significantly lower access to clean water and safe sanitation, and lack of knowledge about the health risks of smoking or unhygienic sanitary practices—make it much more likely that the poor will fall ill and need medical treatment. Proving this association with simple questions about the incidence of ill-health, however, is harder than might initially be assumed: analyzing the answers to such questions, as often used in large multi-purpose household surveys, often implies that the rich suffer worse health than the poor (Box 6.4).

Box 6.4 Poverty and illness in the CSES

Proving a statistical association between income/consumption poverty and poor health on the basis of self-reported health status is often difficult. In most low-income countries, household surveys find, counter-intuitively, that richer and/or better-educated individuals have *more* health problems than do poorer/less educated individuals. This pattern seems to be borne out in Cambodia: although slightly more rich than poor report their long-term health as good for their age (which is to be expected), the rich also report more recent illness (20 percent of the richest quintile report a health problem over the four weeks preceding the survey, compared to 15 percent of the poorest quintile). This over-reporting of illness-in-general by richer groups is usually explained by (i) the likelihood that the rich and better educated are more likely to identify poor health as a problem, rather than accept it as an inevitable feature of their daily life; and (ii) the possibility that more frequent contact with health providers (76 obtained treatment for a health problem in the last four weeks, compared to 56 percent of the poorest) make rich and/or educated individuals more aware of health problems (Strauss and Thomas 1998).

Source: Knowles 2005b pp. 83-4.

That the rich suffer more illness than the poor is hard to believe. Firstly, there are strong *a priori* reasons to assume that the poor are more vulnerable to illness, for all the reasons given above (poorer access to clean water and sanitation, lower rates of vaccination, malnutrition, etc.).

Secondly, accounts and explanations from qualitative research strongly support the logical case that the poor, not the rich, are more vulnerable to disease and accidents (Box 6.5). To a significant degree, the explanations provided match those of researchers and health specialists: the poor experience worse health because they do not eat enough

Box 6.5 Rural Cambodians perceive, and have explanations for, worse health outcomes amongst poor households

The PPA in particular found that some common illness (notably malaria, dengue and typhoid) are closely associated with poverty and the poor):

The rich are rarely sick because they have enough food to eat and stay in good health... they complete a lot of non-physical tasks and send their children to school for better education.. (female youth, Dang Kda, Kampong Thom, MOPS)

Unlike the rich, the poor work hard in hazardous and tough environments, do not have enough food to eat and so frequently fall sick. (FGG, Krasaing, Battambang: MOPS)

All the poor and destitute villagers get malaria because they are bitten by daikol mosquitoes when they go to the forest to find firewood and wild fruit or when they go fishing. They also drink unboiled water which flows down from the mountain. (Mixed FGD in Khla Kropeau, Pursat, PPA)

Source: CDRI 2007a, 2007b (forthcoming)

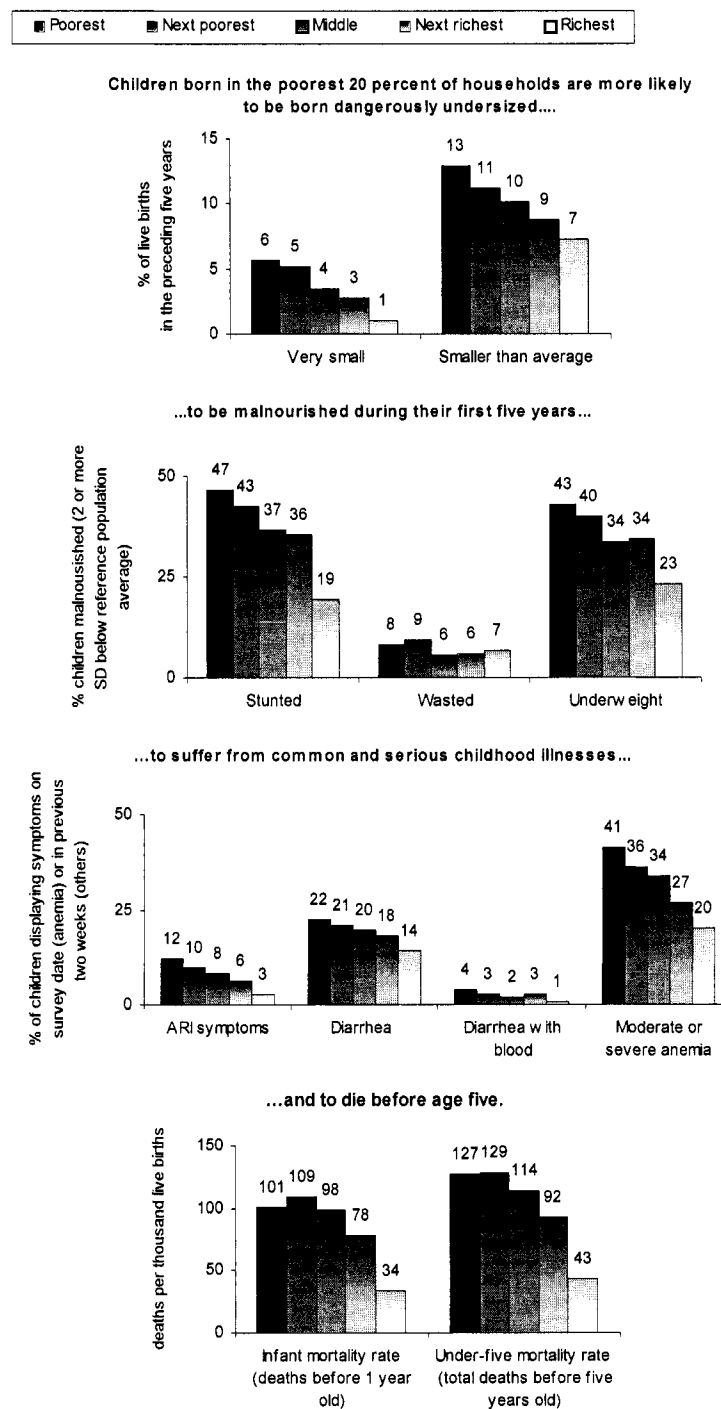
and because they work at physically strenuous tasks in locations characterized by endemic disease risk.

Finally, examining CDHS data on the reporting of symptoms of common childhood ailments such as diarrhea and acute respiratory infection and recordable health outcomes shows that, as expected, the poor suffer more than the rich (Figure 6.9).

To begin with, children born into the bottom two quintiles are somewhat more likely to be born underweight (less than 2.5 kg) and considerably more likely to be reported as undersized. Small and/or underweight status at birth is a major determinant of infant and child health and mortality: in the CDHS, children who were reported as having been “very small” or “smaller than average” were three times as likely to die within the first month, and 70 percent more likely to die before their first birthday (NIPH *et al* 2006 p. 127).

Amongst children in the bottom two wealth quintiles, the combined

Figure 6.9: From birth onwards, poor children suffer significantly worse health outcomes—including survival rates



Source: CDHS 2005 pp. 126, 152, 156, 158, 159, 167, 179

effects of higher incidence of low weight or size at birth, less good initial breastfeeding, less good infant and young child feeding practices, poorer household water supply and sanitation and lower rates of immunization results in much higher incidence of malnutrition and childhood illnesses, relative to the children of rich households (NIPH *et al* 2006 pp. 169-70; 154; 176-7; Rosenboom *et al* p. 14). Children from the poorest quintile are 60 percent more likely to have diarrhea; four times more likely to show symptoms of acute respiratory infection (ARI); and over five times as likely to suffer from bloody diarrhea (a symptom of potentially very serious intestinal problems). In terms of nutrition, the children of the poorest quintile are 2.4 times more likely to suffer from chronic malnutrition (stunted height); and twice as likely to have moderate or severe anemia (iron deficiency).

Critically, mal-nutrition and illness reinforce each other. Inadequate quantity and quality of food intake makes a child more vulnerable to illnesses, many of which (e.g. diarrheal diseases or TB) in turn impede nutrition uptake, resulting in more pronounced malnutrition, and increased susceptibility to disease. The net outcome is, not surprisingly, much higher death rates amongst the children of poor parents compared to those whose parents are rich. This relationship between parental wealth and the prospects of a baby surviving are very pronounced: compared to a child born into the richest quintile, a child born into the lowest quintile is three times as likely to die before either age one or age five.

If poverty-induced illness and malnutrition interact to perpetuate each other within the life of an individual child, the interaction of mother's living standards and health, weight and size of children at birth, vulnerability to childhood disease, and childhood malnutrition explain how living standards and physical health interact to transmit ill-health (and poverty) from one generation to the next. As noted above, children with low birthweights are more likely to suffer childhood diseases, which further stunt growth; when small, unhealthy girls grow up into under-sized mothers, they are more likely to give birth to low birth-weight children, perpetuating the cycle. For this reason it often takes several generations of improved nutrition and healthcare to achieve significant improvement in birthweights and subsequent growth from childhood into adulthood.

When ill, the poor are less able—and thus less likely—to obtain treatment

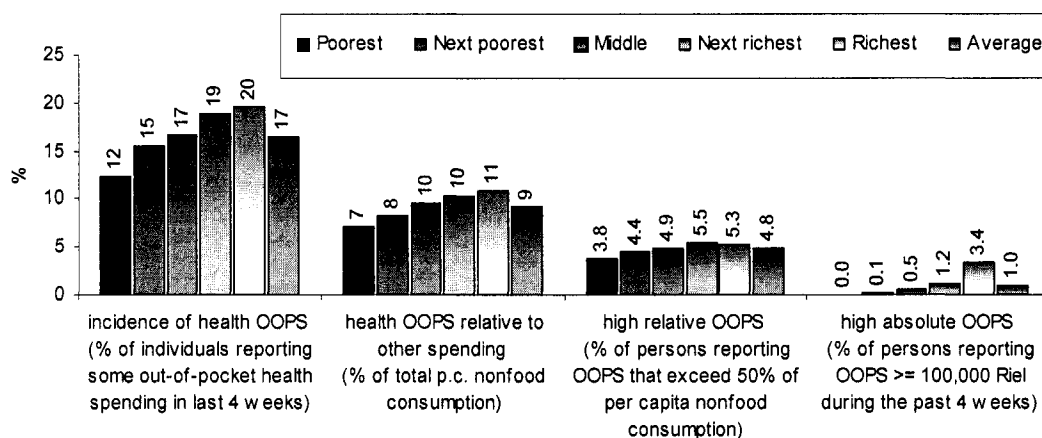
If the poor are more likely to fall ill, they are also less able to obtain access to quality treatment. The main reason is the most obvious: the poor are less able to afford the costs of medical treatment. However, other factors, including distance from facilities and indirect costs of seeking treatment (i.e. the opportunity costs for the time of the patient and carers) also militate against the poor obtaining access to good-quality curative services.

Public expenditure on health care is not notably pro-poor. The 2006 health sector public expenditure review report concluded that although only 32 percent of total public health expenditures are spent on providing basic health services at health centre (HC) and referral hospital (RH) level. Partially offsetting this bias towards central and tertiary spending, the allocation of the HC and RH budget *does* correlate broadly with geographical distribution of poverty.

More importantly, however, the total level of public financing for health is simply too low. Given this, the impact of the pro-poor pattern in the allocation of primary (HC and RH) healthcare in tackling inequities in health and health utilization is not clear. In 2006, the total budget allocation to health was 6.9 percent of planned Government expenditures. Although budget allocations have risen in absolute terms over time, they are still very low (US\$4 per capita per annum in 2006), and have declined somewhat as a share of Government public expenditures in recent years. Poor execution of the health budget has been problematic for many years and has exacerbated difficulties in using public spending to improve access to health for the poor. However, budget execution has recently started to improve. Whereas in 2004 only 83 percent of the operating budget was disbursed by the end of the calendar year, this increased to 91 percent in 2006.

Given the low level of public financing of health services, the cost of health care in Cambodia falls primarily upon the patient, and is relatively expensive. This is true of public health services as well as private care: because the public health service is desperately under-funded, obtaining service requires patients to pay high fees at the point of service. Two recent large-scale national sample surveys—namely the 2004 CSES and the 2005 CDHS—both measured out-of-pocket spending (OOPS) on health⁶. The CSES estimates that out-of-pocket spending for health care amount to US\$15.48 per capita per annum; the CDHS comes to a higher estimate (US\$ 24.9). This might be explained by differences in how the surveys collected data; and / or by an increase in health utilization driven by falling unit costs (see Figure 6.1d above).

Figure 6.10 Frequency and size of out-of-pocket spending on health, 2004



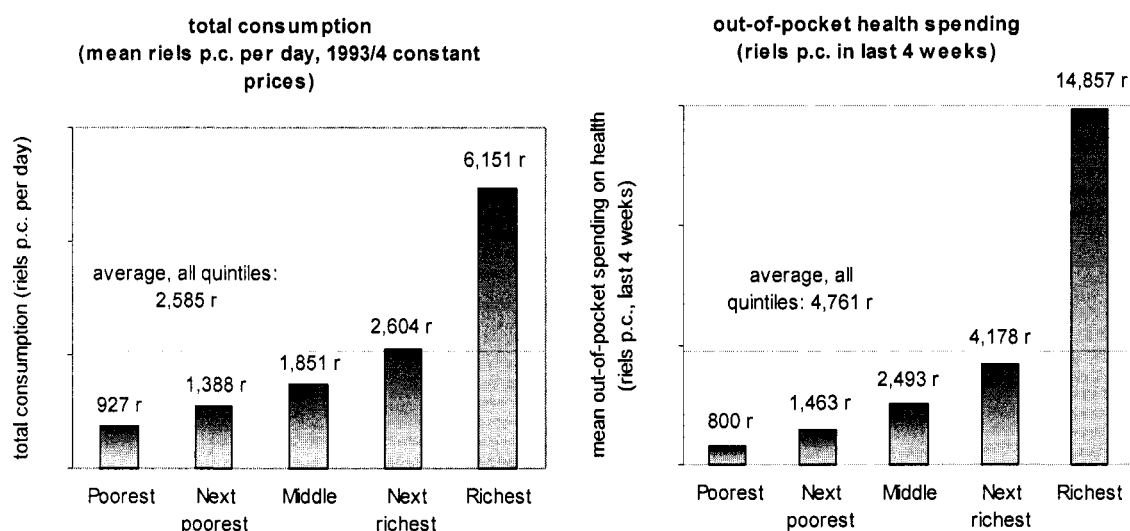
Source: CSES 2004 analyzed by Knowles 2005.

⁶ At present, disaggregation of health spending by wealth is only possible using the CSES dataset. Although a number of indicators from the CDHS *have* been broken down by wealth quintile (defined in this case by an asset index), this has not yet been done for household spending on health. As such, investigation of differences in health spending by wealth quintiles, and what this might say about the equality of access to health services, will be based on the CSES data. However, for other lines of analysis—e.g. by rural-urban split, or by Province—CDHS data will be used, as it often contains additional valuable detail.

As Figure 6.10 illustrates, about one in five households surveyed in the 2004 CSES had incurred out-of-pocket spending (OOPS) in the four weeks preceding the survey interview. As expected, the incidence of recent spending on health was lower amongst the poorest quintile (12 percent) than the richest (20 percent). Interestingly, the size of out-of-pocket health expenditures by wealthier quintiles (amongst those who reported spending) was higher not only in absolute terms but also relative to their total spending, suggesting that healthcare (i) remains an important priority as households obtain more disposable income and (ii) constitutes a significant expense for all groups.

Indeed, the richest quintile spends a striking amount, in both absolute terms and relative to the spending by other groups (Figure 6.11). Mean OOPS amongst the richest is almost 19 times that of the poorest quintile; over three times the mean for the population as whole; and 3.6 times higher than mean spending amongst the second-richest quintile. To put it in context, however, this sudden jump in average spending between the bottom four quintiles and the top (richest) quintile simply mirrors the distribution of living standards themselves (as measured by total per capita consumption).

Figure 6.11 The richest quintile spends far more on healthcare than do other groups: but this reflects a similar gap in overall living standards



Source: CSES 2004 analyzed in Knowles 2005.

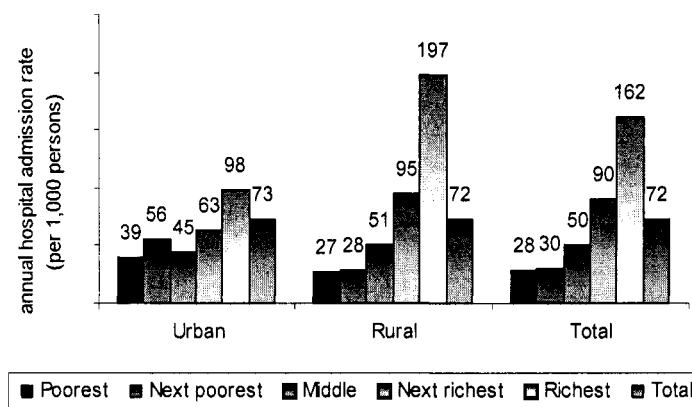
These high point-of-service costs help to explain the 16 percentage point gap between the poor and the rich in seeking treatment for injury or illness (Table 6.2). They also help to explain the dramatic difference in rates of hospitalization (Figure 6.12), which is typically far more expensive than outpatient treatment.

However, these estimates of out-of-pocket spending also suggest that health spending by households, while very high, has fallen by a third over five years: the 2000 DHS reported mean out-of-pocket health expenditure over the last 30 days at US\$24 per capita (NIPH *et al* 2005 p. 37). The fall has come mainly in rural areas (down from US\$20 in

Table 6.2 There is a large gap between the poor and the rich in rates of health service utilization

Quintile	% of person reported ill or in need of health care in last 4 weeks who sought care		
	Urban	Rural	Total
Poorest	59	59	59
Next poorest	63	62	62
Middle	60	64	64
Next richest	70	69	69
Richest	81	72	75
Total	73	65	66

Source: CSES 2004 (15-month sample), analyzed in Knowles 2006 p. 62.

Figure 6.12 There are substantial wealth-based differences in use of hospital treatment

Source: CSES 2004 (15-month sample), analyzed in Knowles 2005 p. 69.

2000 to US\$14 in 2005), while costs in urban areas have fallen only slightly (from US\$26 to \$24: the decline came mainly from a fall in transport costs, with treatment costs static). This implies an encouraging improvement in the affordability of rural health care, probably reflecting the combined effects of improvements in rural roads, improved coverage by and reduced costs of public health facilities⁷, and perhaps also increased number of private providers and better availability of medicine (Box 6.6), reducing average transport costs and exerting some downward competitive pressure on prices.

Box 6.6 Private providers have helped to expand access to modern healthcare

Although not without problems (e.g. over- or mis-prescription of medicines), the spread of private providers has also played an important role in expanding access to modern healthcare.

We can say that health and treatment services have improved over the past ten years... The reason is that we now have medicines available... if we have some money we can buy them. Ten years ago, we had neither medical practitioners nor hospitals. At that time we had to spend our rice or gold in exchange for treatment or medicines...Now we have medical practitioners providing services in the village. These changes happened since the second national election. (FGD amongst those who had moved out of poverty, Krasaing Village, Battambang: MOPS)

Source: CDRI 2007b (forthcoming)

⁷ In 2005, public sector treatment (\$15.5 over last 30 days) was cheaper than private sector (\$18.6): this is a reverse of the situation in 2000 (\$31 and \$29, respectively).

Previously, out-of-pocket spending was estimated to account for 86 percent of total per capita health expenditure: in the light of recent findings, this may have fallen to about 50 percent. This fall in cost—plus rising average household income and per capita consumption—helps explain the rising trend in health utilization: in 2005, 92 percent of those ill or injured over the last 30 days sought treatment, continuing a gradual upward trend (from 86 percent in 1998 and 89 percent in 2000: NIPH *et al* 2006 p. 32).

Financial barriers to the poor are reinforced by the association between poverty and remoteness, which contributes to lower-than average contact rates between the poor and preventative health services, and adds transport costs to the costs of seeking care. Since the mid-1990s, the Government has attempted to ensure geographical equity in the allocation of health services through the Health Coverage Plan (HCP). This attempts to ensure that there is one health centre to serve every 10,000 people; and one Operational District (OD) with a Referral Hospital (RH) for every 100,000 people⁸. Although significant progress has been made towards implementing the HCP, spatial inequalities remain (Table 6.3), in part because of residual difficulties in expanding coverage to low-density remote rural areas; and in part because between-OD differences in rates of natural increase and internal migration have changed the distribution of the population, with the result that some ODs now contain more than 100,000, while others contain less.

Table 6.3 The poor have to travel considerably further to obtain healthcare
- mean distance (km) to nearest health provider, by consumption quintile

Provider	Per capita consumption quintile					Total
	Poorest	Next poorest	Middle	Next richest	Richest	
Public						
Health center	7.6	6.8	7.0	5.8	6.0	6.6
Referral/district hospital	15.9	14.0	12.8	11.8	9.2	12.8
Provincial hospital	41.8	40.3	37.5	34.6	26.0	36.0
National hospital	149.5	129.9	122.7	105.0	87.3	118.9
Private						
Private hospital	93.4	73.5	64.7	56.3	41.6	65.9
Private clinic	17.1	14.1	12.6	11.6	7.6	12.6
Doctor	18.6	15.5	14.5	11.9	7.6	13.6
Nurse	7.6	6.7	5.7	5.2	3.5	5.8
Trained midwife	6.7	6.4	5.7	5.4	3.6	5.6
Dedicated drug shop	14.5	11.9	10.0	8.6	5.3	10.1
Other shop selling drugs	7.4	6.3	5.5	5.0	3.2	5.5
Traditional birth attendant	1.1	1.5	1.8	2.1	3.4	2.0
Kru Khmer	2.4	2.9	2.9	3.4	3.6	3.0
Other traditional healer	4.4	5.7	5.8	7.2	5.5	5.7

Source: CSES 2004 (15-month sample), analyzed in Knowles 2006 p. 71-2.

The most significant form of spatial inequality may now lie at the fine-grained level, beyond (or below) the remit of the HCP, in regard to how near or far households live with regard to their nearest health center. The Ministry of Health Public Expenditure Tracking Survey (PETS) concluded that health centers provided effective services to the 57% of the catchment population living within a 4.5 km radius of a health center. Beyond this, however, utilization rates drop dramatically (World Bank and RGC 2007 forthcoming pp.

⁸ As of 2005, there were 966 health centers and 69 hospitals (MoH 2006 p. 1).

100-102). Given that the poor are more likely to live beyond this 4.5 km watershed, they are less likely to enjoy benefits from services delivered through the centers. The CSES seems to confirm this, finding that the poor are more likely to live in villages where distance rather than the cost of treatment is seen as a key barrier to healthcare (World Bank 2006 pp. 125-6).

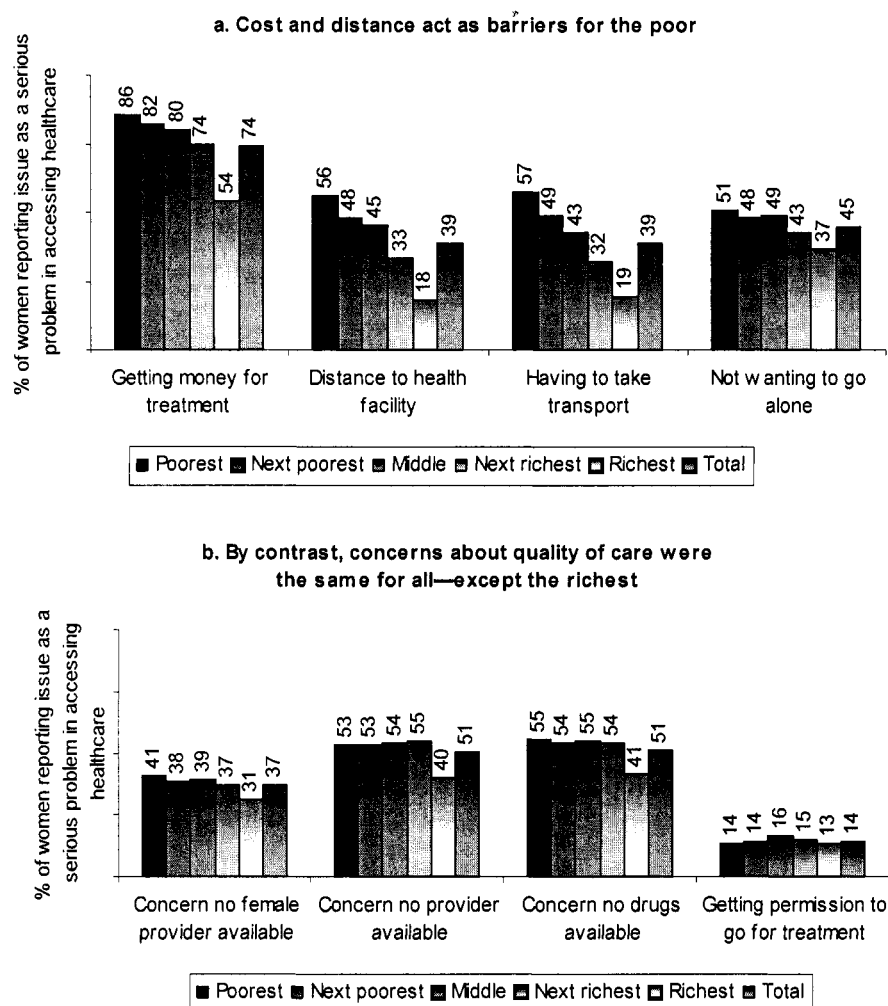
It is hard to obtain an easy measure of *quality* of care, but an effort to cross-match CSES data with data from the MoH database of public health facilities suggests that poor groups in Cambodian society also enjoy considerably more limited quality of public health care provision, as measured by the availability of health professionals and some specialist services (Table 6.4).

Table 6.4 There are notable inequalities in the quality of public healthcare

Quality indicator	Poorest	Richest	Average	Ratio, richest to poorest
Health Center (HC)				
Total staff per facility	8	13	9	1.6
Number of regular staff per facility	6	11	8	1.7
% facilities with at least one medical doctor	5	25	11	5.0
Number of midwives per facility	2	3	2	1.6
Number of beds per facility	4	5	4	1.1
Referral Hospital (RH)				
Total number of staff	106	137	111	1.3
Number of regular staff	85	118	92	1.4
Number of doctors	12	20	14	1.7
Number of midwives	13	18	14	1.4
% hospitals providing endoscopy services	11	42	20	3.7

Source: CSES 2004 (15-month sample, population weighted) and December 2003 database of health facilities compiled by MOH and NIS; analyzed in Knowles 2005 p. 77.

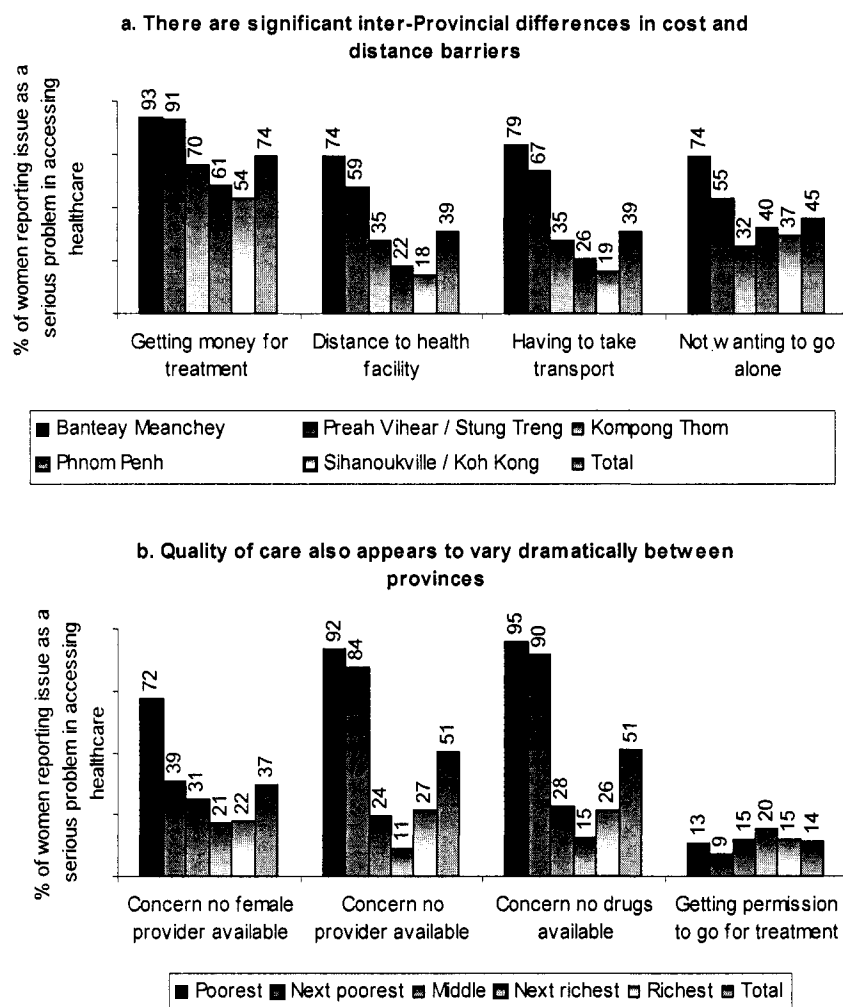
In terms of perceptions, the CDHS confirms that both cost and distance are (i) seen as serious problems by all groups but (ii) seen as particularly severe by the poor. By contrast, there was much less inter-quintile variation in those reporting quality of care issues as a problem: the level of concern about the lack of skilled staff or drugs was similarly high across all wealth groups, with the exception of the richest, who expressed significantly less (though still considerable) concern (Figure 6.13). This probably reflects confidence in their ability to deploy their much higher level of health spending to obtain access to providers and drugs.

Figure 6.13 For the poor, cost and distance are the main barriers to healthcare

Source: CDHS 2005, analyzed in NIPH et al 2006 p. 149.

Strikingly, there are significant variations between Provinces in both cost and distance *and* quality concerns as problems obtaining access to healthcare: Banteay Meanchey, Preah Vihear and Stung Treng all register very poor ratings across all indicators (Figure 6.14).

To summarize: at first sight, it appears that the burden of OOPS is lower among the poor than the rich. However, this is most likely because the poor simply do not use health services: and if they do, they use lower cost and lower quality services. As a result of various barriers to healthcare, the poor either live with illness (reducing their productivity and making full recovery less likely); or seek treatment late, at which stage it is more expensive and less likely to work (Box 6.7).

Figure 6.14 There are pronounced spatial variations in barriers to healthcare

Source: CDHS 2005, analyzed in NIPH et al 2006 p. 149.

Box 6.7: The poor often delay using public services until problems are serious

Distance, expense, and the perception of low-quality care (especially for poorer patients) deter the poor from seeking treatment at a public health facility. Very poor families will seek to live with a minor illness; those with some money to spend will first seek to cure a minor illness with low-cost traditional medicines or medicines bought from a pharmacy. For more serious conditions, those who can afford to tend to turn first to private providers who are seen to offer closer, more convenient, and often better care, and who will often extend treatment on credit (unlike most public facilities). This option is sometimes chosen even by poorer families because private providers are more numerous and closer, so saving on the cost and time of travelling to the facility: average transport cost per treatment for private sector care was \$0.89, compared to \$2.36 for public sector care. Often, it is only when a patient deteriorates to a critical condition that they are taken to a public health centre or referral hospital.

Source: NIPH et al 2006 p. 37, CDRI 2007a, 2007b (forthcoming)

...and less able to absorb the economic impact of illness

If poverty increases the likelihood of falling ill, ill health (and its inadequate treatment) in turn undermines livelihoods and creates or reinforces poverty. Ill health may throw a household into poverty by simultaneously affecting both the expenditure *and* the income sides of the household economy. It is obviously hard for poor households to meet high out-of-pocket health costs with the limited money available to them. However, the poor also depend more than the non-poor on unskilled manual labor to meet daily needs for food production or income: so, on the income side, the illness of an economically active member of the household (which in poor households encompasses not just adults but also older children) implies reduced production and income as well as increased outgoings.

In the absence of instruments which would enable the poor to manage the sudden imbalance of spending and income, illness in turn leads on many occasions to coping strategies that enable the poor to get through the current crisis at the expense of long-term prospects for escaping poverty. In rough order in which they are adopted, these immiserating coping strategies include:

- running down savings, which reduces capacity to later invest in improvements in productivity (e.g. tools or livestock), livelihood diversification, health (e.g. better housing or water and sanitation) or education (children's schooling);
- cutting back on current consumption (including consumption of items needed to sustain or improve productivity in the short or long term, such as food, children's education, or fuel);
- mortgaging or selling (typically at distress prices) productive assets such as land or animals, reducing the long-term potential for poor households to work their way out of poverty;
- pulling children out of school to help out in the home or earning income (thus reducing their employment prospects and earning potential as adults, reducing their odds of escaping and staying out of poverty);
- taking on interest-bearing debts (with future repayments amounting to a non-productive expenditure and a drag on consumption); and / or
- engaging in marginal livelihood or income-earning activities—such as working in dangerous areas or jobs, theft, prostitution, or illegal cross-border migration—that entail high risk of one or more serious consequences for long-term household survival

Box 6.8 Despite formalization of user fees and (limited) introduction of fee exemptions, cost remains a barrier to care

The poor have to bring along with them money to show the nurse or doctor so that they will give us medical treatment; otherwise, they will not take care of us. (FGD among women, Kompong Thkoul village, Pursat province: PPA)

Whoever we go to, we have to pay for the services: without money the patient will just be waiting to die...For instance, they provide us with good care only when we give 20,000-30,000 riels to each nurse or other medical staff. Normally they avoid us after three days when we run out of money. FGD, Kampong Thnoat village, Kampot Province: MOPS.

Source: CDRI 2007a, 2007b (forthcoming)

(due to illegality; risk of illness, injury or death; or moral stigma and resulting erosion of social capital).

Not all of these channels are equally amenable to investigation. However, there are encouraging signs with regard to bullets 1, 3 and 5 in the list above. The use of short-term financing strategies that increase the risk of long-term poverty seems to be declining as average incomes and spending power rise and health costs decline, increasing the affordability of healthcare. The 2000 and 2005 CDHS surveys asked about the source of money used to meet health costs over the last 30 days (Table 6.5). The answers suggest that significantly more are now able to finance health care from immediately available resources without running down savings or assets, or borrowing at interest.

Table 6.5 Increasingly, Cambodians can obtain healthcare without needing to resort to measures which cause them to fall into, or remain in, poverty

Year	Wages / pocket money	Gift from relative / friend	Savings	Borrowed (no interest)	Borrowed (with interest)	Sold assets
2000	16	na	54	9	11	6
2005	45	6	30	6	7	3
Change	+30		-24	-3	-4	-3

Source: NIS *et al* 2000 p. 39; NIPH *et al* 2006 p. 39.

Note: The category "Gift from relative / friend" was introduced in the 2005 survey but not present in 2000. It seems likely that those who would have provided this answer in 2000 would probably have had their answers recorded under "borrowed (no interest)" or "other".

It is likely that higher living standards and more disposable income have played a role in reducing the need for high-risk strategies for household financing of healthcare costs. However, RGC policy of the last few years seems also to have played a part, in correcting a shortcoming of earlier policy that limited access for the poor. The earlier policy involved the introduction of formal user fees for public health services, in an attempt to enhance staff motivation through fee-financed increments on their basic salary; suppress widespread (unpredictable and often high) unofficial fees; improve transparency and quality of care; and improve access to public health services for the majority of the population. Policies to identify and exempt the poor were meant to ensure that user fees did not exclude poor patients. However, a study to evaluate the impact of user fees (Wilkinson *et al* 2001) revealed that user fees in referral and national hospitals *did* in fact act as a barrier to the poor; and paying for health care, particularly secondary or tertiary care, was still a major cause of destitution among the poorest. The study concluded that hospital exemption schemes failed to protect the poor because of an intrinsic conflict between a viable exemption scheme and a viable salary incentive scheme.

To correct this problem, the last 5 years have seen a significant rise in the number of facilities that operate health equity funds (HEF). These funds pay user fees to health care providers on behalf of the poor: in other words, they make it possible to exempt the poor from the user fees normally charged by facilities, without reducing the income received by the facilities, which would create incentives for facilities to avoid treating the poor and/or provide the fee-exempt poor with sub-standard care (Box 6.9). They appear to have had considerable success in reducing financial barriers for the poor, increasing use of services and reducing costs.

Box 6.9 Funding public health and protecting the poor: user fees and equity funds

Health user fee schemes introduced under the framework of the 1996 National Health Financing Charter sought to increase operating finance available to facilities and get rid of widespread informal fees. Although successful in many respects, they were found to act as a barrier to the poor. Innovative health equity funds appear to have had considerable success in addressing this problem. Under these arrangements, facilities are compensated from the fund for providing fee exemptions to poor patients. These schemes have typically involved contracts at the Operational District (OD) level between an INGO or donor, who provides the fund, and an NGO or community organization which manages it, identifying poor patients according to agreed criteria (Conway and Crossland 2002) and reimbursing the hospital management for the fees waived in treating these individuals. As of January 2006 22 HEF projects were in operation, covering 21 of the country's 76 ODs, falling in 14 of the 24 provinces and municipalities.

Evaluations suggest considerable positive impact. A review of the Soknikum OD in Siem Reap found that the HEF (which compensated patients for travel costs as well as paying fee exemptions) effectively removed financial constraints to treatment for the poor, increased admissions, was cost-effective, displayed minimal leakage to the non-poor, and contributed to poverty reduction (Hardeman et al 2001 and 2004, cited in Annear, Wilkinson, Bigdeli and Lo 2006). Evidence from Kirivong OD in Takeo suggests that HEFs can change health-seeking behavior, encouraging the poor to seek treatment at public health facilities rather than private practitioners (which provide services which are often either poor quality and / or expensive). A recent study on improving access to health care for the poor concluded that the incidence of health related debt was 3.4 times less in a squatter community with an Equity Fund than in a community without.

Several issues remain. Maintaining the purchaser-provider split (essential to the HEF approach) and pre-identifying the poor through some form of census of the catchment population (which is preferable to attempting to identify the poor when they present for treatment) result in administrative costs accounting for a significant proportion of the total fund budget. Overall, however, HEFs appear to protect the poor at relatively low cost. Total monthly subsidies to beneficiaries amount to US\$200-300 at the health center level, and US\$ 3-6,000 at referral hospitals. A pre-identification census exercise may cost around US\$7,500. Reduced overheads may be possible if pre-identification of the poor occurs as part of a shared, multi-sectoral targeting exercise (currently at the pilot stage).

The number of HEFs is set to rise to 31 schemes in 29 ODs in 16 provinces, at which point they will cover about one-third of the Cambodian population. Under the 2003 RGC Strategic Framework for Equity Funds and the National Equity Fund Implementation and Monitoring Framework, MoH will take a more central role in setting HEF policy: to date, equity fund pilots have shown considerable variation, being implemented by a wide range of donor, INGOs, local NGOs and other administrators. Over time, it is hoped to link equity funds to community-based insurance schemes, which serve primarily to prevent the not-so-poor from falling into poverty under the impact of health costs.

Sources: Annear, Wilkinson, Men and van Pelt 2006a, b; Annear, Wilkinson, Bigdeli and Lo 2006; <http://www.sky-cambodia.org/>

Despite progress, the healthcare cost-poverty link is still clearly strong: a third of health episodes will lead to reduced savings or borrowing on interest. There is also a significant urban-rural gap in households' ability to meet health expenditures. While 61 percent of urban respondents were able to meet health costs from wages or "pocket money", this figure fell to 43 percent for those living in the countryside.

Conversely, proportionately more rural households had to dip into savings (32 percent compared to 21 percent in urban areas), borrow with interest (8 percent compared to 5 percent) or sell assets (3 percent compared to 1 percent) in order to cover health costs.

Although weakening, the link between poverty-exacerbated ill health, high healthcare costs, and indebtedness remain significant. The frequency with which illness leads to permanent debt and/or sale of assets is confirmed in qualitative research (Box 6.10).

The 2004 CSES found that illness and injury rank fourth amongst the most common reasons for taking out a loan (13 percent of all loans). The burden of health-related indebtedness is, unsurprisingly, higher among the poor (accounting for 11 percent of the value of all outstanding loans, compared to 6.5 percent amongst the richest). In a recent study, illness was the number one reason for land sales (see Box 6.11)⁹.

Reproductive and maternal healthcare is improving but outcomes remain poor

Reproductive and maternal health issues have been RGC priorities for some time: targets

Box 6.10 Healthcare-induced debt and land loss remain serious problems

Sometimes when we are seriously sick, we have to take out a loan at very high interest. If we borrow 10,000 riels, we must pay 1,000 riels interest every month. (FGD of poor women, Kompong Our village, Kompong Chhnang Province: PPA)

It is harder and harder for us because our income is just enough for buying rice. Whenever any family member falls sick, mostly we go into debt or have to mortgage or sell our land. After recovering, we then become workers in the village or have nothing to rely on any more." (FGD amongst those who have fallen into poverty, Khsach Chi Ros Village, Kampong Thom Province: MOPS)

Source: CDRI 2007a, 2007b (forthcoming)

Box 6.11 Poor households lack the resources to cope with health shocks

Results from surveys in two villages south of Phnom Penh suggest that while both crop failures and illnesses are entailing similar magnitudes of economic damage (averaging a few hundred thousand Riels), households find it harder to cope with illness. The negative consequences from health shocks are more damaging to both immediate and long-run livelihood as they require an immediate lump-sum of money for urgent treatment. Because most households do not have savings (and rural credit markets do not operate well), households are often forced to resort to distress sale of productive assets (including land) and/or enter long-term debt, reducing their future income streams and increasing their non-consumption expenditures, respectively. This broadly confirms the findings of earlier Oxfam studies which found that half of all distress sales, or around 40 percent of cases of once-landowning families losing land, involved health crises.

Sources: Yagura 2005; Biddulph 2004; Ballard and So 2004.

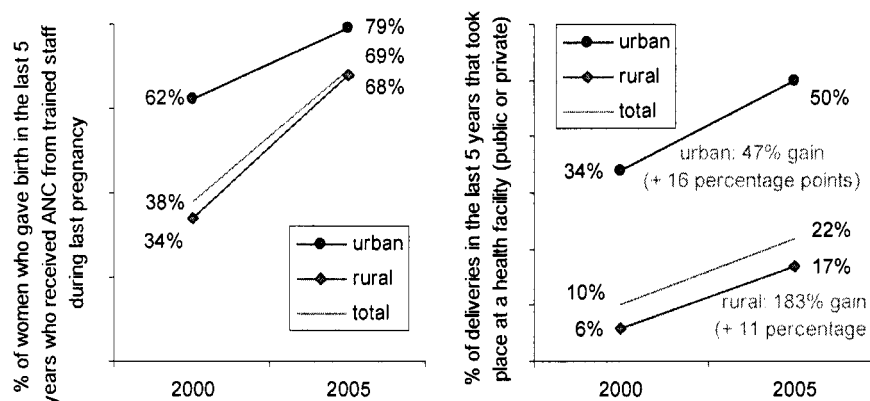
⁹ While this report focuses on how mutually-reinforcing inequalities keep the poor poor (and hold back their potential to contribute to economic development), it is important to acknowledge that the effects of ill health can be serious even for the non-poor. In the absence of working insurance markets, only the very richest can be considered immune from the economic consequences of serious illness or injury. In the CSES 2004, the 10 percent of population who reporting health status as bad or very bad accounted for 63 percent of total health OOPS.

have been incorporated in the Cambodian Millennium Development Goals (CMDGs), the Health Sector Strategic Plan, and the 2006-2010 National Strategic Development Plan (NSDP), amongst others. A range of initiatives have resulted in significant improvements in relevant service delivery outcomes, which are reflected in change in intermediate outcomes such as the fertility rate.

Although it is not possible to disaggregate trends in contact with antenatal care on the basis of wealth (as the 2000 CDHS data has never been subjected to the kind of wealth analysis seen in the 2005 CDHS), it *is* possible to disaggregate improvements in terms of differences between trends for rural and urban women. This would suggest a mixed picture regarding equity in service delivery. In terms of antenatal care, there is some narrowing of inequalities: although coverage is still significantly better for urban women, improvements have been faster in rural areas, and the urban-to-rural ratios are shrinking, in some cases significantly (Figure 6.15a).

Figure 6.15 Access to care during pregnancy and delivery vary greatly between rural and urban populations

- a. there has been dramatic improvement in access to antenatal care, particularly in rural areas b. However, despite rapid improvement, rural women are still far less likely to give birth in a health facility



Source: CDHS 2005 pp. 138, 144

Regarding safe deliveries, however, a lot depends on perspective. Although the rate of improvement has been faster in proportionate terms in rural areas and rural:urban ratios have come down, in urban areas a similar magnitude of change in percentage point terms (from an already much higher base) means that absolute gaps (percentage point difference between rural and urban rates) are widening over time (Figure 6.15 b). Urban women are still almost three times as likely to give birth in a health facility; and almost twice as likely to be attended by trained health staff. Inequalities are more pronounced between wealth quintiles than between urban and rural populations (Table 6.6).

Table 6.6 Rural-urban inequalities in maternal and reproductive healthcare are declining; wealth-based inequalities remain considerable

Key indicators	measure	ratio in 2005	
		urban : rural	richest quintile : poorest quintile
▪ currently using a modern method of contraception	% of all currently married women	1.1	1.5
▪ unmet need for family planning	% of all currently married women	0.8	0.5
▪ received antenatal care from trained health staff during last pregnancy	% of all women who had a live birth in last 5 years	1.2	1.6
▪ received at least 2 antenatal care visits during last pregnancy	% of all women who had a live birth in last 5 years	1.2	na
▪ suffer anemia (mild, moderate or severe)	% of women age 15-49 years	0.8	0.6
▪ delivered baby with assistance of trained health staff (doctor, nurse or midwife)	% of all deliveries in last 5 years	1.8	4.3
▪ delivered baby at health facility (public or private)	% of all deliveries in last 5 years	2.9	10.4

Source: CDHS 2005 pp. 83, 112, 138-9, 144-5, 188

Despite Government efforts and progress in service delivery and intermediate indicators (the fertility rate), there has not yet been a measurable change in the maternal mortality ratio (MMR), which remains very high (472 per 100,000 live births) and unchanged since 2000. In part, this reflects the limitations of the MMR as a measure (see discussion earlier in this chapter). In part, however, it does suggest that there is a real lag, and some bottlenecks, between service delivery gains and corresponding improvements in terms of safer motherhood. Bringing down the MMR will require concerted effort to improve the functioning of basic health services as an integrated system: in particular, it will require further improving the proportion of deliveries that occur in health facilities and with trained staff, and strengthening the referral system to ensure that women with difficult deliveries are transferred to accessible hospitals. Increasing the number, quality and motivation of public health staff, and ensuring the more equitable geographical distribution of fully-staffed facilities, will take time. In the medium term, improvements are also likely to be affected by improved rural roads that reduce the time and cost to reach health centers or transfer from health centers to referral hospitals. The MMR will also be positively influenced by better nutrition and, in the long run, by improved levels of female education.

Health equity and economic development

As mentioned before, there is a strong intrinsic case for pursuing equity in health. Avoiding easily preventable illness and death is seen by most people as central to what constitutes a good life. By extension, that children who through no fault of their own are born into poverty are *not* able to avoid easily-preventable illness and death, and as a result are unfairly disadvantaged throughout their lives, is clearly inequitable, and provides a clear justification for Government intervention.

Ill health, the labor market, and dependency

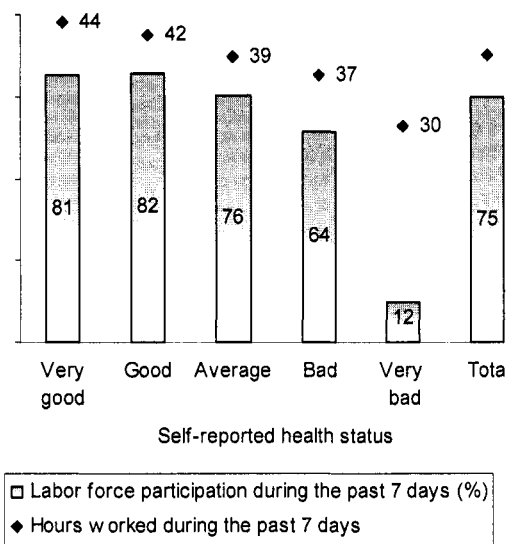
However, there is also an instrumental, economic rationale for public action to expand the coverage and quality of health services and break down the mutually-reinforcing association between ill health and poverty. This instrumental case hinges on the effect of widespread preventable illness (and high cost and inefficient health services) on national productivity. As would be expected, there is a clear correlation between health status and labor market participation (Figure 6.16).

If a large proportion of the population is ill at any given point in time, this reduces the supply of labor and effectively increases the dependency burden, as the healthy (or less ill) need to support a relatively large number of sick family members. Household incomes cannot be converted into productivity-enhancing investments in land, agricultural inputs, tools, transport or children's education, but are diverted into paying for expensive (and often ineffective) medical treatments, with very little positive multiplier effect on the rest of the economy.

Schooling and skills are affected by health status

High rates of preventable illness also have knock-on effects on the level of skills available in the Cambodian economy, and consequent effects on future labor productivity and international competitiveness. Illness may affect schooling directly, when children who would otherwise receive an education are too ill to attend school (or too ill to learn effectively when they are physically present in school). Ill health may also affect schooling indirectly. As described above, a common household response to the illness of *any* household member is to withdraw children from school: this may be because high out-of-pocket health spending makes it impossible to sustain spending on schooling-related costs, and/or because health costs, possibly exacerbated by a drop in household food production or income when an economically active adult falls ill, make it necessary for children to be put to work earning income or helping out with agriculture or other subsistence activities. The preceding chapter on education demonstrates clearly that schooling has high returns to the individual in terms of increased earnings: children who drop out of school (because of illness or any other reason) have much less opportunity to achieve success in household enterprises, or secure a wage-paying job. At the national level, the aggregate effect is to keep Cambodia trapped at the level of unskilled or semi-skilled labor with low value-added.

Figure 6.16 Ill health reduces labor force participation



Source: CSES 2004 (15-month sample), analyzed in Knowles 2005 pp. 92-3

Poor health can give rise to disability and impaired opportunity

Estimates of the disability rate in Cambodia vary depending on definition (both by the enumerator and by the respondent). CSES 2004 found 4.7 percent of surveyed individuals reporting one or more disabilities, while the CDHS 2005 found 2.2 percent reporting according to the more restrictive category of “physical impairment”. The most commonly reported form of disability was visual (31 percent of all disabilities), followed by impaired mobility (24 percent) and hearing (15 percent).

Disability and health exist in a complex relationship with each other, and with other processes and outcomes, including education (see previous chapter). People with disabilities face complex barriers to equality of opportunity and outcome. These barriers include socially-constructed attitudinal barriers (discrimination and social exclusion) as well as potential roadblocks associated with the physical and/or mental impairment itself. Environmental or contextual accommodations are required to allow full participation. These may include products and technology (e.g. wheelchairs or Braille books); adaptations to the physical environment (e.g. for accessibility); special types of support (e.g. job coaching); and targeted policies and services (e.g. school policies accompanied by training to teachers in the use of sign language). Unfortunately, many of these needed contextual enablers are lacking in Cambodia. While a disabled individual in a comfortably well-off household (particularly in urban areas) may be able to overcome barriers through private spending, poor families (and particularly poor rural families) are much less able to overcome these impairments. Without the adequate provision of necessary accommodations, this vulnerable population becomes opportunity-deprived, and the net result is exclusion from many forms of participation in work and community life.

Disability may be either a cause or an effect of other aspects of individual or household circumstances. While some disabilities are congenital and others relate to accidents or violence, the CSES 2004 (asking about total disabilities) and CDHS 2005 (asking about individuals with a physical impairment) produce similar estimates (roughly one-third) of disabilities originating directly from health status, and thus potentially dependent upon healthcare (Box 6.12). Healthcare and health status may also account for a significant proportion of impairments arising from difficult deliveries (as small and malnourished mothers with low rates of antenatal care and limited access to facilities may result in preventable impairments incurred during pregnancy or childbirth); and some portion of the disabilities attributed to “old age”. A survey by Handicap International Belgium found disease identified as the causal factor in the development of childhood disability in 46 percent of cases (VanLeit 2007).

This suggests that poor healthcare (inadequate coverage of preventative care and poor access to and quality of treatment for illness and injury) may contribute to the development of many disabilities which might otherwise be avoided. Conversely, this also implies that improvements in healthcare¹⁰ plus targeted policies to allow for the

¹⁰ Improvements that would reduce the incidence or severity of disabilities include preventative care (antenatal care, safe delivery, postnatal care; further improvements in vaccination); environmental improvements and practices (e.g. improved water supply and sanitation; bed

participation of disabled individuals in schooling and workplaces could reduce the incidence of disability and the unproductive economic costs it entails.

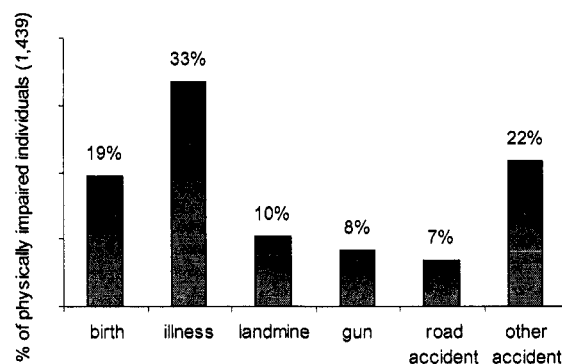
Disability rates appear not to vary much by per capita consumption, although the causes show some differences: old age is a more important cause of disability for wealthier quintiles (who live longer), as are traffic accidents; while congenital causes, mine or unexploded ordnance (UXO) injury, malnutrition, and difficult delivery are all more common among the poorest quintile than among the richest. There are some gender differences, too: women report slightly more disabilities, with old age, disease, malnutrition, difficult deliveries and domestic violence more important for women than men, and accident and war-related injuries a more important cause among men.

Early childhood development can help tackle inter-generational transmission of inequality

There is clear evidence that the major damage caused by malnutrition takes place in the womb and in the first two years of life; that this damage is irreversible; that it has consequences for cognitive and physical capacity (which in turn reduce productivity, slow economic growth and perpetuate poverty). It is also clear that malnutrition passes from generation to generation, since stunted mothers are more likely to give birth to underweight children.

Box 6.12 Around a third of all disabilities originate in poor health

a. "illness" is the single largest cause of physical impairment



Source: CDHS 2005 p. 30

b. disease, malnutrition and fever account for a third of total disabilities

Cause of disability	% of reported disabilities
old age	27%
disease	26%
congenital	9%
accident ¹	7%
fever	6%
violence ²	4%
mine / UXO	3%
malnutrition	2%
difficult delivery	1%
bad luck	1%
mental trauma	1%

Source: CSES 2004, analyzed in Knowles 2005b p. 8.

Notes: ¹ "Accident" includes (in order of significance) traffic accident, work accident, chemical accident and burns

² "violence" includes (in order of significance) war injuries, domestic violence, violent attack, torture, suicide attempt and rape

8 percent due to "other" causes; cause "not known" for 5 percent.

nets); and improvements in the accessibility and affordability of timely, good quality treatment of illness and accidents.

Internationally, several studies have documented a strong correlation between adult height and earnings. Malnourished and sick children are more likely to reach adulthood with reduced height. There is also evidence that the health and nutritional status of children are linked with educational attainment, both in terms of cognitive capability and school attendance. The effect on adult earnings and productivity is estimated at 10 percent for stunting and 4 percent for childhood anemia. Estimates of these losses to the economy are estimated at 2-3 percent of GDP in low income countries (ADB 2001).

It has been estimated in one recent international study that the present value (using a discount rate of 5 percent) of the benefits of shifting one child at age 3 from malnourished to normal nutritional status is US \$514 (Behrman, Alderman and Hoddinott 2004 cited in Knowles 2005.). If this estimate (or anything close to it) is accepted, the potential benefits from interventions designed to reduce Cambodia's currently very high rates of child malnutrition are about US\$84 million annually or about US\$6.50 per capita per annum¹¹.

The macroeconomics of investments in water supply and sanitation

A global study by WHO concludes there are potentially substantial benefits from investment in rural water supply and sanitation. The regional estimate¹² of the cost benefit ratio (for urban and rural combined) for water supply alone is estimated at 8.17. For water supply and sanitation combined it is 11.04. This means that for every dollar invested, the economic benefit would be \$8 and \$11 respectively. Even the most pessimistic estimate of high costs and low benefits showed a positive cost-benefit ratio of 1.21 and 2.21 respectively. The results show that the benefits from every \$1 invested in sanitation would be \$23.48 (using mid-level values), with a range from \$11.09 in a pessimistic scenario to \$58.75 in an optimistic scenario. The economic benefits usually accrue as the result of avoiding costs (e.g. for health care, missed work) and gaining time. Specific economic benefits associated with improved health arising from improved water supply, sanitation and hygiene are summarized below.

Table 6.7 Improved water and sanitation has multiple positive effects

Beneficiary	Direct economic benefits of avoiding diarrhoeal disease	Indirect economic benefits related to health improvement	Non-health benefits related to better water and sanitation
Health sector	Less expenditure on treatment of diarrhoeal disease	Value of less health workers falling sick with diarrhea	More efficiently managed water resources and effects on vector bionomics
Patients	- Less expenditure on treatment of diarrhoeal disease; less related costs - Less expenditure on transport in seeking treatment - Less time lost seeking care	- Value of avoided days lost at work or at school - Value of avoided time lost of parent/caretaker of sick children - Value of loss of death avoided	More efficiently managed water resources and effects on vector bionomics

Source: Hutton and Haller, 2004.

¹¹ The CSES suggests there were 277,000 children aged three in 2004. Multiplying this by the percentage of children age 3 that are estimated to be moderately stunted and the estimated potential benefits per malnourished child of US\$514 yields the estimate cited in the text.

¹² The World Bank Water and Sanitation Program is currently financing an "Economics of Sanitation Initiative" in Cambodia. Country specific figures will be available later in 2007.

Educational equity and inter-generational mobility

This section examines the distribution of educational opportunities and outcomes in Cambodia and the relationship between education and living standards. Given the advantages conferred by education, it seems there is a strong case for ensuring equal access to schooling, on both social grounds (fairness) and aggregate economic grounds (transforming innate talents into skilled labor). While education indicators are poor, trends have been positive (rising averages and shrinking inequalities between rich and poor, men and women, and rural and urban areas). Nonetheless, a combination of monetary and non-monetary barriers continue to reproduce pronounced inequities between children in terms of access to education and the opportunities that come with it.

The returns to education: schooling and economic opportunity

The amount and quality of education that an individual receives is a critical influence upon his or her opportunities in life (e.g. securing good employment, or succeeding in a family business). Statistical analysis confirms that higher levels of education are clearly associated with higher average incomes and higher standards of living (see Figure 6.17). An educated individual will also be better informed about how public services work, and how to obtain useful assistance from the Government. Cambodians, including most poor Cambodians, clearly recognize this (see Box 6.13).

Box 6.13 Preference or constrained choice: do the poor value education?

Two different qualitative research projects by CDRI suggest somewhat different pictures of demand for education amongst the poor. The 2005 PPA carried quotes a young girl:

My mother asked me, 'what is the use of your going to school, if we don't have anything to eat and life is so difficult?' (poor and destitute FGD, Battambang)

The PPA concludes that

While the rich and medium families see education as the means for children to have a better future, the poor and destitute do not see that investing in education will provide opportunities to move out of poverty.

The MOPS research, however, gives a different picture, with clear recognition of the role of education in giving young people a chance to go further than their parents:

Education is the most important asset of people in this world. Being well educated, someone can find a good job with a high standard of living. With good education, s/he can manage to have a better life or be able to set a clear goal. ..For example, a literate woman is able to find a good job at the garment factory now. Those who have no education cannot find such fortune and become mobile laborers, a more risky life. (Female youth group, Kampong Speu).

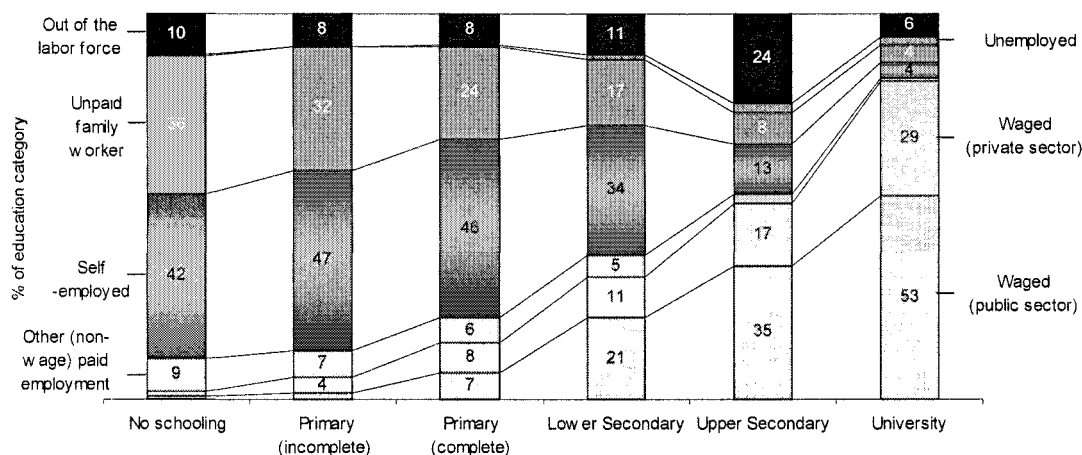
Young men recognized that their better-educated peers had better prospects than them:

School is very important as it is a place where people get some knowledge and train themselves for a better life....Those people who are educated can make money more easily and do non-manual jobs... Some people of our age who finished high school can seek work in Phnom Penh while we cannot. (male youth group, Kompong Thom)

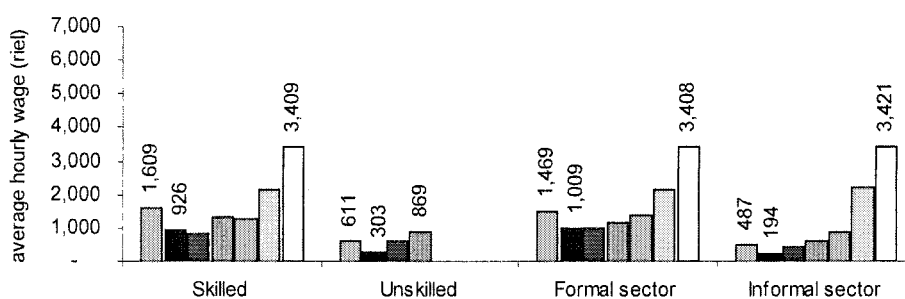
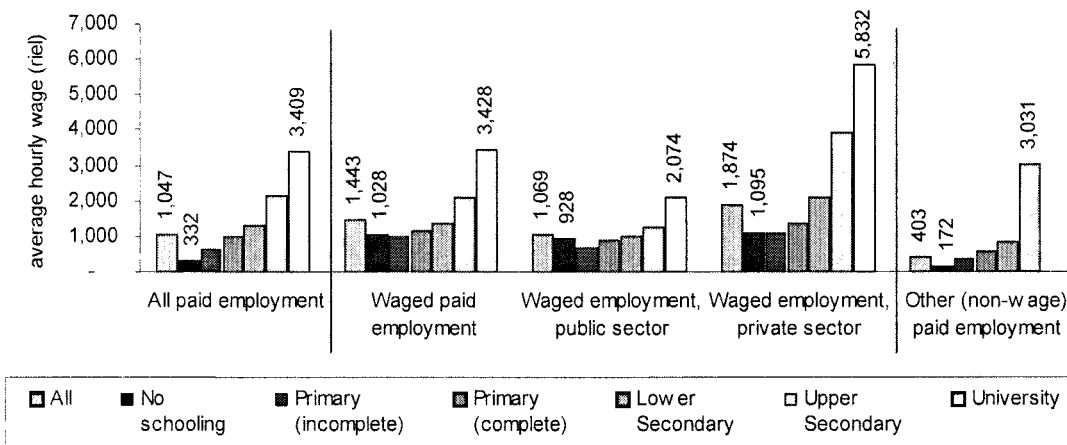
Source: CDRI 2007a, 2007b (forthcoming)

Figure 6.17 There is a strong association between educational achievement and the quality of employment and income

a. more educated individuals are much more likely to obtain paid employment



b. ...and, within any given category of paid employment, to receive higher pay



Source: CSES 2004, analyzed in Sakellariou 2007.

There are some exceptions. In remote, poorly connected rural areas, there may be no significant alternatives to basic, subsistence-oriented livelihood strategies based on low-input farming and common property resources. In such communities, where children are likely to end up in farming occupations regardless of the schooling they complete, there is little economic incentive for investing in education: when parents and children perceive this to be the case, there is, unsurprisingly, low demand for schooling (Bredenberg 2003, cited in World Bank 2005 p. 68). However, as the rural road network expands, these peripheral rural areas will gradually open up to new opportunities, either *in situ* or through out-migration, increasing the potential value of education.

Figure 6.17 highlights the implications of increasing levels of educational attainment for labor market activity status, type, and sector of employment for adults (aged 22-65 years). Higher education qualifications constitute a passport to employment in the higher paying wage employment sector; conversely, low education essentially prohibits access to higher-paying formal / waged employment (Sakellariou 2007 pp. 13-17)¹³. Only 2 percent of workers with no schooling and under 6 percent of workers with incomplete primary education are employed for wages (two-thirds of them in the private sector); by contrast, 52 and 82 percent of workers with upper secondary and university education work for wages (two-thirds in the public sector).

Figure 6.17-b illustrates how differences in education translate into differences in earnings from paid employment *within* various types and sectors of employment. Working for wages in the private sector is the most rewarding labor market activity, with an average hourly wage of 1,874 riels (much higher than the average 1,047 riels for paid employees as a whole). However, there are considerable differences in pay amongst private sector waged employees: those with upper secondary education enjoy wages 3.6 times higher than those with no education, and those with a university education earn rates 5.3 times what those with no education earn. Wages in the public sector are much more compressed (Table 6.8).

Table 6.8 Wage rate differentials in paid employment

Category of labor market activity	% of working age population	ratio of average hourly wages	
		no education : upper secondary	no education : university
a. Waged	11	2.1	3.3
- Waged, public sector	6	1.4	2.2
- Waged, private sector	5	3.6	5.3
b. Other (non-wage) paid employment	7	17.6	na*
All paid employment	18	6.5	10.3

Source: CSES 2004, analyzed in Sakellariou 2007.

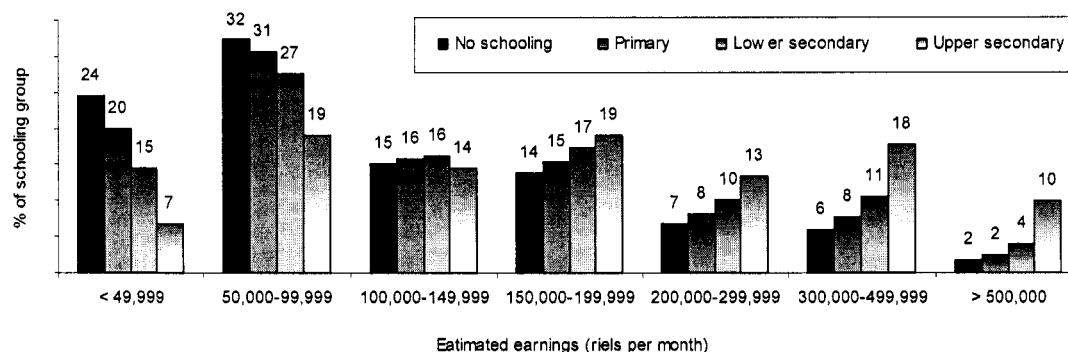
More sophisticated multivariate analysis of the returns to education in waged employment (which, it should be remembered, accounts for only 11 percent of the labor

¹³ The largest employment category is informal self-employment, followed by unpaid family work. Only 18 percent of the labor force is in paid employment; only 11 percent earn regular wages.

force) yields somewhat complex findings, with average returns to schooling diverging considerably depending on individual characteristics. The distribution of wages appears to reflect an interaction between education and ability, which results in different average returns to education at different levels of wage and education, and depending on sex (Sakellariou 2007 pp. 22-35).

Similar education-based differentials exist between the earnings of self-employed individuals, who account for 43 percent of the labor force (Figure 6.18). Those earning between 100,000 and 149,999 riels (c. \$25-37.50) per month appear to be equally likely to have no education, primary, lower secondary or upper secondary education. Those earning wages below 100,000 riels (\$25) per month, however, are significantly more likely to have no education or only primary education; and those earning wages in bands above 150,000 riels (\$37.50) per month are more likely than not to have a secondary education (Ridao-Cano 2004; World Bank 2006).

Figure 6.18 Average earnings amongst the self-employed appear to reflect educational attainment



Source: CLFS 2001, analyzed in Ridao-Cano 2004 p. 33.

Given the apparent importance of education in shaping an individual's chances in life, ensuring equality of access to education is fundamental to ensuring equality of opportunity in society. Increasing the level of educated individuals in society also enables Cambodia to compete in a global economy for investments which require skilled workers: thus, broadening access to quality education, and ensuring that those who get education are those who can make best use of it, contribute significantly to the efficiency and diversity of the economy and to the long-term sustainability of economic growth. It is in the national interest that children with innate abilities can obtain the education that enables them to make use of these abilities to generate wealth, regardless of the circumstances into which they were born.

The goal, then, is a Cambodian education system that will enable all children equal access to schooling and will enable them to acquire as little or as much education as their innate talents and preferences dictate, regardless of their sex, where they live, or the wealth or poverty of their parents. This is, essentially, the policy position of the Royal Government of Cambodia (see Box 6.14). Cambodia has made significant progress

towards this goal in recent years. Despite this progress, however, the level of inequality in access to education services (schooling) and education outcomes (such as literacy)—and the effect of these inequalities in terms of the perpetuation of wealth differences and the below-potential performance of the economy—remain very pronounced. A number of key challenges remain in Cambodia's progress towards realizing the objective of quality basic education for all.

Box 6.14 Since 1993, the Government has been committed to equity in education

The 1993 Constitution of Cambodia notes that it is obligation of the state to provide nine years of free and compulsory education to all its citizens, an obligation affirmed by the Royal Government of Cambodia when it ratified the Convention on the Right of the Child and signed the Education for All Framework for Action. In 2003, the Government adopted the Education For All (EFA) National Plan for 2003 -2015, the fundamental thrust of which is to ensure that all Cambodia's children and youth have equal access to formal and non-formal education, independent of economic status, gender, geography, physical disability and ethnicity.

Average educational status is low, but improving

Standard educational attainment indicators for Cambodia are among the lowest in the world. Amongst its neighbors, only Lao PDR has higher rates of illiteracy; and only China has a higher share of the adult population with no schooling. Repetition and dropout rates in primary school remain very high. The inefficiency of the Cambodian education system represents a significant burden: the public and private cost of education that reduces the private and social returns to schooling and thus economic growth.

Nonetheless, remarkable progress has been made in recent years. In 2003/04, the number of pupils aged from 3 to 5 has increased by 11 percent and pupils aged over 5 increased by 20 percent. Primary school enrolment has grown significantly, with the majority of growth being in rural areas and an 8% growth in female net enrolment. Enrolment at the lower secondary education level have also increased significantly, reflecting in part the expansion in the number of secondary schools, mainly in previously un-served rural and remote communes (Quinio 2005).

Equality in access to primary education is improving

As a result of expanding coverage, equality in access to education is improving as increasing numbers of girls and children of rural and/or poor families are drawn into the school system.

Table 6.9 There has been a dramatic expansion in basic education in recent years

Performance indicator	2000	2004	change
Pre-schools	952	1,275	34%
Lower secondary schools	511	688	35%
Classes	1,628	2,249	38%
Primary enrolment (millions)	2.4	2.7	14%
Primary enrolment in remote areas	54,000	81,000	50%
Primary net enrolment rate (NER)	84%	90%	7%
Lower secondary enrolments	284,000	460,000	62%

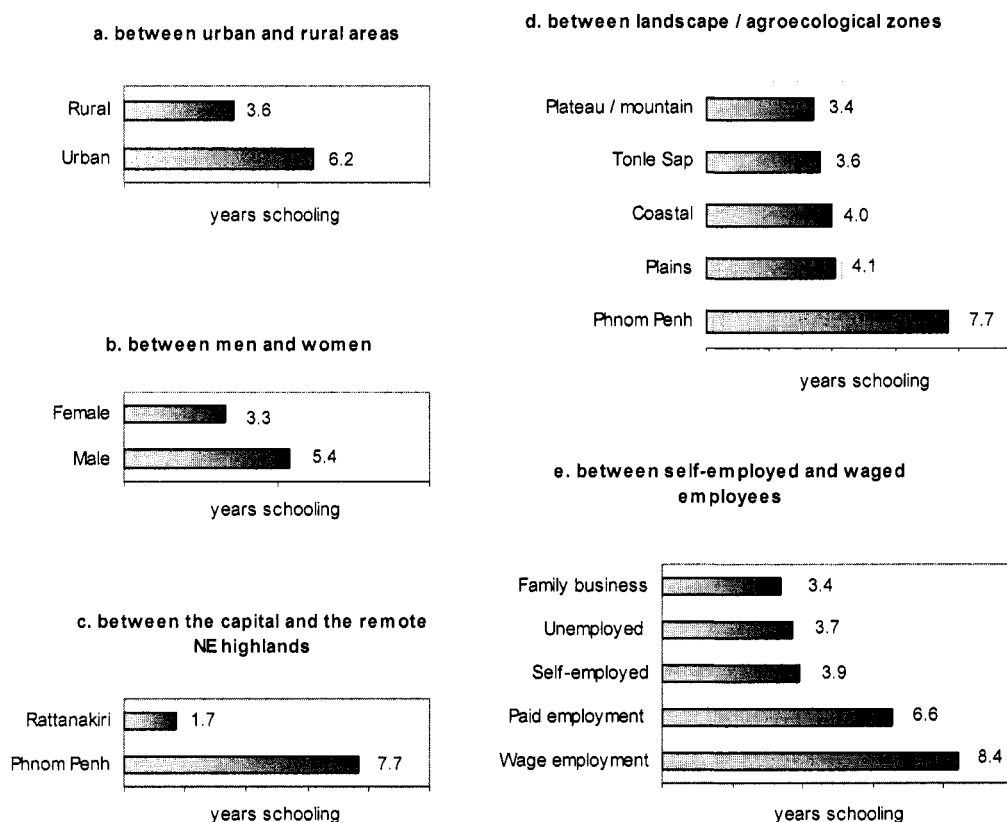
Source: Sakellariou 2007 citing Quinio 2005.

Although there continue to be large inequalities in outcomes (notably literacy) between men and women, rich and poor, and rural and urban populations, these group averages mask considerable progress in recent years. Despite problems with dropout, repetition and quality of teaching, greater equality in access to primary education is starting to result in closing gaps in education outcomes. This progress emerges when we look at the variation in literacy rates amongst the younger age groups which have more recently passed through the (improving) education system. Amongst these age groups, literacy rates are higher across the board, and the inequalities by sex, location or socio-economic status are shrinking rapidly (Figure 6.20).

In many aspects, however, inequality remains pronounced

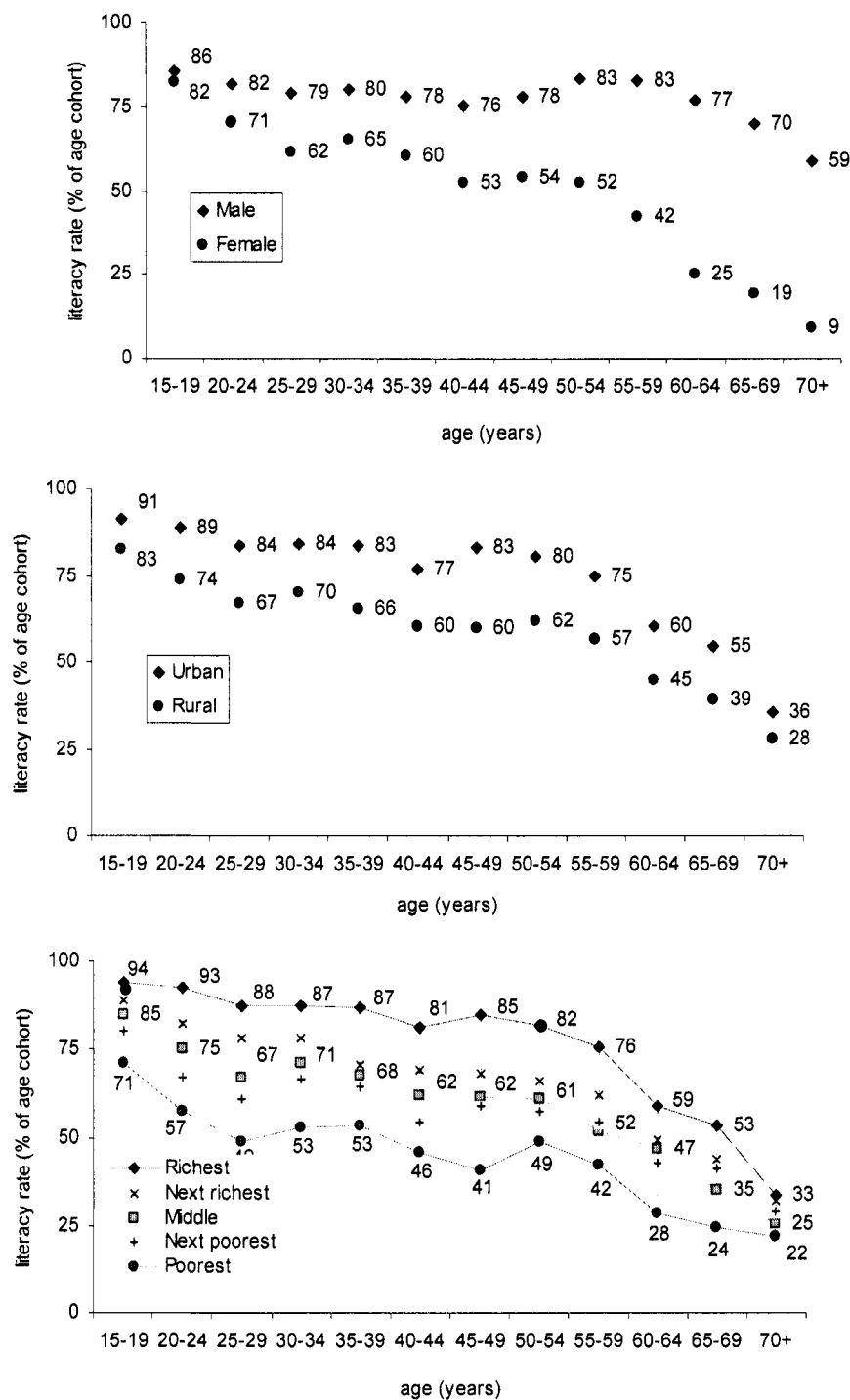
Despite the slow but consistent progress towards increasing participation of poor children, the level of inequality in the distribution of education in Cambodia remains one of the highest in the Southeast Asian region (Holsinger et al 2004). There are large and statistically significant differences in average years of schooling completed by sex, employment type, and various types of geographical difference (Figure 6.x, Table 6.19).

Figure 6.19 Although shrinking over time, educational inequalities remain large



Source: SES 2004, analyzed in Sakellariou 2007

Figure 6.20 Increasing equality in primary enrolment is closing gaps in literacy rates amongst the younger generation



Source: CSES 2004.

Table 6.10 Dimensions of inequality in education

Ratio of average years schooling for:	ratio
urban : rural	1.72
Phnom Penh : plateau / mountain Provinces	2.26
Phnom Penh : Rattanakiri	4.53
men : women	1.64
family business : wage employment	2.50

Source: CSES 2004 analyzed in Sakellariou 2007

The Tonle Sap PPA concluded that three main factors determined the level of education received by children. These were (i) family financial status; (ii) the educational background of the parents; and (iii) the distance from home to school. It also noted that girls

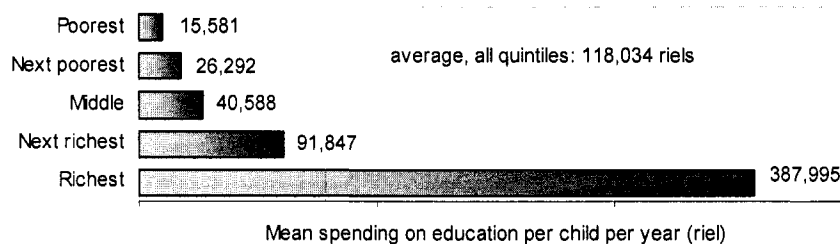
are much more likely to drop out of school at an early stage. Investigation of the data from CSES and CDHS confirms the importance of these four factors and the implication that the children of poor families—families with limited finances, low level of parental education, and/or living in remoter areas—are likely to complete far fewer years of education than their richer contemporaries; while girls remain disadvantaged in education relative to boys.

Reflecting these various barriers to access, inequalities in participation and completion rates feed through into educational outcomes (or individual capabilities). Although closing over time, considerable inequalities remain between the average literacy rates of men and women (20 percentage points), rural and urban populations (16 percentage points) and the richest and poorest quintiles (31 percentage points).

Inequalities in access to education reflect inequalities in wealth

Education costs money, and part of the costs of education must be met by the household. Poor parents are less able to afford this money and so their children are less likely to obtain either the quantity or quality of education available to the children of richer parents. While this is the case in any country, Cambodia is unusual in the proportion of total education costs that must be borne by households. (The same point is made above with regard to out-of-pocket spending on health.) In the late 1990s, households and communities in Cambodia were providing an estimated 59 per cent of the total resources for primary schooling, even in the public system: the Government provided an estimated 12.5 percent, while the balance (28.5 percent) was met by politicians, NGOs and external agencies (Bray 1999). The proportion of costs met by households is thus very large, and considerably larger than in most countries. This has implications for urban/rural and socioeconomic inequalities in Cambodia.

These *direct costs* of education have clearly come down in recent years. From 2000, the enrolment fee for primary education was abolished: focus group discussions suggest that this was a major factor in increasing primary enrolment amongst poorer groups (CDRI 2007b, forthcoming). Nonetheless, there are extremely striking wealth-based differences in the amount spent on education per child enrolled in school. In the 2004 CSES, per child household education expenditures amongst the richest 20 percent of households was found to be 25 *times* greater than in the poorest 20 percent of households (Figure 6.21).

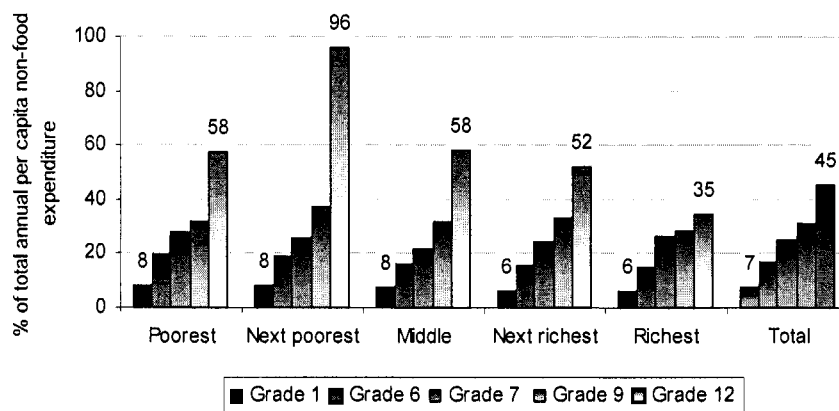
Figure 6.21 The richest parents outspend the poorest parents by a factor of 25

Source: CSES 2004, analyzed in Knowles 2006 p. 82.

This gulf in spending represents the cumulative effect of a number of phenomena, including not only that the rich spend more on like-for-like education (e.g. the rich will spend more on a year of primary education than will the poor) but also that the rich are more likely to educate their children through to lower and then secondary school, and the annual costs of schooling rise with each of these transitions (i.e. it costs considerably more to put a child through a year of secondary school than it does to put a child through a year of primary school).

Nonetheless, these figures are telling as a summary measure of the much greater capacity of rich parents to invest in the education of their children. As with household out-of-pocket spending on health, Figure 6.22 reveals that the increase in household spending on education does not increase in a smooth linear fashion but in a series of increasingly big steps (the richest spending on average four times as much as the next richest). And, as with health spending, it seems that the very large gap between the bottom four quintiles, on the one hand, and the top quintile, on the other, broadly reflects the distribution of wealth (measured as total consumption per capita per day). That the richest can spend so much more on their children's education reflects in part that they have so much more to spend, with levels of total consumption over twice that of the next richest quintile.

The underlying gap between the living standards and disposable incomes of the richest quintile and those of the remaining four quintiles helps explain why, even with significantly higher absolute spending, the relative burden of educating children is *less* for rich households. As a proportion of their much higher total non-food consumption, the rich spend less on education (per child) than do the poor. While the relative burden of schooling is roughly similar for the richest and poorest households at Grade 1 (8 percent and 6 percent of total non-food consumption, respectively), it is significantly harder for poor households to meet the costs of schooling to higher levels. Those few households from the poorest quintile who educate their children to Grade 12 pay on average 58 percent of their annual per capita non-food consumption for this year: the comparable figure for the richest quintile would be just 35 percent.

Figure 6.22 Richer parents find it can afford (much higher) education spending

Source: CSES 2004, analyzed in Ragatz 2005 p. 26.

However, *indirect costs* remain a significant burden for poor households. Indirect costs (such as foregone earnings) constitute a heavy burden for some households, particularly the poorest, and can be a significant determinant of whether or not a child attends school. As in other low-income south-east Asian nations, child labor is in common (seen in 23 percent of households) and begins at an early age. In both rural and urban settings, poor families often rely heavily on their children to help with a variety of tasks (generally household-based) essential to the wellbeing of the family (Box 6.15).

Box 6.15 For poor households, demands on children's time is a key reason for over-age enrolment or dropout

Because we are poor, our children quit school at an early age or after only one or two years in order to help their parents earn a living. Unfortunately, they cannot go as far as the rich do in obtaining skills to earn a living. Because we are trapped in illiteracy, we have poor knowledge and are without ideas, remaining short-sighted and powerless.
(Kompong Thom: MOPS)

Source: CDRI 2007b (forthcoming)

These forms of child labor include both income-earning or subsistence-oriented productive or trading activities, and household reproductive tasks (caring for younger siblings, cooking, cleaning, carrying water, etc.)—much of which, of course, is necessitated in order to free up both parents for economic activity, including in some cases long absences from the home in pursuit of income opportunities elsewhere in Cambodia or in Thailand. The CLS in 2001 found that children contributed on average 28 percent of total household labor income¹⁴.

For many Cambodian children, work and school attendance are largely substitutes for one another, with this trade-off becoming more pronounced as children get older. The burden of housework and productive work is a particular problem for rural children,

¹⁴ This figure coincides remarkably with the estimates of their contribution to household income provided by youths, both male and female, in MOPS focus group discussions.

children of families in the poorest quintile, and girls. From age 12 onwards, household work is significantly more likely to interfere with girls' education than boys. Children who work more than 14 hours a week—who are more likely to be poor, rural, and female—start to fall behind in grade attainment compared to their peers who only attend school. This difference is insignificant at age ten, but pronounced amongst 17-year olds (Ragatz 2005, p. 25-6). The high proportion of children reported to both attend school and work suggests that the household need for child labor not only contributes to outright dropout from school, but will also make it hard to increase the currently very short school day. Direct and indirect household costs reinforce each other to produce a critical barrier for the poor in upper primary and lower secondary schooling (Bray and Bunly 2005).

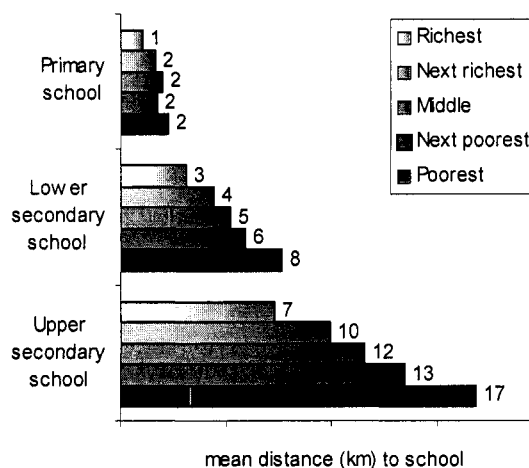
Distance to school may also be a barrier to education for the poor: although at present less important than other barriers, it may become more pressing as a binding constraint on expanding access to secondary education. The poor are more likely than the rich to live in remote parts of the country, with lower population densities and fewer schools. However, the rapid pace of school construction since the mid-1990s has significantly increased the number of primary schools. As a result, roughly 50 percent of Cambodians live in a village (or urban equivalent) that has its own primary school; and the average distance to the nearest primary school (assuming a distance of zero for those households with a school in their own village) is under two kilometers (Figure 6.23). Neither figure varies much between the richest and the poorest households: both are equally likely to live in a village with its own primary school, and the difference between rich and poor in terms of average distance to school (2.25 km compared to 1.66 km) is not a serious barrier. (The upland north-east may be an exception, and may provide one—though maybe not the most important—explanation for the low educational attainment of the indigenous ethnic minority groups living in this region: see Box 6.16).

Among the general population there *is* however significant inequality in physical access to lower and upper secondary schools, with the children of the poorest families needing to travel considerably further than the children of richer parents.

Disability and access to education

Disability often acts as a severe limitation on the educational opportunities available to children and, thus, on their employment and incomes opportunities.

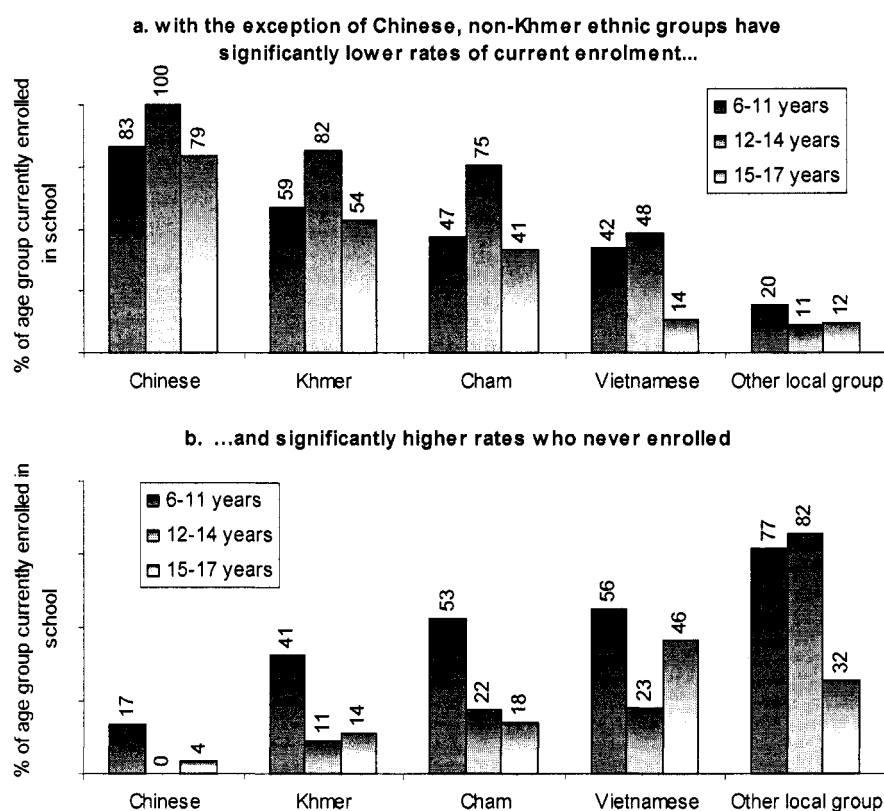
Figure 6.23 Distance is not now a major constraint to primary education—but is likely to act as barrier to secondary education for the poor



Source: CSES 2004, analyzed in Knowles 2006 p. 74

Box 6.16 Inter-ethnic inequalities in education

The Cham, indigenous ethnic minorities and ethnic Vietnamese, Lao and Chinese groups, which collectively make up 4 percent of the Cambodian population, have very different rates of participation in the education system. The educational performance of these different groups broadly reflects the relative wealth of these groups, with one notable exception. The Chinese have enrolment rates higher than that of the Khmer majority, corresponding with their higher-than-average living standards (56 percent of the Chinese population fall into the richest quintile of the CSES sample); the Cham, whose living standards are very close to those of the Khmer, have rates lower than but similar to those of the Khmer; and the indigenous ethnic minorities, who are significantly poorer than the Khmer (60 percent are in the lowest two consumption quintiles), have the worst enrollment and drop-out rates of all. The group that does not fit this correlation between overall living standards and education is the Vietnamese, who have living standards slightly above those of the Khmers (58 percent fall in the top two consumption quintiles, compared to 40 percent of Khmer) but notably poorer school enrolment.



Poor educational outcomes of the indigenous and Vietnamese minorities reflect, to varying degrees, the effects of remoteness; low population density; the lack of a fixed abode; language barriers and the lack of ethnic minority teachers; and social and political marginalization. Of the local indigenous minority populations, 27 percent live in Mondulhiri, 26 percent in Preah Vihear, and 13 percent in Kampong Speu; the Vietnamese tend to live in Phnom Penh, Kampong Chhnang and Preah Vihear (43, 20 and 10 percent respectively).

Source: CSES 2004, analyzed in Ragatz 2005 pp. 10-12; Phnom Penh Post July 14-27 2006.

The CSES 2004 finds adults with disabilities have much lower average rates of educational attainment. Rates of low or no schooling are particularly high amongst individuals with problems in vision, hearing and speaking, suggesting that relatively low-cost interventions could eliminate a significant proportion of impairment-related educational under-achievement

A survey of households with disabled children in Siem Reap and Takeo Provinces conducted by Handicap International Belgium found that 45 percent of school-aged children with disabilities never attended school, and most of those who did attend dropped out at very early grade levels. Reasons given for non-attendance included problems with transportation to school; lack of special equipment to overcome learning impairment; expenses associated with attending school; problems with teachers who did not have training or experience in teaching a child with disabilities; health concerns; and discrimination on the part of teachers or other children.

Inequalities in education perpetuate themselves across generations

If education is associated with wealth, and parents' wealth is associated with their children's educational achievement, it is not surprising that parents' education is itself a good predictor of the education of their children. Just as poor women who are undernourished and undersized tend to give birth to small babies who are more likely to be ill and more likely to grow into undersized adults, so too parents' educational status is passed on to their children, with obvious implications for equality of opportunity. In this case, however, it appears that it is the father's level of educational attainment that is the stronger influence on their children—albeit with some exceptions (Figure 6.24).

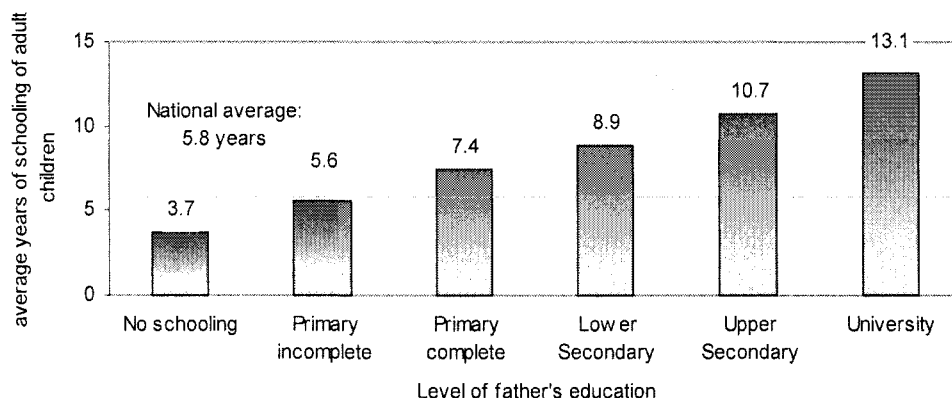
Female education has cross-sectoral and intergenerational effects

Improving education affects household welfare through a number of channels other than employment and wages. In particular, there is a strong argument that there is a strong correlation between the level of education of a mother and improved childhood health. As described in the previous section, the children of poor families are born at a severe disadvantage to their richer peers in terms of access to healthcare and probability of poor health outcomes. However, there are also strong suggestions that a woman's education is a major determinant of both child and maternal health outcomes.

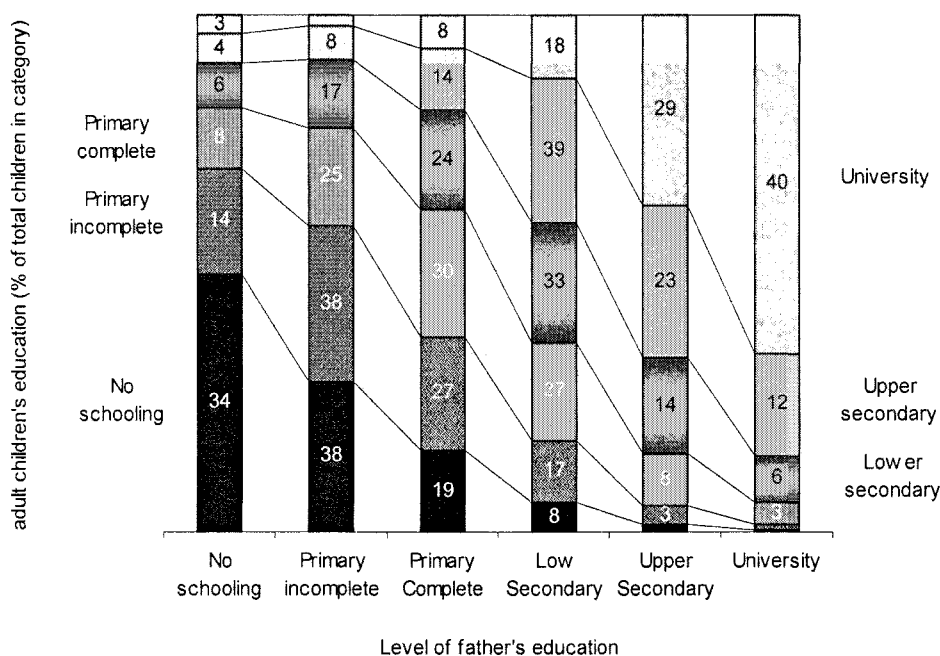
The advantages of children with educated mothers start even before birth. Nearly half (46 percent) of all uneducated women who have given birth during the last five years went through their last pregnancy without any contact with an antenatal care (ANC) provider; the comparable figure among women with secondary education is a fifth of that rate (9 percent).

Figure 6.24 Parents' education appears to be a strong influence upon a child's educational achievements

a. the level of education achieved by fathers shapes the years of schooling achieved by children...



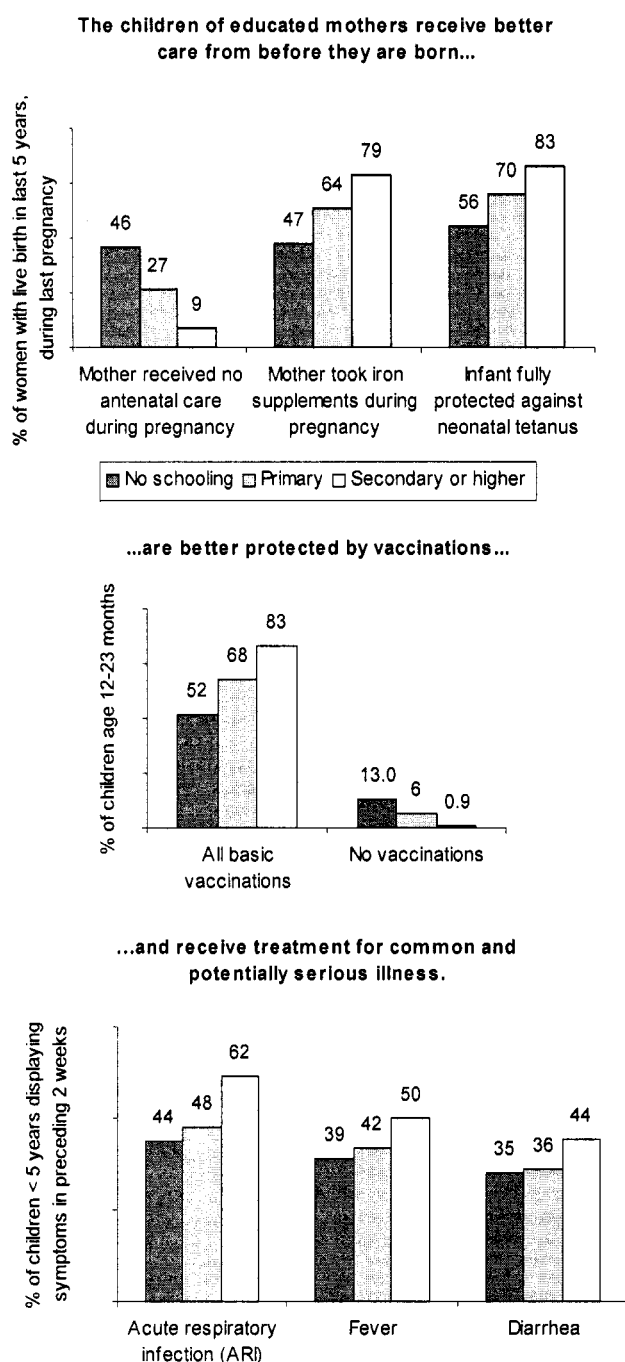
b. ...and the level of education completed by children



Source: CSES 2004, analyzed in Sakellariou 2007 p. 6.

This difference in contact with health services is reflected in the likelihood of the unborn child receiving important aspects of antenatal care. The child of a mother who has completed secondary education is almost 50 percent more likely to be protected against neonatal tetanus, and 66 percent more likely to have benefited from his or her mother taking iron supplements during pregnancy, than the child of a woman with no

Figure 6.25: A mother's education influences a child's chances of obtaining health care, from conception onwards



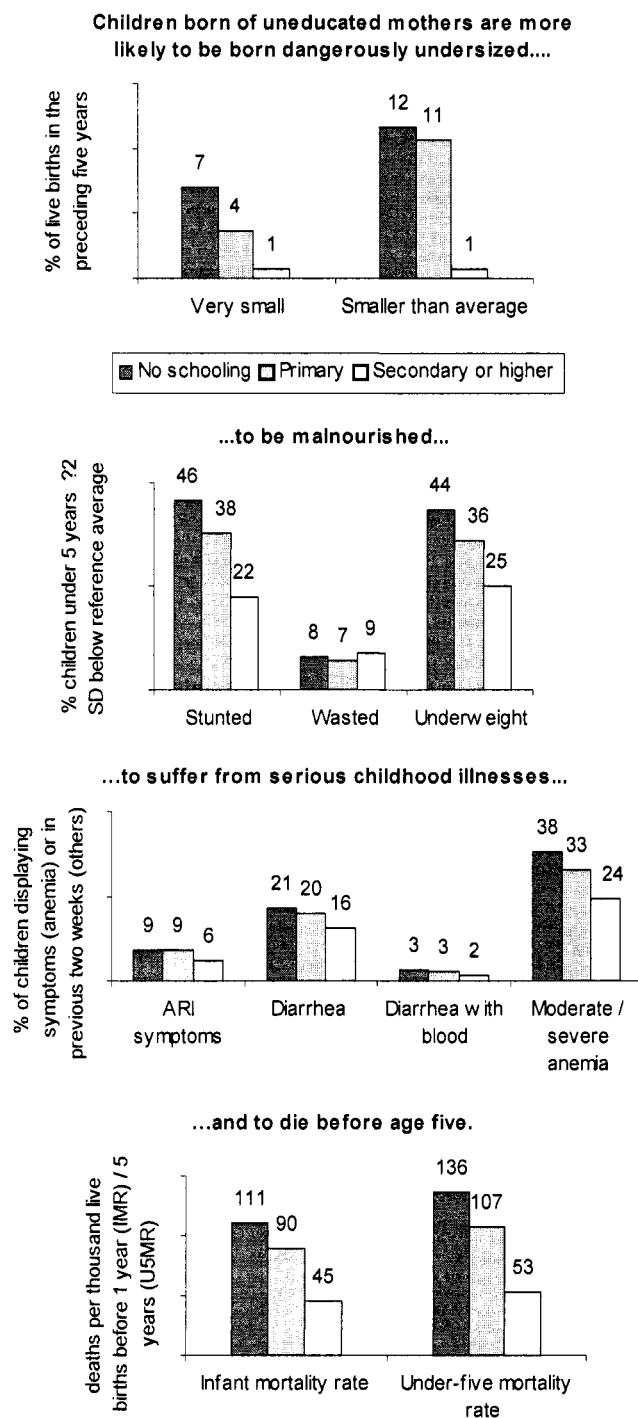
Source: CDHS 2005 pp. 138, 140, 142, 154, 160

education (Figure 6.25). The child of an educated woman thus enters the world with a head start in protection against one of the major causes of neonatal deaths; and in the micronutrients required for healthy growth over the first six months of his or her life.

Women with secondary education are three times more likely to deliver a baby with a trained health professional; and five times more likely to deliver at a health facility. Both factors make childbirth much safer, for both the mother and her child.

These inequalities in access to basic healthcare are compounded during a child's first year of life. Once again, maternal education appears to be an important influence. Although very few Cambodian children—seven percent—now have *no* vaccinations, this rate varies considerably between those children whose mothers have a secondary education (one percent) and those who have no education (13 percent). A baby whose mother has a secondary education is 60 percent more likely to receive all of the basic vaccinations to protect her or him against common, and dangerous, childhood diseases, relative to the child of a woman with no education.

Figure 6.26 A mother's education strongly shapes her children's health outcomes



Source: CDHS 2005 pp. 123, 152, 156, 159, 167, 179

The better standard of healthcare enjoyed by children of educated mothers extends from preventative services to curative care. Compared to mothers with no education, mothers with a secondary education are 25-40 percent more likely to seek treatment for their children when they display symptoms of acute respiratory infection (ARI), fever or diarrhea.

As Figure 6.26 shows, the disadvantages faced by the children of uneducated mothers in terms of unequal access to and use of basic health services feed through into health outcomes. When compared to the child of a woman who has completed secondary education, the child of an uneducated mother is ten times more likely to be born very small; twice as likely to suffer from chronic malnutrition in their first five years, resulting in stunted growth; one-and-a-half times as likely to suffer from an acute respiratory infection or anemia; and twice as likely to suffer from bloody diarrhea. Reflecting these health problems, the child of the uneducated mother is two-and-a-half times more likely than the child of the educated mother to die before reaching his or her fifth birthday.

Policy recommendations

Health policy needs to prioritize equity objectives

Equity goals need to be a more explicit objective of health sector reforms. (Health equity—or “improving access and coverage for the poor”—is included in the current policy framework, but as one among three elements in the strategy of “improving service delivery”, which is in turn one among the 8 priority (and 20 total) strategy strategies that comprise the Health Strategic Plan (HSP) 2003-7.)

This will require some changes to the ways in which health sector outcomes are monitored. At present, monitoring concentrates mainly on aggregate indicators. More disaggregation—by location, by sex, and by consumption or wealth status if possible—would ensure that policy-makers and planners have the information needed to formulate and revise policies designed to achieve health equity. Data on inter-Provincial differences are already available in the health information system, and should be used to direct programs and resources to lagging areas.

Increased attention should be paid to disability prevention, both in the health care system and in other sectors. A functioning primary care system that meets the needs of pregnant women, provides fast, inexpensive care for basic childhood illness, and screens for children with early developmental problems could go far to prevent avoidable disability and the socio-economic costs (to individuals, households and communities) that this entails (VanLeit 2007; Knowles 2004). More ambitiously, the Government should seek to provide people with disabilities with special equipment and training that allows participation in daily activities at home and in the workplace. Glasses, canes for the blind, sign language and wheelchairs can make a profound difference in terms of allowing increased activity and function.

Cambodia already has good insights into policy innovations that promote health equity (along with other health goals). Health equity funds have proved effective in reducing the financial barriers to the poor (see above). Contracting out arrangements for the management of District-level services has also proved to have a positive impact on equity, with health utilization increasing faster amongst the bottom rather than the top half of the wealth ranking (see Box 6.17). Both experiments are now being expanded: this can be expected to have a positive impact on health outcomes for the poor.

Over the long term, investments in water and sanitation and child health (encompassing antenatal care and nutrition, safe delivery, and early childhood healthcare and nutrition) can have a profound effect on the learning capacity of school-age children and health, productivity and earnings as adults (Knowles 2004).

Finally, more needs to be done to build on what is known about critical cross-sectoral linkages (in one or in some cases both directions) between health and other development outcomes (for example, better roads, civil service reform, female education, rising household consumption, or water and sanitation). These linkages are important firstly as factors facilitating or constraining the achievement of health sector goals (suggesting that MoH and its partners should, at a minimum, advocate for progress in areas of public action that have a bearing on progress in health).

Box 6.17 Government-NGO partnerships have reduced out-of-pocket costs for the poor and delivered improvements in health equity

In 1998 the MoH, with support from ADB, began an experiment in public-private partnerships for the delivery of basic health services at the Operation District (OD) level. Contracts to manage service delivery in five districts were awarded to NGOs on the basis of international competitive tendering. Prior to the start of the contracts, a baseline household survey was conducted in nine districts. Data on eight asset and housing quality variables was coded and analyzed using principal components analysis to construct a wealth index and ranking of households.

Each of the nine districts was then randomly assigned to one of three categories. Two districts were *contracted out*, giving the NGO complete line management responsibility, including powers to hire, fire and set wages, procure and distribute drugs and supplies, and organize and staff facilities. Three others were *contracted in*: in this case, the NGO worked within the normal MoH systems to strengthen district management, were not able to hire and fire, and received drugs and supplies through normal MoH channels. The remaining four districts served as a *control*, being managed as normal by an MoH District Health Management Team. Precisely defined and objectively verifiable performance indicators were defined and targets set: one of these related to equity, defined in terms of delivering services to the poorest half of the population.

Two-and-a-half years after the baseline, a second survey was conducted to assess performance of the three models. All districts were found to have achieved considerable progress, reflecting national reforms in the public health system. Contracted out districts clearly performed best, including on the equity goal: concentration indices for each of the target services established (and probit regression confirmed) that contracted out districts had achieved most in changing an initial pattern of service delivery that favored the non-poor to one that was more equitable or positively pro-poor. The 2001 survey also found large declines in average out-of-pocket health spending amongst the poorest half of the population in contracted-out districts. With donor support, the Government has now expanded contracting-out to cover 10 percent of all Cambodians.

Source: Schwartz and Bhushan 2004; Keller and Schwartz 2001.

Exploring these cross-sectoral links is also important in making the case that investments in healthcare promote other aspects of economic and social development. This latter argument is particularly important with regard to large and unpredictable out-of-pocket health care costs for serious injury or illness. Improvements in health service provision and financing could make a major contribution to social protection by (i) protecting against such shocks and (ii) providing affordable and effective treatment when these shocks do occur.

Education sector strategy needs to consolidate gains at the primary level, and extend them to higher levels

To build on the equity gains already achieved in primary education, the Education Sector Plan needs to continue to tackle both supply- and demand-side bottlenecks in the education system.

On the supply side (which is particularly important at the primary level), progress entails sustaining the stock of school buildings (upgrading the remaining primary schools that are incomplete, lacking such facilities as toilets, drinking water or libraries; and building more lower secondary schools) and improving the quality of education and learning. Improving the quality of teaching, especially in poorer and under-served areas,

calls for better training that is more directly relevant and better prepares teachers for classroom teaching¹⁵. As in health, achieving significant improvements in teacher performance will also depend in the long term upon a substantial across-the-board improvement in salaries, combined with improved human resource management and rewards for good performance. Pre-school early childhood education may also have a significant role to play in reducing over-age enrollment and better preparing children for school, so reducing drop-out rates. Finally, focus on including children with disabilities in school. This means in particular that schools must be physically accessible for children with mobility impairments (as most newly-built schools are, but many older ones are not); and that attention is paid to special needs of children with visual, hearing and speaking impairments, particularly when low-cost responses would have a considerable impact.

Demand-side interventions become increasingly important from upper primary through secondary levels, as families are under increasing pressure to take older children out of school to help with livelihood or income-generating activities. Suitable approaches would include expanding the national scholarship scheme, which targets poor families with cash or in-kind benefits conditional on children's attendance at lower secondary school (grades 7-9). The other main issue with regard to demand-side constraints is the persistence of informal fees levied by teachers in grades 1-9. Eliminating these, however, will require fundamental reform of teachers' salaries and benefits (and better performance management).

Finally, there are a number of education system reforms which would help to facilitate improvement in aggregate and equity outcomes. Apart from a service-wide rise and merit-based differentiation in salaries, there is a need to build Government capacity to conduct rigorous impact evaluation of different initiatives, and so identify priorities and sequences of policy and program responses to critical binding constraints to further improvement.

¹⁵ In the Educational Quality Improvement Program (EQIP), of a variety of interventions put on trial in Takeo, Kampot and Kandal, money invested in teacher development was found to have the greatest payoff in terms of student retention and promotion and learning outcomes (World Bank 2005 p. 4).

7. Progress and challenges in gender equality

Summary

- Economic growth and change over the last decade has had distinctly gendered effects on employment and incomes. One of the main drivers has been the emergence of the garment sector, where women represent over 80 percent of the workforce. There is parity in the number of economically active women and men, and women's income frequently covers a significant proportion of household expenditures.
- Female-headed households broadly defined are not worse off than male headed households in terms of consumption, although their capacity to earn and save income and invest in assets is often constrained, resulting in vulnerability in other respects. This is particularly true for households without an adult male and a high number of dependents.
- As in many other countries, access to education in Cambodia has traditionally been an issue in which gender differences are pronounced, with a strong bias against girls' schooling and literacy. In Cambodia, however, rapid progress towards greater equity has been achieved over the last decade, as the expansion of primary enrolment has been pro-girl. Despite this progress, because of the past, the median grade of schooling completed varies considerably (2.3 female compared to 3.6 male).
- The gender gap widens at higher levels of education, with three male students to every female student in tertiary education. As returns to education become significant above the primary school level, shortfalls in both overall enrollment rates and gender equity in enrollment at the lower secondary school level and above will tend to widen gender inequities.
- There are strong arguments for promoting women's education as it is closely associated with higher levels of their own and their children's health status. Several key indicators for women's health have shown improvement, such as contraceptive prevalence, a reduction in unmet need for family planning, improved access to antenatal care, and more deliveries by trained professionals and in health facilities. However, the maternal mortality ratio remains high at 473 per 100,000 live births and highlights the importance of continuing the efforts to upgrade both the accessibility and the quality of health services, particularly reproductive health services.
- The participation of women in decision making positions at various levels is very low but slowly improving and in some cases approaching the CMDG targets. However more efforts are needed to increase the number of women Ministers and Governors.
- Traditional attitudes combined with rapid socio-economic change have resulted in prevalent behavioral patterns which constitute a serious problem for women's health and opportunities. These include the prevalence of domestic violence, sexual harassment and violation. Trafficking in persons and the commoditization of women is a on-going concern. There are some indications of a positive shift in norms and attitudes towards support for increased gender equality, related to the importance of girls' education in particular, as it is linked to increased employment opportunities as well as improvements in maternal and child health.

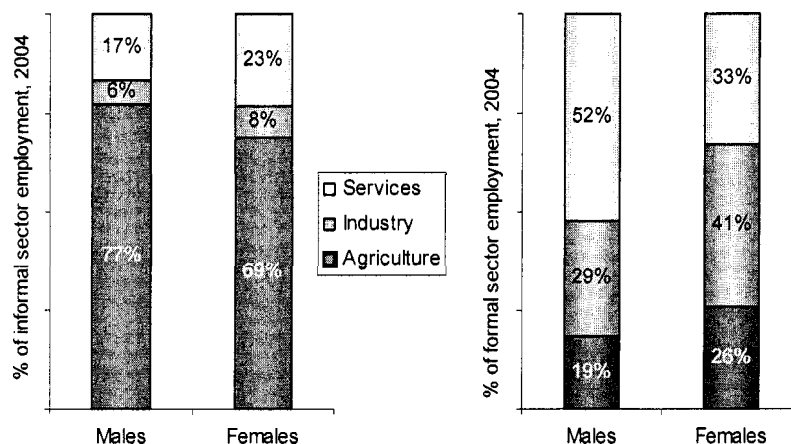
Gender inequalities in Cambodia, in common with much of south-east Asia, have typically been seen as serious but less extreme than in other world regions. Key “traditional” dimensions of inequality in the past have been with regard to girls’ education; the double burden faced by women in managing domestic tasks while also contributing to household subsistence or income-generating activities; and the low level of female participation in positions of public authority and decision-making. With economic growth structural change and improvements in human development outcomes over the last fifteen years, some of these disadvantages have become less pronounced. At the same time, however, other aspects of rapid economic and social change have resulted in the emergence of new forms of gender inequality. Inequalities exist in access to income generating opportunities and control of household assets and men and women experience different forms of vulnerability to violence: the incidence of violence against women, inside and outside the home, is high and, apart from constituting a critical development issue in its own right, also has negative effects upon household welfare (assets, income and consumption). Structural inequalities (e.g. lower average levels of female educational achievement) and gender attitudes which support gender inequality persist and are mutually reinforcing.

Economic growth has created factory jobs for women and construction jobs for men

In broad sectoral terms, patterns of male and female work in the dominant informal sector are roughly similar: the vast majority are occupied in agricultural self-employment, around a fifth work in services, and less than 10 percent are employed in manufacturing.

Figure 7.1 Women are more likely than men to be engaged in services in the informal sector, and manufacturing in the formal sector

- a. informal economy (self-employed, family workers)
 - 80% of total employment (83% of female employment, 76% of male employment)
- b. formal economy (employees and employers)
 - 20% of total employment (18% of female employment, 24% of male employment)

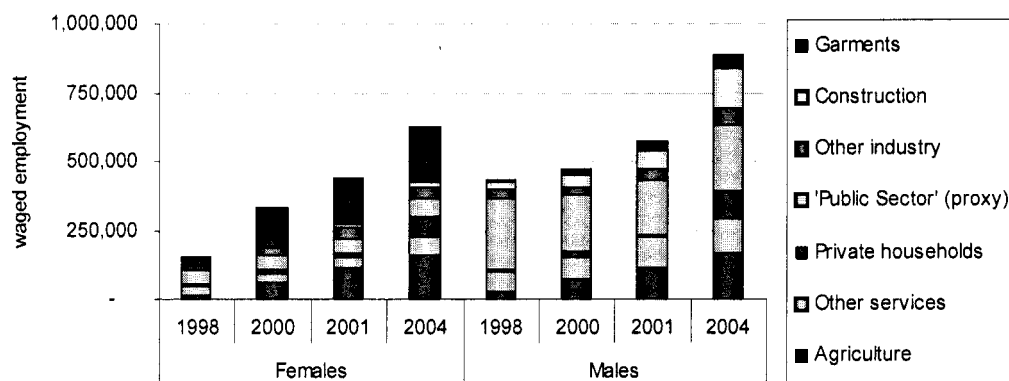


Source: CSES 2004.

Although growing, wage employment remains limited, accounting for only 20 percent of total employment (24 percent of male and 17 percent of female employment). In this growing labor market there are some clear differences between male and female trends and employment status. Construction, public sector jobs and “other services” are of considerably greater importance to men than women. The vast majority (80-90 percent) of the jobs created in garment manufacturing since the late 1990s are by contrast female: these jobs, now numbering around 350,000, account for 3.4 percent of total employment and 5.5 percent of female employment. They were also, by comparison to informal and even many other formal sector jobs in Cambodia, “good”, being linked through trade quotas and an ILO project to core labor standards.

The impact of garment sector jobs on the welfare of employees is however more limited than a simple analysis of their wages would suggest. Around 90 percent of garment factory workers remit a portion of their wages. The proportion that is remitted is typically very high: Dahlberg (2006) found workers remitting on average 35 percent of their earnings, which conforms well with other estimates¹. The impact of these remittances is very important to the mainly rural recipient households, in some cases sustaining current consumption (food or health expenditures), in some cases enabling investment in fertilizer, livestock or the education of younger siblings (Dahlberg 2006; ADI / CCC 2005). To remit this much, however, garment factory workers typically spend very little on their own welfare (food, housing and healthcare).

Figure 7.2 In wage labor, women are concentrated in garments; men dominate construction, public sector employment, and other services

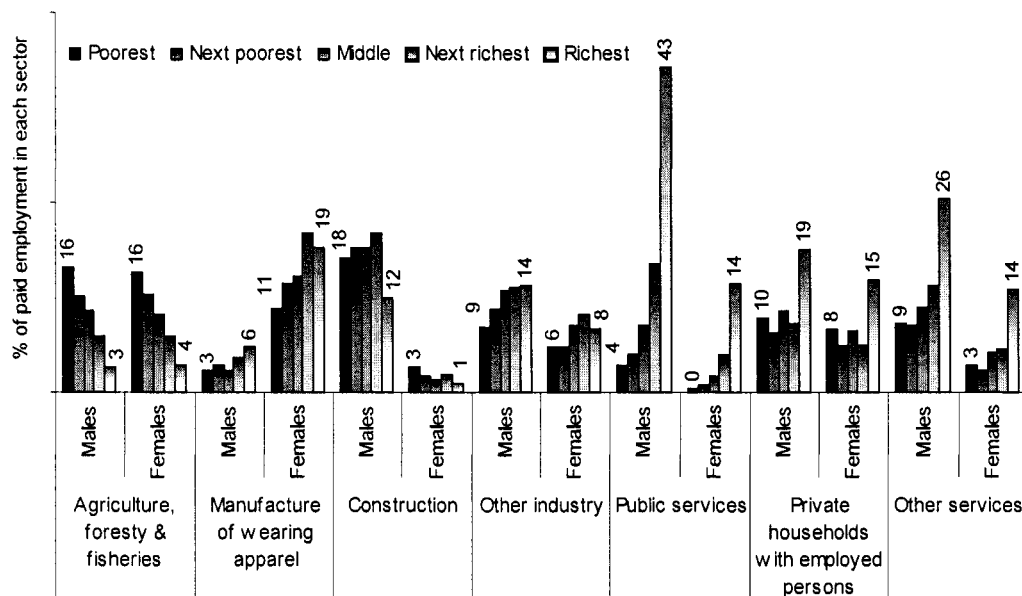


Sources: Census 1998, Labor Force Surveys 2000 and 2001, CSES 2004

The distribution of paid employment can be further disaggregated by wealth quintile (Figure 7.3). Employment in public services is dominated by men from the wealthiest quintile. Nearly 60 percent of paid workers in agriculture are from the bottom two quintiles with nearly equal numbers of males and females.

¹ ADI / CCC 2005 found a mean of 27 percent; in the largest survey to date (CRD 2004), 40 percent of workers remitted 31-50 percent of earnings and 32 percent more than half.

Figure 7.3 Men, particularly men from the richest quintile, dominate public sector employment



Source: CSES 2004.

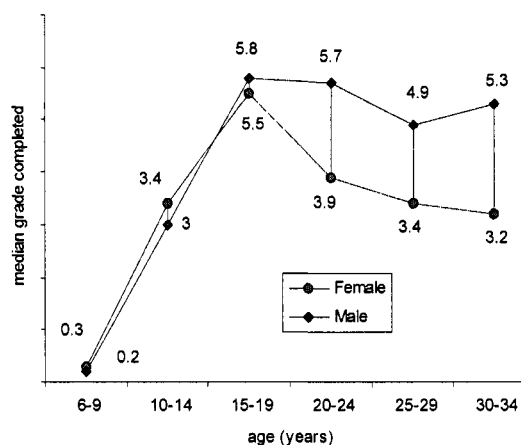
There is still considerable lack of clarity about the distributional nature of garment sector employment, in terms of whether those who receive these jobs come from poor or non-poor backgrounds. Data from the CSES 2004 provides some insights, but does not record enough information on migration or remittances to provide a complete picture of how factory workers now found in Phnom Penh relate to sending households in rural areas. Obtaining access to these jobs is easier with a certain level of education and some household savings to fund the move to Phnom Penh (and, in about one in six cases, a bribe paid to secure the job), which suggest that the poorest are indeed likely to be underrepresented amongst factory employees. The CSES data finds 8.7 percent of households to have one or more garment worker (21 percent in Phnom Penh, and 8 percent of rural households). Relatively few (12 percent) of the poorest quintile have a family member working in the sector. Findings from factory-based worker surveys and detailed case studies which link workers via remittances to their home villages suggest a somewhat greater distributional impact of garment sector jobs (ADB 2004; Dahlberg 2006). In terms of equity effects, however, it seems that the greatest impact of the growth of the garment sector may be in promoting gender equality rather than consumption or income equality.

Expanded service delivery has closed gender gaps, particularly in education

Access to schooling and education outcomes such as literacy have traditionally been one of the aspects of Cambodian gender relations in which inequality was most pronounced. As described in the previous chapter, contact with public services and

human development outcomes have improved considerably over the last decade. Progress has been particularly good in regard to education, where the increase in primary enrolment has been markedly faster amongst girls than boys. The result is that educational attainment—as measured in, for example, age-specific median values of highest grade completed—is near equal for those in or recently leaving school. While inequalities emerge amongst those aged 20 or above, and the ratio of male to female median grades for the population as a whole is high at 3.6 to 2.3, female educational status in the next generation should be much higher than in their parents' generation, and much closer to that of their male contemporaries.

Figure 7.4 Educational outcomes amongst recent school leavers show much less inequality



Source: CHDS 2005 p. 11-12.

The next challenge then is to improve aggregate outcomes and gender equity above primary school level, where participation, particularly of girls, drops off markedly. At the lower secondary school level, the ratio of girls to boys is 77:100; at the upper secondary school level, the ratio has slightly exceeded the target of 59:100 for 2005. Net enrollment was however only 9 percent of the age group and the vast majority of the students were from higher income groups (74 percent of upper secondary school students are from households in the highest two income quintiles). Finally, at the tertiary school level, women are outnumbered by men 3-to-1. While this marks an improvement over the 3.3-to-1 ratio in the current work force, it implies that gender disparities in professional and management occupations will persist in the medium to long term. As higher returns to education are discernable primarily above the primary school level, shortfalls in both overall enrollment rates and gender equity in enrollment at the lower secondary school level will tend to perpetuate both income and gender inequities.

A notable health concern for women—and a lagging indicator amongst the Cambodian Millennium Development Goals—is the maternal mortality ratio (MMR). Improvements in preventive and curative healthcare have benefited women as well as men. However, while a number of service utilization and intermediate outcome indicators (e.g. the percentage of pregnant mothers who receive antenatal care, and the percentage of deliveries that occur in a health facility and / or with the assistance of a trained health professional) have improved in the last five years, this has yet to result in improvement in the MMR. In part, this may reflect the limitations and lags in the MMR as a measure. Even accounting for this, however, it is clear that progress in ensuring safe motherhood is being achieved at a slower rate than is the case for other health indicators.

Men and women face different forms of insecurity

Prevalence and tolerance of gender-based violence remains high

In common with many post-conflict countries, Cambodia has a high rate of violent crime. Men tend to experience public violence from male gang members, peers, and authorities, while women are more likely to experience sexual violence and assault, including in particular domestic violence, from men (MoWA 2005). A series of studies conducted over the past decade (Zimmerman 1995; MOWVA and PADV 1996; MOWA 2005), including most recently the CDHS 2005, have estimated the proportion of ever-married women who have ever experienced violence at between 13 to 23 percent (Table 7.1): it is safe to assume that, as in most countries, the incidence may be higher given the tendency for domestic violence to be underreported.

Table 7.1 Estimates of domestic violence, 1996-2005

Year	Organization	Sample	% of respondents who have ever experienced		
			physical violence	sexual violence	emotional, physical or sexual violence
1996	MOWA	1,374 women in six provinces	16		16
2000	CDHS	15,351 women aged 15-19	16	4	25
2004	MOWA	1,580 women aged 15 and over	23		
2005	CDHS	16,823 women aged 15-19	13	3	22

In most cases of violent crime but particularly in the case of violence against women, institutional responses do not deliver effective justice. Domestic violence is often not seen as a criminal or serious offense by police and local authorities with the result that perpetrators are not punished. The Ministry of Women's Affairs (MOWA) made responding to domestic violence a high priority, with a new law adopted in 2005.

The impact of domestic violence, particularly on the poor, is severe. In the 2005 survey, 24 percent of the poorest group in the sample (those earning less than \$50 a month) who had experienced domestic violence said they lost two months income as a result of violence in the 12 months preceding the survey. A fifth of respondents experiencing violence reported that their children had missed school between five to twenty times in the past year as a result of the violence (MoWA 2005: 37).

While tolerance is high, there are some signs that attitudes may be shifting with domestic violence coming to be seen as a public rather than a private issue in at least some communities (Box 7.1). The main factors which appear to contribute to changing attitudes are media education, NGO training programs and, in some cases, greater intervention by local authorities, including fines, arrests, and 'advice' to the victim and perpetrator.

Box 7.1: Qualitative research suggests a decline in domestic violence in some villages

In recent CDRI studies (MOPS and the PPA), there are suggestions of a decline in domestic violence in some communities. In five of twenty four PPA villages, domestic violence was reported to be declining: it was seen as increasing in three others, and static in the remainder. In six of the nine MOPS study villages, both male and female participants reported that the incidence of domestic violence had declined significantly in recent years (with slower change or no change in the other three villages). This improvement was attributed to the impact of social and legal awareness campaigns, facilitated by the spread within the villages of television and radio. In both MOPS and the PPA, the decline was credited to human rights training workshops on domestic violence delivered by NGOs. Also important was the perception of stronger laws against domestic violence and of local authorities increasingly willing to intervene (which is itself a product of public education and legal awareness campaigns). The situation is still far short of ideal; the emphasis of local police and authorities, as in much of “living law” dispute resolution at the local level in Cambodia, is on reconciliation and relatively symbolic punishment through a few days confinement in jail, rather than the strict application of the law. Nonetheless, in some communities the combination of new laws and active rights education appears to have led to an improvement upon the previous situation, when domestic violence was clearly seen as a family matter in which it was difficult or impossible for outsiders—both other villagers and local authorities—to intervene.

Before, when a husband hit his wife, the wife didn't dare complain at the police station, but now, after people supporting women's rights have been here, the wife claims her rights at the police station to have him arrested and warned. (Khsach Chiros, Kompong Thom Province: MOPS)

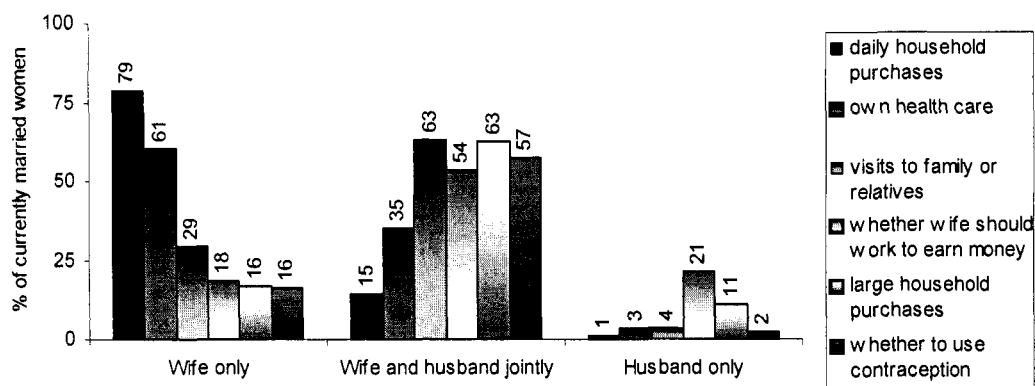
Now, we have much less violence in our area than the past five years because some actions against this misconduct have been taken over the same period. For example, the authority arrests the abuser and detains them at the police post for one or two days, so the abuser and those people who tend to abuse are afraid and stop doing wrong. (Dang Kdar, Kompong Thom Province: MOPS)

Source: CDRI 2007a pp. 136-7; 2007b (forthcoming).

Participation in decision-making

Most household decisions are made jointly

Joint decision-making is the norm in Cambodian households: for most of the sample issues on which questions about decision-making were asked in the CDHS, husband and wife jointly make the final decision jointly (Figure 7.5). When decisions are *not* made jointly, it is more likely to be the wife rather than the husband who has the final say. The notable exception, where more conservative attitudes are more apparent, is with regard to decisions on whether or not the wife should work to earn money where, once again, the decision is made jointly in the majority (54 percent) of households: but, when it is *not* a joint decision, it is more likely to be made by the husband (21 percent) than the wife (16 percent). Amongst the subsample of currently married women who had one or more living children at the time of the survey, three-quarters would make decisions relating to their children (e.g. on schooling, what to do if a child was sick, and whether or not to have another child) jointly: but once again, if the decision was made solely then it was much more likely to be made by the woman rather than the man.

Figure 7.5 Most household decisions involve both husband and wife

Source: CDHS 2005 p. 269.

While investment decisions (e.g. on land or livestock) are often joint or led by the husband, research confirms that traditional practices with regard to credit still prevail: men are generally agreed to find asking for a loan embarrassing, and leave these negotiations to their wives, who are seen as more competent in managing such financial affairs (Box 7.2). However, this does not necessarily ensure that she has a say in how the money is used; and in some cases women become liable for debts owed by their husband.

Box 7.2 Women tend to be responsible for managing borrowing

In the Khmer household, the wife and the husband have to discuss with each other before going to borrow money from the creditors. The wife's responsibility is to borrow money and the husband is responsible for earning money to repay the loan. The husband doesn't want to do the borrowing at all because he is embarrassed. (Village report, Koah Ta Pov Village, Kompong Thom Province: PPA)

Source: CDRI 2007a.

Women's participation in public life is increasing, but still low

Women's participation in public life in Cambodia is extremely limited (Table 7.2). There are some positive trends—following the 2007 Commune / Sangkat elections, women hold 15 percent of seats in Commune / Sangkat councils (up from 8 percent in 2002) and 4 percent of commune councils have a woman commune chief (up from 0.8 percent in 2002). However, overall rates of political participation are low (Table 7.x), giving it one of the lowest gender empowerment scores in Asia (Urashima 2007, UNIFEM *et al* 2004).

Research on the responsiveness of local institutions found that women's participation in Commune / Sangkat councils is explained by their low levels of education, family responsibilities, and social attitudes which regard politics as something for which women are not suited—attitudes which clearly undermine the confidence of women councilors who do participate (Rusten *et al* 2004).

Table 7.2 Women are under-represented in all aspects of government

Public office	% of posts held by women
<i>Legislature</i>	
National Assembly member	16
Senators	13
Commune councilors	15
Commune chiefs	4
<i>Executive</i>	
Ministers	5
Secretaries of State	6
Under-Secretaries of State	12
Provincial or Municipal Governors	0
<i>Judiciary</i>	
Judges	12
Prosecutors	2
<i>Civil service</i>	
Civil service employees	31
- of which senior positions	9

However, women's participation in community level meetings (such as the commune planning process) tends to be equal to or greater than that of men (Rusten *et al* 2004, Brereton 2005). Separate meetings for women and the opportunity to participate in discussions about local issues which are immediately relevant to women's lives appears to support their involvement. The fact that women are more likely than men to be in the village during the day—which makes it harder for them to run for office, take leadership roles or travel to take part in meetings—does make it easier for them to participate in meetings at the village level. Women do not usually participate in planning processes above the commune level:

thus for example in 2004 only 17 percent of participants in District Integration Workshops were women (Brereton 2005).

Women's participation in civil society and community decision-making outside of elections is generally low (albeit somewhat higher among older women who no longer need to look after for children). Although women entrepreneurs do exist and women often play a key role in managing family businesses amongst the wealthier quintiles, men dominate not just public but also private sector institutions involved in economic management, including the private sector forum, chambers of commerce, market management, and the judicial system. There are few women in management positions in either the public or private sector.

Civil society development: from gender training to a women's movement

Levels of associational activity are rather low in Cambodia, for both sexes: only 6.4 percent of women are a member of any association, club or organization. Cambodia traditionally had few permanent village-level groups (Ebihara 1968; Delvert 1961; Conway 1999; Aranvind 2004). However, since the early 1990s there has been a rapid if uneven expansion of civil society and there are now a number of organizations working on women's issues who specifically target women as beneficiaries. To date, however, much of this has targeted women primarily as simply recipients of training. For the most part, activities are focused on gender awareness training; women in politics, particularly commune councils; HIV/AIDS; women's legal rights; and trafficking and domestic violence. Although relevant, this set of activities has largely reflected donor and INGO priorities. There are no grassroots movements advocating for gender-responsive action on other key gender concerns such as maternal health services or female education and there are few organizations supporting the economic advancement of women—or men for that

matter—outside of credit, handicrafts and traditional vocational training. There remains resistance to the term ‘women’s empowerment’ as this is generally interpreted as taking power away from men and against traditional culture.

8. Institutions and equity in the development process

Summary

- Contemporary economics emphasizes the importance of institutions—both formal structures and the values and practices in which they are embedded—in explaining national development outcomes, including equity and equality outcomes. International experience suggests that state institutions that reflect the interests of poor and promote equality of opportunity foster more stable politics and more sustainable long-term growth than those which concentrate power and wealth. Building such institutions is often hard in post-conflict states. In Cambodia, surveys identify informal fees as a critical burden on firms, and reveal corruption and lack of trust in state institutions as major problems.
- The state can foster equitable development in the way it raises and directs public finances. Cambodia's public financial management (PFM) system has many serious problems; however, progress in PFM reform has opened up possibilities for more effectively and efficiently directing public spending towards poverty reduction. Priorities include putting in place strong, transparent measures for using revenue that is expected to flow from oil and gas within a few years; reallocating spending towards priority goals; raising capital spending, emphasizing economic sectors (roads, irrigation, energy) that shape distribution of opportunities and the pattern of growth; and increasing recurrent spending on maintenance (to sustain the value of capital investments) and, critically, on public sector wages. Building RGC institutional capacity through increased civil service salaries and better management may be as important as investing in infrastructure.
- Besides spending, the state guides growth and poverty reduction by formulating and implementing rules that establish the conditions for interaction between economic and social actors. In pursuing equity objectives, liberal democracies rely heavily on the rule of law—that is, governing society with clear rules applied fairly to all. In Cambodia, state law is not yet established as the primary source of authority: often, it must compete for legitimacy and influence with other rule systems. Cambodia's legal and judicial systems are not currently very effective or supportive of equity: the law is often applied selectively to enforce decisions of dubious legitimacy or protect influential individuals from prosecution. Building the rule of law involves fundamental change in how society is ordered and power exercised. Incentives to reform may reflect international processes (e.g. trade negotiations) or political considerations (e.g. concern regarding popular mobilization around land issues). Legal and judicial reform strategies need to understand that the rule of law emerges as much from processes of social contest as it does from technical change.
- Progress in Cambodia has often been achieved in enclaves, aiming to develop robust institutions and later build outwards, rather than attempting to implement comprehensive institutional reform in one round. Thus, ties to trade quota agreements created incentives for improving working conditions in the garment industry; and principles of participatory and accountable local planning, introduced via donor-supported “project law” under the Seila program, have taken root and come to influence RGC thinking on decentralization and deconcentration policy. In both cases, outcomes fall short of the ideal envisaged under concepts such as the ‘rule of law’, but do mark a significant advance on what existed before, and may open up possibilities for future stepwise progress.

Institutions and development: state responsiveness, legitimacy and the policy process

Market institutions are embedded in and depend for their effectiveness upon a much broader set of social and political institutions. (Box 8.1 discusses what is meant by “institutions”.) A wide variety of organizational actors interact to shape economic and social relations, and help determine the degree of equality or inequality of opportunity that different individuals and groups face in participating in markets and obtaining access to services. These include the courts and police; the media; the executive and legislative bodies; the civil service; political parties; civil society organizations based on principles of collective action or charity; and private sector associations that seek to lobby policy-makers on the basis of collective business interest. The orientation and effectiveness of these bodies are in turn rooted in institutions (practices and norms), such as the constitution and laws; the rules (formal and informal) of the policy process; socially-defined gender roles; national, ethnic or regional identities; and values and expectations with regard to vertical (patron-client, class, administrative hierarchy) and horizontal (solidarity, cooperation) socio-economic relations and forms of social organization.

Institutional arrangements that are conducive to long-run economic growth and structural transformation tend to be those

Box 8.1 What do we mean by “institutions”?

The term “institution” is awkward, as it is used in English in at least two different ways. In academic terminology (e.g. in the New Institutional Economics literature), there is a commonly accepted distinction between institutions as the “rules of the game” and organisations as the “players”¹. In daily usage, however, the term institution is often used interchangeably with organisation, so that a Ministry of Health, an NGO, or an inter-Ministerial committee are also described as institutions. Bratton and de Walle explicitly accept that the term can be used in both senses:

*political institutions can be highly abstract notions, such as constitutional principles, or they can be expressed concretely in actual organisations, such as trade unions, political parties, or the military. They include key aspects of formal politics, like the judiciary, but also informal customs such as patronage, clientalism, seniority principles, or lobbying*¹.

Huntington links institutions and organisations in an interesting manner, defining institutions as “expected patterns of behaviour”, which helps to establish the distinction between organisations that are institutionalised (ie. predictable in their procedures) and those that are not. O'Donnell argues that consolidated democracy is institutionalised democracy--ie. political actors work on the assumption that democratic processes will continue to be the major means of managing conflict in society. He also draws a distinction between formal institutions (elections, parliaments, courts) and informal institutions (patron-client networks, influence of elders)¹. This helps to frame an analysis of the policy process, to the extent that regularised political frameworks are more accessible than discretionary and unpredictable ones.

Institutions and their organisational expressions help to provide a concrete focus for the examination of policy choices, in both the short and long term. By setting the rules of the game (and determining which actors can play) institutions both perpetuate and transform the nature of state-society relations.

which exert checks and balances and limit the natural tendency for economic and political power to reinforce each other. To put it another way, economies which succeed in achieving stable long-run growth tend to have institutions which put limits upon the growth of inequality in political voice and power. By contrast, when economic and political power are both concentrated in the hands of a small and unaccountable elite that lacks either the vision or capacity for state-directed development, the result is generally “bad” institutions which protect the property rights of in-group members but not others; are inconsistent in enforcing contracts; focus upon extracting rents rather than identifying new investment opportunities; and ration market entry and access to capital and information.

This is reflected in the World Development Report 2006, which argues that institutions tend to evolve in vicious or virtuous cycles. Less equitable social structures lead to the formation of institutions that perpetuate inequalities in power, status and wealth; conversely, equitable institutions only emerge in situations when the distribution of power is not highly unequal. In these terms, one dilemma of development is how to bump a society from the vicious cycle of self-reinforcing inequality to the virtuous cycle of self-reinforcing equity (World Bank 2005 pp. 8-9).

Inequality in the ways institutions treat different groups of citizens also matters for legitimacy and governability. If it is widely believed that wealth differences result from unfair rules, this undermines people’s faith in politicians and officials, making it harder for Government to retain people’s loyalty and ensure their compliance with law and policy (see Mekong Economics 2006 for a discussion of inequality and legitimacy in Vietnam). High inequality also undermines the trust required for citizens to work together to solve their own problems (Labonne et al 2006); and is clearly related to the incidence and severity of crime (Demobynes and Özler 2005). Internationally, there is a relationship observed between high levels of inequality and weak (unfair) institutions associated with these levels of inequality, on the one hand, and the increased likelihood of social and political instability, crime, and violence, on the other (Bourgignon 2004 citing Rodrik 1998). This is especially the case when the inequalities in question are horizontal or group-based inequality (e.g. between regions or ethnic groups: Killick 2002). Conflict also imposes opportunity costs, in the form of resources (public and private) diverted from more profitable activities into preventing and fighting crime. Beyond a certain threshold, all these act as deterrents to investment, lending and economic growth.

Post-conflict recovery and institutional evolution in Cambodia

That Cambodia demonstrates many of the kinds of institutional shortcomings described above (see Box 8.2) is unsurprising, given its legacy of conflict. At the collapse of the Khmer Rouge in 1979, all political institutions were destroyed. The People’s Republic of Kampuchea (PRK) thus had to rebuild the institutions of the state from the ground up, in the context of a civil war against foreign-backed insurgents; extreme shortage of material and human resources (amounting in the first years to economic collapse and incipient famine); geopolitically-inspired exclusion from international trade and investment (and most of the international aid system); and a weak foundation of popular legitimacy. In this context, it is unsurprising that the political

institutions that emerged after the Khmer Rouge prioritized the basic task of forming and protecting the state over more advanced aspirations to transparency, accountability or democracy (Hughes 2003; Gottesman 2003).

These institutions have evolved considerably since 1979 with the shift to market economics (beginning in 1989) and, in the Paris Peace Accords of 1991, the end of Cambodia's civil war and agreement on arrangements for the transition to multi-party democracy¹. The abrupt transition to market economics and insertion of Cambodia into regional and global economies enabled officials of the PRK (from 1989 to 1993 re-named the State of Cambodia or SOC) to establish an early privileged position in the marketplace, bringing political position and economic power together to a degree that had not been possible under the enforced slow-growth isolation of the 1980s.

Box 8.2 The quality of local governance is a major, generally negative influence upon opportunities, which will probably require national solutions

"The MOPS demonstrates that good governance is fundamental to development and poverty reduction. Growth, development and poverty reduction can still take place in the context of poor governance and weak institutional capacity, but are slowed, or even halted by corruption, impunity and weak rule of law. This point was made again and again in study villages; unpredictable, unreasonable, and crippling corruption costs are actively preventing many households from going about their daily business and earning a sustainable income.

"The RGC is committed to strengthening local government through the de-concentration and decentralization process. The MOPS suggests that strengthening the financial and administrative capacity of local institutions is important as there is more that local authorities can do, for example to manage local conflicts, involve community members in decision-making, reduce domestic violence and so on. But this will only be effective up to a point, as local authorities are effectively powerless to act once powerful, external influences are involved.

"Significant governance failures, in particular in relation to natural resource management, cannot be addressed at the local level and require a national response. Political will is required to implement government policies and impose consequences on those who break the law."

Source: CDRI 2007b, forthcoming.

Acting as a partial countervailing centrifugal force to the power-centralizing effects of unregulated economic liberalization, the 1993 Constitution laid out a framework vision for a liberal democratic state. Over the last decade reform-minded actors in Government and civil society, together with the UN, donors and international NGOs, have sought to use this framework to create political space for the evolution of an independent civil society, free press, and the separation of powers. The RGC has made significant commitments to principles of equitable development, as seen in the Rectangular Strategy (RGC 2004), the NSDP 2006-2010 (RGC 2006), and the CMDGs (many of which relate explicitly to equity targets). Through allocation formula for the commune/sangkat fund and an ongoing process to develop a national methodology for low-cost identification of poor households, it is also now developing practical mechanisms to meet NSDP goals for better targeting poor areas and poor households.

¹ The Khmer Rouge subsequently reneged on this peace agreement and returned to armed opposition to the state. The last pockets of this opposition finally surrendered only in 1998.

Legal pluralism and governability

A striking feature of Cambodia is the prevalence of what may be described as *legal pluralism*: a situation in which several, often contradictory and competing, rules and norms influence social, economic and political relationships. This situation is not unique to Cambodia: many developing countries are characterized by the existence, in parallel, of traditional, religious, administrative, legal systems, each with different (and unreconciled) definitions of rights, duties and principles and institutions for mediating disputes (Moser *et al* 2001). Legal pluralism typically becomes less important at later stages of economic development: a well-resourced state, sustained by a broad tax base and kept in tune with popular concerns and mores through democratic elections and other channels of accountability, has a greater capacity to project a legitimate definition of law (and to define law in such a way that aligns popular and formal concepts of rules and norms).

Box 8.3 'Political will' and challenge of institutional reform

Difficulty with governance and particularly justice sector reform in Cambodia is regularly ascribed to a "lack of political will" (e.g. Global Witness 2005; US Embassy 2006; AHRC 2007). This concept is at once illuminating but also limiting. On the one hand it correctly identifies that reform of these key sectors is an inherently political process in that it involves a redefinition of how power is exercised within society. On the other hand, the concept of a lack of "will" is reductionist in that suggests that reform could occur through a simple change of sentiment. This underestimates the extent to which current arrangements are maintained by deeply interwoven and self-reinforcing systems of norms and incentives. The difficulty of achieving governance reform in a country like Cambodia is thus better described as a problem of systems and the powers that support them than a problem of will. The question in terms of how more equitable institution of governance could be developed is thus not so much about how will is created but how complex systems are transformed.

Low income developing countries, by contrast, often demonstrate a degree of legal pluralism, in which national laws are a significant but not exclusive reference point when actors negotiate rights and duties. Legal pluralism is particularly pronounced in countries, such as Cambodia, which have in a relatively short span of time been subject to a succession of legal frameworks (pre-colonial, colonial, socialist and liberal-democratic); and / or where the reach of state law has been weakened due to war, revolution and rapid re-insertion into regional and international markets and political-legal frameworks (e.g. the international human rights system built around the UN; WTO rules on trade and commercial law; and so on).

In Cambodia, constitutional and statute law often compete both with (i) social norms (e.g. a historically deep-rooted concept that vacant land can be cleared and occupied and that the act of farming confers land use rights) and (ii) neo-patrimonial administrative conventions, in which the formal distinction between public and private property is blurred, and underpaid Government officials assume the right to use their office to generate rent (e.g. from informal charges for services that are officially free) or to authorize transactions (including lease or sale) of state assets (e.g. land) that fall within their jurisdiction. In a situation of legal pluralism, parties will typically engage in "forum shopping": that is, selecting the legal forum and underlying normative principles which

best legitimizes their claims. Unfortunately, the wealthy and educated are better positioned to shop for a forum supportive of their case, and to deploy the power of the state to back up their claims. Qualitative research clearly reveals a widespread perception of an imbalance in power, and the consequences of this in terms of inequality of opportunity (Box 8.4)

Box 8.4 “Rights in practice”: power confers greater opportunities for the rich

Cambodian society has traditionally been ordered in a hierarchical manner, even if relative status and power in any given relationship was a composite of many different factors. Asymmetry in rights and the pointlessness of resisting this inequality are reflected in many traditional Khmer proverbs, such as “The egg cannot fight the stone”. While recent qualitative research reveals increasing popular understanding of the *concept* of equality of rights that is the central principle of a liberal state, it also reveals widespread agreement that this situation has yet to be established in Cambodia, given that the rich and those with connections have more rights in practice.

The people are poor and ignorant. That is why they [the powerful] grab land and abuse rights. Even if the people know the law, but they are poor, there is still no justice in dispute resolution, because the others have power, money and they also know the law. Pagoda committee member, Prasat Sambo District, quoted in CAS and World Bank 2006 p. 31.

At that time the villagers did not complain because there was no way. They did not know to whom they should complain when the village chief refused to help. Informal leader, Prasat Sambo, quoted in CAS and World Bank 2006 p. 20.

I am poor: if a problem arises with a wealthy person I prefer to drop the issue so the matter will not go too high, because I know I will lose. I try to avoid problems with the rich; they have power. Woman, 50, Svay Rieng Province, quoted in Luco 2002 p. 98

Sources: CDRI 2007a, 2007b, CAS and World Bank 2006 p. 16.

This theme of legal pluralism, and the challenges *and* opportunities it creates for moving to equitable, pro-poor institutional formations, is addressed later in this chapter in the context of labor law and local governance reforms.

Promoting equity through public spending

Public financial management (PFM) is not the only tool by which Government shapes economic and social outcomes: the state also regulates economic and social activity through legal and regulatory functions, through monetary policy (setting interest rates and otherwise controlling inflation), and through influencing identities, values and ideology. Nonetheless, control over the level and allocation of public spending (and how it is financed) is typically the most important lever by which to influence outcomes, including equity, both directly and indirectly (see Box 8.5)². Correspondingly, while there are lenses other than PFM through which to examine a state’s effectiveness in achieving goals, analyzing patterns and trends in public financial management is the logical starting point.

² The role of state spending may be particularly influential when state revenues are large relative to the real domestic economy as a whole: this is clearly not the case in Cambodia at the moment, but this may well change in the near future once oil and gas revenues start to come onstream.

Box 8.5 Core concepts in public expenditure policy

In theory, any productive and efficient expenditure within an economy should, all things being equal, contribute to higher growth: in practice, however, the link between public (i.e. Government) expenditure and growth is a topic of debate. The two key issues of interest are (i) the level of total public spending and (ii) the composition of that spending, in terms of the balance between different sectors and categories of spending.

To assess whether the *level of spending* is appropriate requires comparing aggregate spending to the size of the economy and analyzing the sources from which this spending is financed. The spending-to-GDP ratio is important because high levels of public spending can fuel inflation, affect the value of domestic savings, and potentially crowd out private investment. The sources from which spending is financed (domestic tax and non-tax revenue, borrowing, and ODA) matters because the benefits of taxation-funded public expenditure may or may not exceed the costs (economic and political) of taxing, if high levels of taxation deter economic activity and impede the efficient operation of markets, resulting in a slower rate of economic growth for which tax-funded public spending only partially compensates. Spending financed by borrowing, meanwhile, stores up public debts which may come to undermine the sustainability of public finances and macroeconomic stability in the future.

The *composition of public spending*, meanwhile, needs to be guided by a different set of trade-offs. The first is between general types of sector (e.g. economic sectors vs. social sectors vs. general administration), sectors (e.g. health vs. education, or roads vs. irrigation) and sub-sectors (e.g. vertical disease control programs vs. primary health care systems). Here, the balance of spending needs to reflect analysis of the returns to different potential uses of limited public funds: for given economic and social objectives, is the Government better investing an additional dollar in healthcare, or in irrigation? The second set of trade-offs is with regard to the balance to be struck between capital (new investment) and recurrent (wage and other running cost) expenditure.

Public expenditure policy can be an important influence upon equity and efficiency within a given economy. As discussed earlier, there is a broad spectrum of policy options within which the goals of increasing efficiency and increasing equity are compatible and even on many grounds complementary. There are also, at the extreme ends of the spectrum, positions which may achieve short-term equality at the cost of suppressing markets and slowing growth; or which focus exclusively on maximizing short-term aggregate output, with no regard for the inequality of the distribution of that wealth. Neither of these polar positions is likely to be sustainable, or desirable, over the long term.

Gains in revenue collection would enable higher, pro-equity spending***Cambodia enjoys considerable potential to expand spending***

The fundamental problem with Cambodian public expenditure policy is that the level of public expenditure is extremely low, severely limiting the potential for using spending to influence economic or social development. Public spending as a percentage of GDP has ranged from 17.6 in 2002 to 14.4 in 2005, averaging 16.3 percent between 2002 and 2005. This is low by any standard, including comparison with other low income countries: from 1995-2004 Cambodia's total expenditure averaged 15.2 percent of GDP,

compared with the low income country average of 25.1 percent³. Of 49 low income countries for which data is available, Cambodia ranked sixth lowest in total public spending proportional to GDP, out-performing only the Democratic Republic of Congo, Haiti, Sudan, Liberia and Myanmar (see Taliercio 2006 p. 4).

Over this period, inflation has remained low and there is no evidence that public spending has crowded out private sector investment. In other words, there remains considerable “fiscal space” within which the Government could significantly increase public spending before there is any risk of jeopardizing macroeconomic stability. Indeed, it appears that the over-riding priority in Government’s fiscal policy is to sustain macroeconomic stability, and that it pursues this—to the detriment of other objectives—first and foremost by containing expenditure within a (very restrictive) revenue envelope.

To spend more, however, the Government must first raise more revenue

For public spending to be an effective tool of pro-poor, pro-equity Government strategy, then, requires that significantly more revenue is collected. Improved revenue collection is emphasized because increases in the other sources of finance potentially available for public spending (namely ODA and borrowing) are presently either not likely or not advisable (Box 8.6) and because revenue collection in Cambodia is very low in comparison to other low income countries. From 1995 to 2004, revenue-to-GDP averaged 6.8 percent in Cambodia, compared to an average of 14.2 percent for other low income countries, placing Cambodia third from bottom amongst these 51 countries (Figure 8.1). From 2003 to 2005 Cambodia’s total revenue averaged 11.1 percent of GDP (7.1 percent tax revenue, 2.8 percent non-tax revenue).

³ In these calculations, revenue figures do not include ODA, with the exception of budget support.

Box 8.6 Non-revenue financing of public spending*Official development assistance (ODA)*

Cambodia currently makes heavy use of ODA, which finances nearly half of total spending. Given the highly concessional nature of assistance available to Cambodia, it makes sense for the Government to seek and utilize as much ODA as possible to finance its spending program. In the short term, however, Cambodia has little control over the level of aid flows, which are largely determined by exogenous factors (e.g. aggregate amounts of ODA made available by donors). Some sources (viz., those from the World Bank, ADB, and the US) are influenced by RGC performance indicators, and as such could be influenced by the Government if it further improved its policy and institutional environment. However, there is a problem with lagged measures of performance, as current levels of ODA are determined by performance in previous years. As a result, it seems likely that at best, Cambodia's total "traditional" ODA would likely remain about the same in real terms over the next five years. Cambodia's amount of ODA per capita (c. US\$ 46 in 2006) is already very high in comparison to other low income countries (e.g. the Sub-Saharan Africa regional average of \$28 per capita). However, it is possible that aid from "non-traditional donors," such as China, could increase. In 2006 China committed a relatively large sum of US\$ 600 million to Cambodia (although this amount includes quasi-concessional project financing over a multi-year period as well as private investment). While it is not possible to estimate with any precision the amount given in grant aid from China and other non-traditional donors on an annual basis, it is reasonable to assume that this amount will increase over the next three to five years.

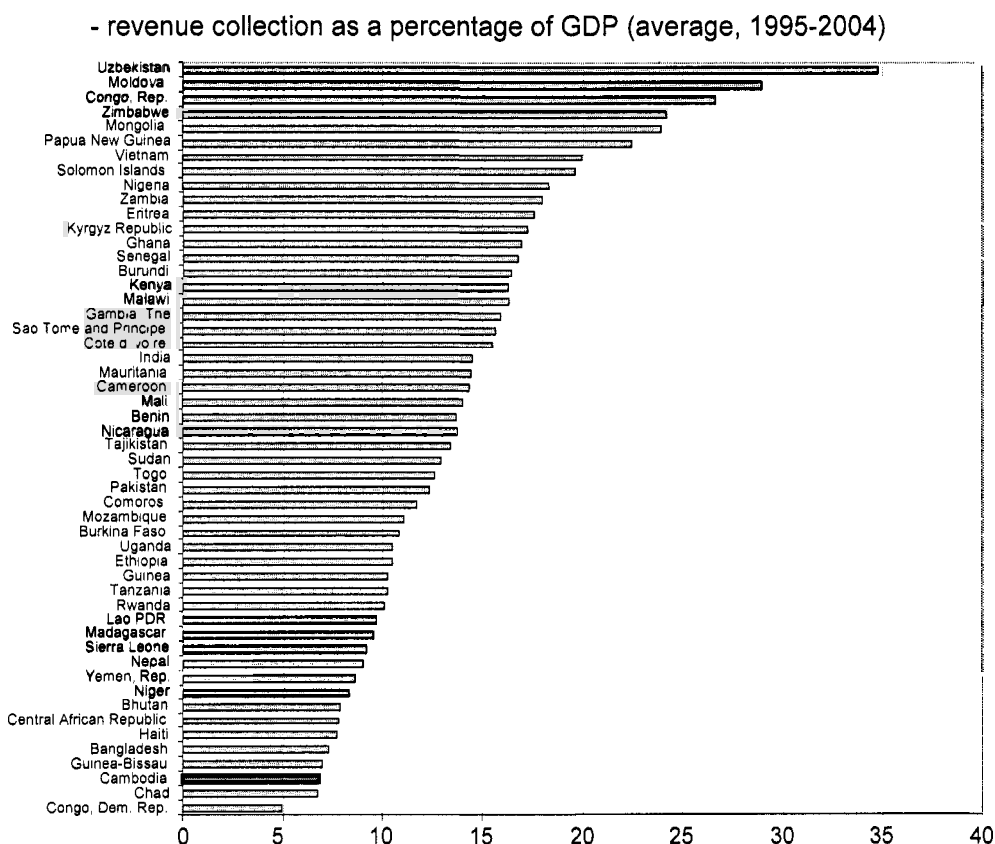
Debt

The third source of financing available to the Government is foreign and domestic debt. Cambodia's relatively high debt stock is largely due to a historical legacy of borrowing from the US (1970s) and USSR (1980s); the recent debt policy of the Government has been prudent. All new external debt is concessional, and domestic debt, at only 3.4 percent of GDP, is contracted on amounts and terms conducive to sustainability. Overall, Cambodia's debt is sustainable: although the risk of debt distress is high, a concessional rescheduling with both the US and the Russian Federation would be likely to bring sustainability indicators back within safe limits. There is no evidence that debt policy is inappropriate in terms of public expenditure policy. In fact, the Government has recently started to consider borrowing small amounts on less concessional terms for high return infrastructure investments.

This comparison would suggest that, rather than worrying that excessive taxation may generate economic costs, Cambodia in fact can and should increase revenue collection in order to finance higher levels of spending. A package of administrative and policy measures (e.g. introducing a modern property tax, raising the VAT rate, and improving tax and customs administration) is needed to boost Cambodia's revenue to GDP ratio beyond its currently stagnated level. Similarly, the current structure of tax revenue is unlikely to be overly distortionary and while Cambodia's non-tax revenue structure (composed mainly of user fees and concession charges) is not notably well designed, the problems with this structure (particularly the concession charge component) is that it tilts

in favor of under-charging (often generating inefficiencies in the overexploitation of natural resources due to low pricing structures), not that it constitutes an excessive charge upon the private sector. In summary, neither the magnitude nor the structure of revenue collection rank as serious problems for economic development.

Figure 8.1 Cambodia ranks 49 out of 51 low income countries for revenue collection



Source: Staff estimates based on World Bank live database

Efficiency gains are possible at either present or higher levels of spending

If the first challenge in making public spending effective as a tool for promoting equitable development (or indeed any other policy goal) is to improve revenue generation, fiscal space can also be expanded by improving the efficiency of spending (i.e. seeking to achieve the same level of output with less input, or greater output with the same input). Weaknesses in PFM systems not only create unacceptable levels of fiduciary risk but also impose high costs in terms of allocative and operational inefficiency. Examples of wasteful spending range from moonlighting civil servants to relatively expensive administrative overhead costs to misdirection of financial resources

to non-priority uses. Cash-based payments have been a major constraint: budget execution has suffered from delays and unpredictable release of funds, undermining operational planning and resulting in the build-up of arrears. The system is plagued by gate-keeping and deficient accounting and reporting systems, leading to a weak control environment and increasing opportunities for corruption. Cambodia's system ranks below average for low income countries, indicating the need for substantial upgrading.

The Government's *Public Financial Management Reform Program* (2005-2015) is focusing first on making the budget credible and reducing fiduciary risk (by improving budget planning and execution and strengthening the control environment). The Program is increasing use of the banking sector, improving planning and prioritization in cash management, and developing a financial management information system (FMIS). Strengthening the internal and external control environment will require not only an appropriate legal framework but also an enhanced public accounting system, a culture of legal compliance, ethical and professional standards, and appropriate oversight arrangements. In this context the National Assembly is strengthening its oversight capacity so that it can promote greater accountability regarding the use of public funds.

Moreover, in order to reach RGC goals of poverty reduction and equity, spending needs to be linked more closely to priority outcomes. Increased effectiveness can be attained by improving the pro-poor targeting of resources through more tightly linked sector plans and budgets. In education and health, planning processes have improved and greater linkages between planning and budgeting have been developed, resulting in improved prioritization of spending. Agriculture and road transport have yet to make progress on this front.

Weaknesses in formal and informal accountability mechanisms have a negative impact on the efficiency and effectiveness of public sector spending, and thus on poverty reduction. To the extent that citizens do not have effective means to express their preferences both to politicians and frontline service providers the efficiency of spending may be reduced. To the extent that citizens do not have effective means to monitor the outputs and outcomes produced by the public sector, the effectiveness of spending may be reduced. Scaling up participatory mechanisms that promote inclusion and transparency would likely have significant positive effects on service delivery outcomes, thereby increasing the value for money of each riel spent.

Equity and patterns of public expenditure

Having concluded that increasing the *level* of spending is possible and desirable, it is then necessary to examine the *composition* of public spending, in terms of its allocation to sectors and the balance between capital and recurrent spending.

Spending has shifted from defense to development; but more money is needed for public spending that promotes growth

Table 8.1 summarizes trends in sectoral allocation, expressed in terms of spending as a percentage of GDP in that year⁴. These figures show that the share allocated to “core Government” have declined over the last five years. This reflects the reduction by a third in spending on defense and security, but also the extremely low share allocated to the judiciary. Spending on social services is now considerably higher than ten years ago (even if it has dipped slightly in relative terms in the last two years); but allocations to the economic sectors—agriculture, transport and others—has remain virtually unchanged in percent-of-GDP terms, and about half of the level of social sector spending.

Table 8.1 As core Government costs have been contained, developmental spending has increased

a. Government-executed expenditure by summary function, 1996-2005 (percentage of GDP)

	1996	1997	1998	1999	2000	2001	2002	2003	2004 ¹	2005 ^{1,2}
Core Government	6.1	5.8	6.3	5.4	6.4	5.6	6	5.5	4.5	3.7
Economic Services	1.1	1.3	0.8	1.4	1.4	1.8	2.1	1.6	1.2	1.3
Agriculture	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.4	0.3	0.4
Transport	0.3	0.4	0.2	0.3	0.6	0.7	0.9	0.6	0.5	0.5
Other Economic	0.5	0.7	0.5	0.9	0.5	0.7	0.7	0.5	0.3	0.4
Environmental protection	0	0	0	0	0	0	0	0	0	0
Rural Development	0.1	0	0.1	0.1	0.1	0.2	0.4	0.5	0.4	0.3
Social Services	1.9	2	1.7	2.6	2.7	3.1	3.5	3.4	3.2	2.9
Health	0.5	0.5	0.4	0.9	0.7	0.9	1	1	0.9	1
Education	0.9	0.8	0.9	1.1	1.2	1.4	1.7	1.6	1.5	1.4
Community & Social Services	0.5	0.6	0.5	0.5	0.8	0.8	0.8	0.8	0.7	0.5
Humanitarian / Relief	0.6	0.1	0.2	0.4	0.3	0.2	1	1.8	0.8	1.9
Total	9.8	9.2	9	9.9	10.9	11	12.9	12.7	10.1	10.1
Share of Total (RGC plus ODA)	0.43	0.45	0.39	0.47	0.46	0.48	0.51	0.52	n/a	n/a

⁴ Given that ODA has comprised a significant percentage of expenditure over the last decade, it is worth looking at the picture for total expenditure (Government-executed plus externally-financed) as well as, within this, specifically Government-executed expenditure (as presented in the table here). The former has been fairly stable, averaging around 25 percent of GDP in any given year; the latter has been increasing since 2000, and more erratic as a percentage of GDP, ranging between a low of 9 percent in 1998 to a high of 12.9 percent in 2002.

b. Treasury-executed spending by function, 1996-2005 (percentage of total)

Function	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005 ²
Core Government	62.6	63.2	69.4	54.7	58.9	51	46.6	43	44.6	36.7
General Administration	17	15.7	26	19	29.1	25.7	22.2	24.6	23.9	18.4
Defense	32.5	32.7	29.5	25.2	20.2	16.5	12.3	11.6	12.7	11.4
Security	12.8	14.6	13.7	10.1	9.3	8.5	6.6	6.3	7.5	6.4
Judiciary	0.3	0.3	0.2	0.3	0.4	0.4	5.4	0.5	0.5	0.5
Economic Services	10.8	14.1	9.3	14.2	12.6	16.9	16	12.9	12.2	13
Agriculture	2.1	2.6	1.7	1.9	2.3	3.9	3.3	3.4	3.2	4.1
Transport	3.1	4.1	1.8	2.6	5.1	6.4	7.2	5	5.4	4.7
Public Works	2.6	2.6	1.2	2.2	4.7	5.4	7	4.6	5.1	4.3
Other Transport	0.5	1.5	0.5	0.4	0.4	1	0.2	0.3	0.3	0.4
Other Economic Services	5.5	7.3	5.7	9.5	4.8	6.1	5.1	4.2	3.2	3.7
Environmental Protection	0.2	0.2	0.1	0.2	0.3	0.4	0.4	0.4	0.4	0.4
Rural Development	0.5	0.4	0.6	1.2	0.8	1.8	3	3.6	3.8	2.7
Social Services	19.5	21.2	18.8	26.4	24.8	28.1	27	26.8	31.7	28.7
Health	4.8	5.9	4.2	9.4	6.7	7.9	7.9	7.6	9.1	9.6
Recreation, Culture & Religion	0.6	0.8	0.6	0.8	1.8	1.9	1.4	1.4	1.2	1.3
Education	9.1	9.1	9.4	11.4	10.7	12.9	13.1	12.7	15.2	13.7
Social Protection	5	5.5	4.6	4.8	5.7	5.4	4.5	5	6.1	4.1
Other	6.5	1	1.9	3.5	2.9	2.2	7.5	13.8	7.7	18.9
Debt	6.5	1	1.9	2.5	2	1.8	1.7	6.5	3.9	5.5
Capital Expenditure ³	-	-	-	-	-	-	4.9	5.8	3.3	7.7
Other not classified	-	-	-	1.1	0.9	0.5	0.9	1.5	0.5	5.7
Total	100	100	100	100	100	100	100	100	100	100

Source: Based on World Bank estimates and MEF TOFE, presented in Taliario 2006 pp. 12-14.

Notes: ¹ Only government expenditures are presented for 2004 and 2005 (i.e. ODA figures are not available).

² The reported figures are budget plans for year 2005.

³ The way government budget expenditures are reported changed in 2001. Up until then, all capital expenditures were reported under the corresponding ministry. Thereafter, some of the capital expenditures that were reported by the government were not allocated across the ministries and the remainder is presented separately.

The improvements in service delivery and human development outcomes (and likely positive impact upon productivity and growth) described in chapter 6 attest to the positive results achieved through rising social sector spending. (Rising household spending on schooling and healthcare, combined with improved sector-level expenditure efficiency, have of course also contributed.) By contrast, at \$88.5 million in 2004 (constant 2005 prices), spending on economic sectors (agriculture, transport and rural development) is inadequate to meet the pressing need for spending on public goods to stimulate rural-based, labor-intensive, poverty-reducing growth of the kind needed to meet the Government's goals for growth and poverty reduction. Under-spending on the economic sectors is an underlying weakness that needs to be addressed, both by the Government and its partners.

However, to derive more detailed prescriptions for the sectoral allocation of public expenditure on the basis of presumed effects on growth and distribution (and the interaction between these two) is extremely hard (see Box 8.7). Thus the broad approach of the Government at present this time—namely, to stabilize social sector spending at current levels (relative to GDP) and to focus increases on the economic sectors (agriculture and infrastructure)—makes good sense at this point. It should be noted however that increases on current spending levels in either the more advanced social sectors or the economic sectors is likely to a decline in the overall efficiency of spending,

unless some of the increase is dedicated to increasing capacity, particularly through civil service reform. It is clear that the ministries of agriculture, rural development, and public works and transport are in need of considerable capacity development before across-the-board increases could confidently be made in their budgets (see World Bank, 2003)⁵.

Another way to formulate the problem of where best to allocate public spending so as to promote growth and poverty reduction (including through measures that promote equity) is to phrase the issue in terms of a choice between *investing in institutions* (core functions of the state such as the judiciary, the civil service, and the overall regulatory regime) versus *investing in physical assets* (such as roads, schools, and irrigation systems). This has implications for the balance to be struck between capital and recurrent spending: building public sector institutions, defined either narrowly or broadly, is likely to imply increased prioritization of recurrent spending relative. The mapping is obviously not perfect—infrastructure requires recurrent spending on maintenance to retain its value; correspondingly, building core public sector capacities may require some one-off investment in, for example, training facilities and curriculum development—but the point remains: a serious effort to build core state capacity strongly implies increasing spending on recurrent uses, and most notably, committing significantly more funds to public sector salaries (see Box 8.8).

Box 8.7 Difficulties in identifying optimal allocation for goals

Analytically, using expenditure policy to meet outcome goals (e.g. growth and human development targets in the NSDP) is not so straightforward. The principal problem can be framed in terms of the *complementarity of expenditure*, both in functional and economic terms. Thus, a rural road in district X might do more to improve enrolment rates than building another school. The impact of infrastructure spending (roads, water, energy, etc.) on social outcomes is increasingly understood as highly complementary to social sector spending. This makes it difficult to provide robust high level policy recommendations about the allocation of spending across major functional categories

The second major analytical complexity—*complementarity of economic types of expenditure*—relates to the fact that absorptive capacity is endogenous. That is, greater spending on wages, management, and facilities could increase absorptive capacity, thus justifying greater investment in sector projects and programs. Writ large, the trade-off between public spending and the capacity of the public sector to spend is a difficult one to assess, especially in post-conflict settings with current tools. Despite these difficulties in assessing the relative merits of different functional categories and direct as opposed to capacity-building spending, this is what the Government and National Assembly in practice must do every year.

⁵ Tanzi (2004) provides an overview note on measuring efficiency in public spending. The quantitative comparative assessment of sectoral efficiency is still at an early stage of analytical development. The recent application of techniques such as Free Disposal Hull (FDH), however, is promising, and could be considered as follow on work to this report. See Herrera and Pang (2005) for a panel data analysis of public spending efficiency in developing countries. Herrera and Pang (2005) also find that higher spending is correlated with lower efficiency, and in particular with respect to higher shares of the wage bill to total spending.

Box 8.8 Civil service salaries and development outcomes

Arguably, Cambodia might generate higher returns from recurrent ‘investments’ in the civil service as compared to a given road project. This issue—the returns to investing in institutional software rather than economic hardware—is a topic of considerable debate: the IMF notes that “In low income countries, it is not obvious that public investment should take precedence over current spending”, while the World Bank observes that “Governance is a key determinant of the efficiency and effectiveness of public spending” (see World Bank 2003 for a discussion of this issue in the Cambodian context). A better paid and managed civil service will reduce the incentive and opportunities for corruption, which a number of analysts have found directly reduces the productivity of public investment (see Tanzi and Davoodi (2002) cited in IMF, 2006).

There is not a clear consensus on this, however. Gupta et al. (2004) present a different perspective, concluding that achieving fiscal consolidation by reducing the wage bill, as opposed to capital spending, results in higher growth rates. On this analysis, then, capital investments are still to be preferred to public sector salaries. However, analysis strongly suggests that Cambodia is not yet at a stage where it is desirable to reduce the wage bill.

The conclusion that there is now also ample literature on the link between governance and growth similarly provides no clear practical guidance. The importance of governance to the efficiency of public spending would suggest, on the one hand, caution in urging the creation of fiscal space in countries where governance is weak: but, on the other, it also implies the need to improve governance in order to enhance the overall impact of public spending, most especially in countries where fiscal space will be rapidly expanding (e.g., as a result of the discovery of natural resources, as in Cambodia, which have been found to have a strong, negative effect on growth by undermining the quality of institutions: Sala-i-Martin and Subramanian, 2003).

Sources: IMF 2004 p. 23; World Bank 2006.

Given the serious problems afflicting the civil service—low pay, low skills, and thus low capacity—strategic civil service reform will have to be accelerated in the short term and carried out over the medium term if the RGC’s vision of poverty reduction is to become reality (World Bank, 2003). Cambodia’s reform program must look at every possible avenue for improving civil service pay, to attract and retain skilled staff, especially for high level management and priority sector staff; rationalizing civil service employment, to ensure that human resources are deployed well in high priority sectors; and strengthening civil service management, to guarantee that human resource expenditures are subject to controls and linked more closely to the budget formulation process. Indeed, one of the principal risks to the NSDP is the capacity of the civil service to deliver.

Though the details of Cambodia’s pay reform have yet to be developed, it is clear that increasing civil service pay will require a large amount of additional resources. This ‘investment,’ which is recurrent in nature, is undoubtedly one of the highest priority uses for Cambodia’s future petrochemical revenues (assuming efforts are also made to improve the management of the civil service). Yet there is no analytical tool that allows for a cost-benefit assessment of the impact of building the institutions of state through higher pay versus investing in roads and school buildings. Nonetheless, a civil service pay reform policy clearly needs to be prepared to lay claim to, at the very least, the minimum amount of resources needed to establish a functional civil service in the priority sectors, subject to the recommended wage bill in the medium term macroeconomic

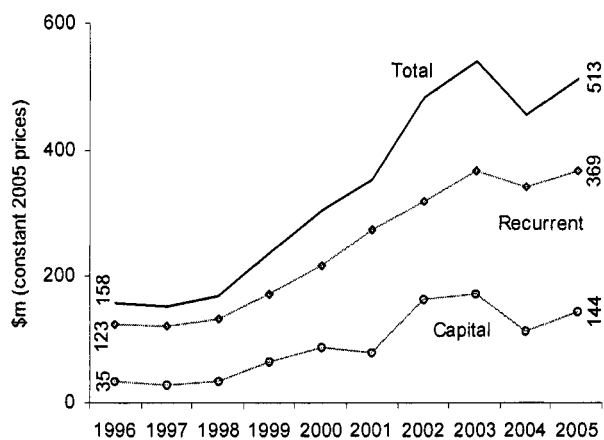
framework. A sound strategy for boosting wage spending needs to be a major feature of Cambodia's medium term expenditure policy.

Building vs. sustaining improvements

The other way to examine the composition of public spending and its likely contribution to promoting an equitable growth path is to examine the balance between investment or capital spending (that is, spending on new buildings, equipment, and so on) and recurrent spending (regular expenditures for public sector salaries, maintenance costs, and so on). There is a pressing need to increase spending on the maintenance of public sector infrastructure investments. As a post-conflict country, Cambodia has an extremely long list of urgent investments needed to rebuild the country's physical and human capital. At the same time, it is highly inefficient to use limited resources nearly exclusively on new investments (e.g. a new or rehabilitated road), which then rapidly degrade for lack of recurrent maintenance spending, necessitating a further round of extremely expensive investment spending.

Overall spending has risen over three-fold in real terms between 1996 and 2005 (Figure 8.2, Table 8.2): this rate of increase has been roughly similar for recurrent and capital spending, although capital spending has been more erratic. Averaging 2 percent of GDP over decade 1995-2004, Cambodia's capital spending has been less than half the low-income country (LIC) average (4.9 percent), placing it eighth from bottom out of 30 LICs for which data is available. This helps explain Cambodia's extremely low rates of electrification; poor penetration of telecommunications; and road and irrigation networks which are amongst the lowest in the region (World Bank 2004, 2006).

Figure 8.2 The economic classification of public spending, 1996-2005



Source: MEF TOFE reports

Chronic and severe public-sector underinvestment in infrastructure are also likely to have serious effects on inequality as well as aggregate growth (Box 8.9). Throughout this report, numerous statistics point to the existence of very pronounced geographical inequalities. Although other factors (e.g. soil quality, length of time elapsed since armed conflict ended in the locality) are also at work in explaining differences in spatial averages, a key explanatory factor is the difference between core and well-connected parts of the country on the one hand and remote, isolated parts of the countryside on the other. In lowland areas close to towns and national roads, inhabitants have access to more varied and extensive markets, and enjoy proximity to schools and healthcare

facilities; in poorly-connected, typically upland areas, opportunities and service coverage are much more limited. Improving total spending on basic infrastructure and, where appropriate, targeting investments to poor areas could play a powerful role in equalizing opportunities and, eventually, outcomes.

If it is accepted that public spending on infrastructure can generate high returns and positive externalities (World Bank 1996, 2005; Aschauer 1989), it is important that Cambodia develop an effective investment appraisal system to maximize the rate of return on public investments. This should also serve to identify the budget allocations that need to be set aside for maintenance of new investments. At present, maintenance expenditures are extremely low, covering probably only two-thirds of what is needed to sustain the value of existing investments.

Finally, while the public sector wage bill has increased from \$39m to \$100m, this is below the rate of overall or recurrent expansion, with the result that the salaries and allowances fell from about one third to one quarter as a share of total recurrent spending. The inadequacy of pay for public servants, and the perverse, anti-poor outcomes that it gives rise to, are readily apparent to most Cambodians.

The somewhat unhelpful conclusion from analysis of public expenditure policy is that levels of spending on *all* sectors and categories—including the construction and subsequent maintenance of infrastructure, civil service salaries, and running costs—are far too low to meet the level of need, achieve efficiency in implementation, or effectively translate policy goals and priorities into economic and social outcomes. There is however two good reasons to be optimistic about the prospects that public expenditure could, in the medium term, be an effective instrument for the Government's goals of equitable development. The first is the progress in the PFM Reform Program. The second is the recent discovery of significant reserves of oil and gas in Cambodian territorial waters, which greatly expands the fiscal space available to the Government. It does however come with its own set of complications and risks.

Box 8.9 Infrastructure and equality: cross-country and locality findings

Calderon and Serven (2004) argue that infrastructure spending can reduce income inequality by having a disproportionate impact on the poor by connecting them to economic activities (e.g., roads that link poor agricultural areas to markets increase the value of the poor farmer's assets) and aiding in human capital development (e.g., roads have been shown to correlate positively with school attendance, and clean water can have an enormous impact on child mortality). Calderon and Serven (2004) found that both infrastructure stocks and the quality of their services have a negative and significant impact on the Gini coefficient using panel data for over 100 countries spanning the years 1960-2000.

At the other end of the scale spectrum, the MOPS research "suggests that investment in making communities as accessible as possible is critical and should continue, preferably as a national and coordinated initiative rather than on the current, often ad hoc basis, which sees roads constructed, often by NGOs or donors, but then not maintained; or where road access is controlled by private interests, as is the case in Babaong. Accessibility will in turn facilitate access to and demand for new markets, services, and opportunities including for employment and trade" (CDRI 2007b, forthcoming).

Table 8.2 Spending has risen three-fold since 1996

- Treasury-executed civil administration spending by economic category, \$m constant 2005 prices (indexed, 1996 = 100, in italics)

Budget Chapter	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Sub-Total	123.3	122.3	134.4	172.8	217.2	274.2	318.5	367.2	341.8	369.0
Current	100	99	109	140	176	222	258	298	277	299
10: Salaries and Allowances	39.1	41.2	42.8	52.6	60.6	64.0	83.0	89.5	88.8	100.3
	100	105	109	135	155	164	212	229	227	257
11: Operating Costs	50.5	50.7	52.9	74.1	101.6	130.7	120.1	132.2	117.1	110.6
	100	100	105	147	201	259	238	262	232	219
12: Subsidies - provincial admin.	5.4	5.2	4.5	4.1	5.7	6.9	15.4	29.2	29.5	31.2
	100	96	83	76	106	128	285	541	546	578
13: Special prog. agreement	0.1	0.3	8.1	1.4	3.2	20.5	37.7	38.0	39.4	43.2
	100	300	8,100	1,400	3,200	20,500	37,700	38,000	39,400	43,200
Other current (20, 30-2, 40-1)	28.1	24.9	26.1	40.6	46.1	52.0	62.1	78.3	67.0	83.7
	100	89	93	144	164	185	221	279	238	298
Sub-Total Capital	34.5	29.3	34.0	63.8	89.0	80.1	164.7	172.1	113.0	144.3
	100	85	99	185	258	232	477	499	328	418
50.1 Construction & Equipment	16.7	22.5	23.3	53.3	63.2	53.2	126.9	93.1	54.2	84.5
	100	135	140	319	378	319	760	557	325	506
50.2 Counterpart funds	3.1	5.0	9.2	7.5	23.0	14.8	27.9	25.0	27.9	24.4
	100	161	297	242	742	477	900	806	900	787
Other capital (50.3, 52, 53)	14.7	1.8	1.5	2.9	2.8	12.2	9.8	54.0	30.9	35.4
	100	12	10	20	19	83	67	367	210	241
Total	157.8	151.6	168.4	236.6	306.1	354.3	483.2	539.3	454.8	513.3
	100	96	107	150	194	225	306	342	288	325

Oil wealth and equity

The major opportunity on Cambodia's fiscal front is the discovery of significant amounts of offshore petrochemical reserves (Box 8.10). The magnitude of these oil and gas assets has the potential to transform Cambodia's fiscal situation. Indeed, the magnitude of the discovery is such that it raises questions about to what extent Cambodia should continue to pursue growth of non-oil related revenue sources. Maintaining the current revenue to GDP share but augmenting it considerably with oil-related revenue could be sufficient to generate the resources needed for the RGC's medium to long term

Box 8.10 Current estimates of Cambodian petroleum reserves

The RGC has demarcated six offshore blocks for licensing. In addition, there may be deposits in the Overlapping Claims Area (OCA), under negotiation with Thailand, and in several inland blocks. To date, contracts have likely been awarded for five off-shore blocks (A-E), and E is under negotiation. According to the Cambodia National Petroleum Agency (CNPA), the block A contract area contains an estimated 700 million barrels of oil and 3-5 trillion cubic feet of natural gas. Estimates for other blocks are not yet available, and it will take another 1-2 years before there is good data on Blocks B-E. In Block A CNPA estimates that oil production will start in 2009 and gas production in 2011.

program.

Estimates show that oil revenue will exceed all current revenue sources: 500 million barrels of recoverable oil would yield an annual peak revenue stream to the government of more than \$700 million (the revenue stream peaks four years after the start of production), equal to about 11 percent of GDP in 2005.⁶ Estimates at this point, however, are highly uncertain due to imprecise estimates of Block A's volume (Chevron is currently conducting additional exploratory tests). The price of oil is also highly volatile over time and, while high now, might decline over the next decade to a somewhat lower level. At projected future oil prices closer to today's price (about US\$ 60 per barrel), annual revenue from Block A alone could easily exceed US \$ 1 billion on an annual basis (which would represent about 15 percent of 2006 GDP). If other blocks also turn out to be commercially viable, government revenue would increase further, but it is too early at this stage to speculate on precise amounts. Thus, at this point a forecast of around 10 percent of GDP per annum from Block A seems reasonable, and would, in effect, double Cambodia's revenue-to-GDP ratio. If one other block (of the other five) contained as much as Block A, revenue to current GDP could triple.

Even if actual revenue is less than current estimates, oil and gas will completely transform Cambodia's fiscal space. It is possible that the revenue to GDP ratio could double over a 3-4 year period, which would put great pressure on the public expenditure management system to deliver resources more efficiently.

Managed well, this has the potential to improve state spending on economic and social development and accelerate progress towards Government development goals. If managed in a strategic and accountable manner, these funds could help Cambodia escape least-developed country status in a much shorter time frame than has previously been thought possible. However, global experience suggests that petrochemical wealth may equally well result in a "resource curse": in more cases than not, the discovery of oil has greatly exacerbated inequalities within countries and actually *reduced* rates of growth and poverty reduction. This pattern is usually explained in terms of the effect of mineral wealth in undermining a state's accountability to its citizens: a government that obtains all the money it needs from mineral rents has no need to collect (or account for) tax (and so less reason to see itself as accountable to its citizens), and lacks incentives to invest in reforming state institutions or fostering broad-based growth. These problems are more pronounced in countries with low state capacity and relatively weak formal institutions, and are at their worst in post-conflict countries in which the levels of transparency and accountability are very low and state-society relations have been shaped by a tradition of authoritarianism and extraction.

Nigeria, where an average of \$12 billion per annum in oil wealth over a thirty year period has fostered pervasive corruption and done nothing to promote growth or reduce poverty is the most obvious example but far from the only one. The Nigerian experience contrasts markedly with many east and southeast Asian economies (e.g. Japan, Korea, Taiwan or Thailand) that are *not* richly endowed with mineral wealth, but which have sustained broad-based, poverty-reducing growth over several decades.

⁶ This estimate is based on a constant projected world oil price of \$43.75.

An additional concern is that oil revenue might trigger “Dutch disease” effects. Foreign exchange generated from the oil sector could result in an appreciation of the real \$/riel exchange rate, which would weaken the competitiveness of traditional exports, notably the garment sector. This sector has served as the main wage employer of unskilled (and mainly female) labor and as such has been a key factor in enabling growth with static consumption inequality since the late 1990s. It is thus important for sustained poverty reduction and equity in Cambodia that the potential–macroeconomic effects associated with oil wealth are anticipated and avoided.

There is thus good reason to be cautious about predicting the impact of any future stream of petrochemical revenue on the Cambodian economy and the prospects for Cambodia’s poor. Carefully designed institutional mechanisms that promote transparency and accountability in the use of this national asset will be critical if oil wealth is to help rather than hinder Cambodia’s escape from the ranks of least-developed nations (Vallely *et al* 2004; UNDP 2006). The potential for a dramatic increase in revenues adds further urgency to the need for the strengthening of public financial management—and sharpens the case for improving transparency and accountability in order to combat corruption in public life.

Recommendations

To improve the capability of the Government to use public expenditure policy to promote growth and equity objectives, a number of clear priorities emerge:

Increase fiscal space by increasing revenue. Cambodia’s fiscal space is quite constrained by its low revenue effort, the impact of which is noted across all categories of spending. Given the discovery of very large off shore reserves, Cambodia’s fiscal picture is likely to change very abruptly. Oil revenue will double or triple the revenue to GDP ratio, thus completely transforming Cambodia’s fiscal space and opening up the possibility of increasing spending across several types of spending simultaneously.

Increase the budget allocation for economic sectors (agriculture and infrastructure); within the general government sector, reallocate from general administration to the judiciary. Cambodia’s economic sectors are still starved of the resources needed to make the difference between lower and higher growth. Though the RGC has increased spending in both agriculture and infrastructure, the overall increases have been meager. Similarly, sustained increases are needed to transform the budget-starved judiciary. In both cases, however, there is a very important caveat: spending increases should proceed only after sectoral strategies have been developed and management has improved. While economic sector management is being developed, spending increases could focus on capital investments (see below).

In economic terms, the RGC should increase capital spending, maintenance, and the wage bill.

Increased capital spending is needed to take advantage of the high return projects (principally in infrastructure and agriculture). It should however follow the development of project appraisal capacity (an investment appraisal unit based on suitable methodologies), which is currently sorely lacking.

Specifically in terms of ODA, donors should reallocate from donor-driven free-standing technical cooperation (FTC) to capital spending where sector wide approaches (SWAs) do not yet exist; or use FTC to set up SWAs, which seem to be the best mechanism in Cambodia for moving toward sustainable, capacity-enhancing, Government-led reform programs. FTC in the absence of SWAs seems to be generally quite wasteful and in most cases these resources could be more productive on the capital side.

The RGC also clearly needs to increase public sector wages as the cornerstone of civil service reform. This is likely to require a significant increase in the civil administration wage bill. The RGC is preparing a new pay policy for 2007, which will provide the basis for an increase in the wage allocation. This should be regarded as a priority claim on scarce resources. Building institutions in Cambodia is as much of a priority as building physical assets.

Increase maintenance spending. Maintenance spending is inadequate. Physical assets are deteriorating in many cases, undermining the high potential of capital spending to deliver sustained growth. Maintenance spending should be increased dramatically to about 1.5 percent of GDP.

Reduce wasteful spending. The budget is characterized by pockets of inefficient spending, in some cases due to high administrative overheads, in others due to the perverse effects of low wages on other spending categories (e.g., the operations and maintenance budget in education being used to pay teachers' special allowances). In still others it reflects the lack of a coherent sector strategy. The RGC should conduct an efficiency review to locate these pockets of waste.

Legal and judicial institutions and access to justice for the poor

The system by which justice is mediated is an important underpinning of economic and social development (see Box 8.11). Capable, honest and autonomous legal and judicial institutions have the potential to limit the emergence of gross inequalities in power between the state and the citizenry, or between the rich and the poor. Independent courts enforcing the principle of equality before the law should serve as a limit upon the exercise of unrestrained power by the executive or abuse of position by officials. Equal treatment by the courts in the event of a dispute over ownership or contracts is a key component of equality of economic opportunity, and an efficient justice

Box 8.11 Justice systems play a crucial role in long-term development

The 2006 World Development Report summarizes international experiences on the importance of legal and judicial systems as follows:

Legal institutions play a key role in the distribution of power and rights. They also underpin the forms and functions of other institutions that deliver public services and regulate market practices. Justice systems can provide a vehicle to mediate conflict, resolve disputes, and sustain social order. But inequitable justice systems may perpetuate poverty traps by maintaining or reproducing elite interests and discriminatory practices. Equitable justice systems are thus crucial to sustained equitable development.

World Bank 2005 p. 156.

system bolsters commitments to equity in the delivery of public services.

Unfortunately the legal system in Cambodia has yet to fulfill this potential. Severely lacking in capacity and resources and badly affected by lengthy delays, a shortage of legal aid and difficulty in enforcing judgments, the court system (and other elements of the de facto administration of justice, such as the police) are widely perceived to be either deeply corrupted or under the direct control of the executive. A public opinion poll (CAS 2003) found that Cambodians perceived only slight improvement in the performance of courts from 1998 to 2003; and had little or no faith in the courts as institutions of justice, identifying judges and prosecutors as the public officials they were least likely to trust. A more recent survey of popular experiences of corruption in Cambodia suggests the picture has not changed significantly: the courts were seen as by far the most corrupt of all public institutions, followed by the police (CSD 2005). As a result, many Cambodians (and especially poor Cambodians) seek to resolve disputes and obtain justice by working around rather than through the formal institutions of the state (CAS and World Bank 2006; UNDP 2005).

In the absence of equitable rule-based systems for allocating resources and resolving disputes, collective action is a crucial mechanism for improving the responsiveness of the state to the needs of the poor. With pressure on land and natural resources increasing, recent research suggests that there is increasing willingness for villagers to pursue claims, even against people who are rich or powerful (CAS and World Bank 2006). This research finds that the state is not impervious to these claims. Without suggesting that the disputes studied were resolved satisfactorily, it was clear that when villagers had acted collectively they had been able to achieve more equitable outcomes than might otherwise have been the case. This finding echoes that of Nee and Healy (2003) who suggest that the existence of social capital is a major factor in the achievement of pro-poor results from local dispute resolution systems. While acknowledging that it is ultimately the responsibility of the state to ensure the rule of law they note that “local associations working together are already seeing successes” (p.101) and “it is often possible for village associations to obtain justice simply by building a strong network of relationships with both NGOs and government officials at all levels” (p.102).

There is, however, an operational dilemma in these sorts of dispute resolution ‘successes’. In that these cases show collective disputes being dealt with by powerful individuals within the administration, they reinforce the picture of a formal justice system that is of only marginal importance. To the extent that parties were successful in extracting increased responsiveness from the state, they did so largely by putting political pressure on key decision makers and not by relying on the law or seeking access to officially mandated dispute resolution process. Written laws, legal processes or rule-based forms of decision making were notable by their absence and institutions established outside of the patronage system of power were seen as ineffectual. As such, these studies provide few direct insights as to how the rule of law might be established in the Cambodian context.

The findings do, however, place Cambodia in a position that is historically common, given that the model of a modern judiciary emerged in an iterative process, with independence from the executive secured over time in response to a myriad of social, political and economic pressures. This observation supports the case for an interim

institutional approach when thinking about the development of more equitable institutions of justice in Cambodia.

Effective equitable institutions require open (and open-ended) processes

Research on evolving patterns of disputes and dispute resolution in Cambodia suggest there is value in seeking “interim” institutional arrangements, rather than necessarily looking to transplant “international best practice” organizational forms into Cambodia (see Adler *et al* 2007 and Box 8.12 below). This can be illustrated with reference to two cases of policy and institutional reform.

Box 8.12 “Interim institutions” for governance reform

The interim institutional approach provides a method for engaging with situations of deeply entrenched legal pluralism. Acknowledging that such situations limit the effectiveness of state law as a driver of more equitable governance, an interim institutional approach argues that: (i) equitable, rule-based systems for allocating resources and resolving disputes—i.e., the very content and legitimacy of modern institutions of government—emerge and continue to develop because they are subject to ongoing social contest; and (ii) because equitable institutional arrangements for social regulation must emerge through social contest, there will be limits to the extent to which they can be designed *ex ante* on the basis of technical knowledge (i.e., by governance ‘experts’).

Rather than from posing de-politicized solutions to complex political and social contests, an interim institutional approach focuses from the outset on the process whereby more equitable relationships of power might be brought about. In doing this, it asks what spaces exist (or can be created) for the negotiation of development conflicts, and considers how such spaces can be filled with institutions that both respond to the realities of power as it is currently exercised *and* provide the potential to transform these in the direction of greater equity. In other words, rather than emphasizing coherence, consistency or harmony, it understands that social contest is an essential part of institution building.

The interim institutional approach is relatively agnostic with respect to claiming to know (or even worrying about) what the final end-state of any given institution building or reform process might “look like”; rather, it focuses on the more immediate and pragmatic tasks of (i) creating political space for reform; and (ii) taking feasible steps on the basis of processes that are deemed equitable and legitimate in the eyes of the various stakeholders concerned. Supporting and facilitating such political processes should be the primary concern of external development professionals concerned with institution building and reform in environments characterized by pervasive legal pluralism. “Getting the contests right” could be the simplest statement of the programmatic goal and analytical distinctiveness of the interim institutional approach.

Source: Adler *et al* (2007)

The garment industry and core labor standards

Cambodia’s 1997 labor law incorporated several important rights; but it was unclear how the law, once issued, would be translated into practice. Classically, law on the books is enforced through administrative and judicial mechanisms which monitor compliance and/or respond to grievances: actual enforcement is required only infrequently, as anticipation of enforcement gives the law a more general effect. In the context of the

Cambodian workplace, however, the credibility of the law was undermined by the fact that the bodies expected to monitor compliance or respond to grievances (namely, the courts and labor inspectorate) were widely seen as lacking capacity and subject to bias and corruption. Without expectation of systematic enforcement, legislation became just one among several norms shaping working conditions at the enterprise level: as such, the law was in competition with market forces and interaction between the managerial culture of (often China-based) employers, corporate codes of conduct imposed by global buyers, and the culture of spontaneous (and sometimes violent) collective action which emerged in the dormitories housing migrant workers.

The basis for more equitable labor relations began to evolve in the late 1990s with the rapid emergence of Cambodia as a garment exporter. A 1999 US-Cambodia bilateral trade agreement imposed quotas on Cambodia's garment exports; provided that Cambodia would support implementation of "a program to improve working conditions in the textile and apparel sector, including internationally recognized core labor standards"; and, in an interesting innovation, created incentives for improvement by committing to increase quotas as long as working conditions complied with such labor law and standards". The agreement thus created immediate incentives for all stakeholders to implement the labor law: employers would gain business, unions could gain members and the Government could generate both formal and informal revenues from allocation of quotas.

The question remained, however, how the labor standards clause would be implemented, given the lack of credible country systems. The answer was provided by two ILO projects: one to "operate an independent system to monitor working conditions in garment factories" (the monitoring project) and the other to focus on "transparent, fair and expeditious dispute procedures" (the labor dispute resolution project). Box 8.13 summarizes the key issues and features of both projects.

The success of monitoring and dispute resolution efforts in the garment industry seems to have rested on the willingness and ability of key players to engage with the inherently contested process by which rights are attained. Rather than investing primarily in more detailed regulation, administrative or judicial capacity, a number of alternative initiatives were undertaken. In both initiatives, there was an implicit recognition that there may be advantages in supporting the emergence of rights through ongoing processes of contestation and negotiation—where issues of power are at once more overt and more fluid—before trying to fix them in formal legal and enforcement frameworks.

In these circumstances, the Labor Law's main (equity-enhancing) effects have been: (i) establishing a set of (more or less) agreed standards regarding working conditions, which even though not formally enforced, can, in certain circumstances, be drawn upon to legitimate an argument as to what working conditions should be; and (ii) providing a framework for collective action, by legalizing unions, providing for tripartite dispute resolution procedures and legitimizing the right to strike.

Box 8.13 Monitoring and dispute resolution in the garment industry

The ILO-supported *monitoring project* (now Better Factories Cambodia) produces regular reports on conditions in garment factories and is generally agreed to have improved compliance with the labor law in the garment industry. Several factors appear to have contributed. Firstly, the project promoted labor rights through embedded social dialogue, the provision of public information and trade preferences. Secondly, export licenses were granted conditional on an enterprise subjecting itself to ILO monitoring, and the Ministries of Commerce and Labor can deprive employers of their export licenses if they are found to be in continued breach of core labor standards. And, finally, by publishing information on individual factories the system generates pressure for compliance both from others in the industry and their brand name buyers in the US. The willingness of both employers and the Government to continue monitoring after the expiry of the agreements and the quota system in 2004 suggests that the financial incentives included in the trade agreement, while instrumental in *establishing* the system, were only part of the story in sustaining it. Whether monitoring can generate the incentives needed to drive long term improvements without the carrot and stick of access to US markets is yet to be seen.

In the *labor dispute resolution project*, ILO provided technical assistance to the Ministry of Labor in consultation with the union movement and employers' associations. When it was established in 2002, each of the three options available for dealing with labor disputes (negotiated outcomes, referral to the Ministry of Labor for conciliation or enforcement proceedings, or the courts) had significant drawbacks. Systems to handle grievances at the factory level were under-developed, reflected in increasing levels of often violent industrial action. The labor inspectorate suffered from problems common to the Cambodian public sector: limited capacity and low wages led officials to rely upon informal payments from industry to support their livelihoods, undermining their credibility. The courts suffered from similar problems.

There was a range of possible responses to these circumstances. The project could have focused on the establishment of a labor court. However, the ILO concluded that it would be difficult to get classical institutions of the rule of law (those which are both independent and have the power to make binding decisions) to work in Cambodia. Observing previous attempts at legal and judicial reform, it was anticipated that pursuing the rule of law directly would result in either a) stalling the process of setting up a new labor court or b) the capture of the new institution by powerful Government and private sector interests.

As a result, the project focused on creating an Arbitration Council, a tribunal body provided for in the 1997 law but not previously operationalized. As a tripartite body that generally issues non-binding and practically unenforceable awards, the Council is a hybrid between a rule of law institution and a forum for bargaining between management and organized labor. It would appear to have been successful in focusing and legitimating collective action for more harmonious, equitable and constructive industrial relations. The Arbitration Council had received 272 cases as of June 2006, of which 68 percent were reported as resolved successfully.

The Arbitration Council is not without critics. Unions complain that enterprises do not give effect to arbitral awards and that it would be better if the Council could issue binding awards. While generally supportive, employers have on occasions criticized the Council for displaying a pro-worker bias. Institutionally there are questions about whether the Arbitration Council is a viable institution of state absent ongoing donor support.

Source: Adler *et al* 2007.

Thinking of law in this way allowed the development of a dynamic institutional setting for political contests, which began to foster equitable rule-based systems of

governance. These included: (i) support for the capacity of workers to engage in collective action (through unions); (ii) independent monitoring of working conditions within both a local tripartite structure and a framework of incentives and sanctions negotiated at the international level; and (iii) the establishment of credible (though non-binding) dispute resolution mechanisms through which rights could be contested according to agreed 'rules of the game.'

If the case of labor relations illustrates how a more equitable regulatory context can emerge, it also shows some clear limitations of this approach. Firstly, the law is applied almost exclusively in enterprises (primarily garment factories and hotels) which are accountable to an international public through their branding: the extent of any spillover from these sectors into the labor market more generally is unclear. Secondly, these systems operate primarily at the level of the collectivity: in practice, the current regulatory system neither protects workers' rights as individuals, nor does it extend to vulnerable workers, such as those in small and medium sized enterprises producing for local markets. Nevertheless, an evolutionary approach that valued interim institutions would appear to provide a viable first step on a path to hopefully more equitable, formal mechanisms to mediate relations between labor, employees and the state.

From project law to statute in local governance

In the case of labor relations described above, and land titling described in Chapter 2, innovative interim institutional arrangements have been introduced to facilitate the implementation of legislation that was already enacted but remained unconnected to existing, alternative frameworks for managing economic relationships. The case of local governance development provides an interesting contrast. In this case, institutional and policy reform proceeded in advance of legislative change; but with the intention of trialing and demonstrating arrangement that might later be incorporated in legal, political and administrative developments.

In the mid-late 1990s, under the auspices of the Seila program, Cambodia introduced two sets of institutions of local governance, namely the Commune Development Committees (CDC) and District Integration Workshops (DIW)⁷. Seila emerged from the CARERE (Cambodia Area Rehabilitation and Regeneration) program which between 1992 and 1996 promoted integrated rural development, with a focus on delivering small scale infrastructure in five north-eastern provinces to aid the return and reintegration of refugees. CARERE was controlled through parallel systems, according to UN and other donor 'project law.' By the time it officially closed in 2006, Seila had become a nationwide program mobilizing funds from both the Government and donors with both governance and direct poverty alleviation goals.

From the start, the program's execution and management arrangements were hybrid, involving aspects of both donor and government regulation. To an unprecedented extent, however, Seila generated an increasingly comprehensive framework of Government laws and regulations. This transformation occurred in part because of a policy decision (expressed in a new set of objectives in 1996) to change the program's purpose and

⁷ Details on the Seila program can be found in Wong and Guggenheim (2005); and on <http://www.seila.gov.kh>.

strategy, which gradually moved from a focus on 'local development for poverty reduction' to one primarily concerned with 'local governance' ("strengthening institutions at the commune and provincial levels" and financing "participatory development."), *through which* sustainable improvements in local development would support poverty reduction. Most importantly, Seila aimed to pilot models of "decentralization and deconcentration". The program thus came to focus expressly on creating broader 'demonstration effects' for institutional reform.

The CDC and DIW were explicitly concerned with creating new arenas for political interaction and regulated contest both between citizens and the state, and between government institutions at different levels within the state (see Box 8.14). Eventually, the norms promoted by these interim institutional arrangements came to feature as key aspects of national policies and laws about local governance. The CDCs, and the systems for planning, budgeting and financing that were integral to their operation, found a place in national law when the commune councils were legislatively reconstituted in the LAMC 2001. The CDCs were disbanded immediately following the elections, with their participatory planning functions placed under the Planning and Budgeting Committee and their managerial and governance functions falling under the Commune Council.

Box 8.14 Commune Development Committees and District Integration Workshops

Commune Development Committees (CDCs) were mandated by sub-decree in 1994 as part of an administrative structure for rural development repeated from village to province levels. CDCs were seen by CARERE/Seila as providing an opportunity to experiment with decentralized planning, budgeting and management in service provision. This had both technical and political aspects. CDCs were given discretionary powers to allocate donor funds according to needs expressed and negotiated through village and commune planning processes. From a technical viewpoint, it was expected this would result in a more 'efficient' conversion of available local and international resources into useful infrastructure and other investments. The larger ambition, however, was political. The planning and budgeting processes being piloted through the CDCs were pilots for a new regulatory framework for local governance, one which would structure more equitable contests among citizens and their local representatives about how public spending should be prioritized. This process was to build 'primary accountability'; it was intended to promote the notion that elected leaders—and through them, the administration—should be accountable to citizens for how they made and implemented planning, budgeting and related management decisions.

The District Integration Workshop (DIW) likewise had technical and political ambitions. The DIW was introduced as an annual event in the planning and budgeting calendar. Its goal was to secure from provincial agencies the technical and other support the CDCs required to implement their investment plans. The larger political ambition related to 'intra-governmental accountability'. In brief, this included the idea that higher level administrative agencies should be accountable to priorities expressed by citizens through their local political representatives. It also included the idea that local choices needed to be negotiated within the policy framework of the government expressed at higher levels.

The DIW process—part of sub-decrees and regulations for commune planning—has not been 'institutionally embedded' in the same way as CDC institutions. In fact, it has not yet substantially affected what donors or the administration do beyond the Seila program, despite the fact that roughly 60 percent of all agreements made at the DIW are

financed by projects outside the Seila program. However, the basic precepts of the DIW—that higher level authorities should respond to local priorities, and that these local priorities need to be negotiated with national policy priorities—have become influential. Thus, it might be argued that the DIW has contributed to norms that now feature in an extensive range of project laws, political debates and policy commitments about how Government should behave in Cambodia.

In order to understand how local governance innovations such as the CDCs and DIWs came to be conceived and implemented in Cambodia, it is important to understand the sources of intellectual and political support on which they were able to draw, both internationally and domestically. Internationally, the CDCs and DIWs (and Seila more generally) were both products of and contributors to contemporary international development policy debates about decentralization and ‘community driven development’. In general terms, the case for decentralization was that individuals, households and communities were best placed to determine their needs, and that government functions should be devolved so as to be closely accountable to them.

More specifically, there were two key claims put forward regarding the virtues of decentralization and community-based development (Mansuri and Rao 2004):

- Firstly, it was argued that decentralized and community-based delivery enhanced the *efficiency* of public spending by reducing waste and corruption. Such approaches were thought to increase the share of public funds (Government and ODA) that was converted into useful services (‘productive efficiency’); and to ensure a better match between what people wanted and what Government delivered (‘allocative efficiency’).
- Secondly, and somewhat more contentiously, decentralization was argued to increase inclusion and equity, through more even-handed distribution of public funds across the country (‘geographic equity’) and/or arrangements to ensure that disadvantaged groups in any area get a fairer share of the benefits (‘social equity’).

Within Cambodia, by 1997 Seila had a reputation with Government and donors for an ability to (i) swiftly convert aid money into a very wide range of local investments and (ii) to achieve even-handed working arrangements with the sub-national leadership of the various political factions of the northwestern provinces. These capabilities made rapid aid delivery possible; which in turn meant that Seila had made some notable contributions to peace and reconciliation. For the Government, Seila had demonstrated that it knew how to behave, technically and politically: it was regarded as a dependable, non-threatening contributor to security.

Seila’s reputation as a non-political ‘safe pair of hands’ was matched by its close alliance with Provincial governors and, through a wide experience of sub-contracting arrangements, with the core administrative departments. At the same time, donors were comfortable that this did not put at risk the management systems Seila maintained to safeguard and protect their funds. The program had by the mid-1990s created Province-level systems for coordination and management that were ‘hybrid’. In other words, the formal and informal systems and procedures which enabled the program to operate were severally managed by official government authorities, headed by the Governor (through

what later became PRDC/Ex Comm⁸); by local networks of contractors and suppliers often affiliated with administrative officials; and by local staff contracted to administer UN systems. The program was thus of the Government but still separate from it.

Through its processes and outcomes, Seila was able to provide legitimacy to the political regime. The governing political party, especially after the 1997 crisis, was able to direct benefits down to the politically and electorally important Commune level and thereby bolster their credibility 'from below'; at the same time Seila could also show to the international community that the Government was serious about local democracy, and thus bolster its credibility 'from above'.

In summary, CDCs and DIWs helped strengthen political equity, but constraints remain. In assessing the successes and limitations of Seila-induced institutional innovations, it would be naïve to assume these were premised simply in terms of their aim to enhance equity in sub-national governance. Further, in a system characterized by legal pluralism it is clear that to be durable, the new institutional arrangements for local governance need to be underpinned by formal law, administrative conventions, informally sanctioned expectations about what is 'right' and 'fair', and social norms that support and provide credibility for the kinds of state-citizen relationships and political contests implied by these innovations. These various forums relate in complicated ways: sometimes they reinforce each other, as often they are mutually contradictory. With these caveats in mind, it is possible to draw a number of conclusions regarding the durability/embedding of these interim institutional arrangements.

The institutional arrangements for equitable participation in Commune-level governance—and the reasonable expectation that such governance will be more equitable and pro-poor as a consequence—have survived and strengthened with the transition from project law to Government statute. In 2001 two laws were passed, one for commune-level elections and a second governing commune administration and management (LAMC). This cleared the way for a nationwide election, in 2002, of 1621 Commune/Sangkat Councils (C/SCs)⁹. Proponents of the CDC as a means to more accountable (and thus equitable) local governance felt these laws vindicated Seila's approach. It is possible to identify at least six aspects of legal conventions, conducive to local political equity, that came into being as a result of the 2001 laws:

- *Territorial authority.* The law empowered CCs to govern the 'local affairs of its territory', establishing the legal convention that CCs are the primary instrument of representative democracy, in and through which elected leaders will be made accountable to all citizens for what occurs in their jurisdictions.
- *Equality of political rights and voice.* CCs are comprised of members elected through popular majority. Furthermore, administrative systems provide special provisions to promote social and geographic equity in CC decisions (for example, through quotas for female representatives, and the requirement that each village in the Commune be represented on the Planning and Budget Committee CHECK).

⁸ Provincial Rural Development Committee / Executing Committee.

⁹ A *sangkat* is the urban equivalent to the rural Commune.

- *Rules of contest.* With minor modification, the CDC's Local Development Fund became the Commune Council's discretionary budget, known as the Commune Sangkat Fund (CSF), tied to a local development planning process and budgeting regulations that reflect procedures introduced and refined under the CDCs.
- *Politics of resource allocation.* Although broad and imprecise (see below), the 2001 LAMC assigned to CCs a broad mandate and powers in relation to this mandate. As importantly, these laws expressed the fundamental principle that resources must be made available to CCs commensurate with their mandate. This effectively shifted the focus of local governance from an administrative process of 'planning' toward an essentially political process of contest around the 'budget' and a concept of entitlement.
- *Social acceptance.* The relatively smooth electoral process and qualitative research seems to indicate that people believe that CCs have become embedded as a permanent feature of Cambodian governance (Kim and Ojendal 2007). While there are clearly limits to what CCs are able to do (see below), it is nonetheless true that these institutions are in most places at most times seen to be an improvement upon the unelected Commune authorities that preceded them.

While the 2001 legislation has helped consolidate and formalize institutional arrangements conducive to political equity that were originally introduced through Seila project law, such legislation cannot on its own be expected to ensure this embedding occurs. For each of the above indications, there remain strong countervailing pressures that weaken their effect. Thus, the operations of key line departments (e.g., health or forestry) are not aligned with the territorial authority of the CCs; and the C/SCs still have little or no mandate to manage local natural resources and in the process raise revenue). While most donors and NGOs recognize the authority of the CC, most planning and funding decisions run in parallel with the CC's procedures. Finally, public acceptance of CCs is qualified by a common perception that they are seldom able to respond to local demands (especially for the resolution of local disputes) and not themselves immune from corruption.

The situation with regard to the DIW is clearly different, but perhaps not fundamentally so: the constraints on the DIW are connected to those that threaten the durability of CCs. The DIW remains an artifact of project law (although correspondingly supported by sub-decrees and regulations): the consolidation achieved when CDCs were reformulated into the CC structure has not occurred with respect to the DIW. However, the Strategic Framework for Decentralization and Deconcentration Reforms (D&D Framework) approved in June 2005 reiterates a political commitment to local representative democracy as the primary way of making the state accountable to Cambodian citizens: it also commits the Government to creating durable institutional arrangements that encapsulate the strategic principles reflected in the DIW. These include a 'two way' accountability process between CCs and District/Province administrations, in which local and national priorities are to be reconciled; and the subsidiarity principle that a 'unified' local administration will be needed for this purpose.

How the government intends to achieve this is far from clear. But from international experience, institutional arrangements of the sort promoted by the DIW—that is, multi-level planning and budgeting, supporting a process of political negotiation, administrative

performance and public scrutiny—will need to be created. In light of the ‘demonstration effect’ of the CDC, it is plausible that the administrative familiarity with the DIW may result in its incorporation in subsequent mainstream regulations. On the other hand, there is a frustration with the DIW process. Despite the fact that it facilitates around 40,000 agreements each year, it has proven largely ineffective in extending its remit beyond Seila-funded activities: in particular, it has yet to influence how Province line departments and other significant non-Seila mechanisms for planning and resource allocation operate (Independent Study 2006; GTZ 2005).

Interim institutional solutions and “good contests”

The cases of labor law and local governance above suggest that technical short-cuts, using aid as an incentive to reform, often have limited long-term effect, precisely because the effectiveness of formal institutions depends critically on the degree to which they are embedded in informal institutions (values, expectations, negotiating styles, ability to draw on support in other groups in society, and so on). An implication of this is that stronger, more sustainable reforms depend heavily upon the degree to which they are perceived as legitimate in local context. This legitimacy in turn depends heavily upon the processes by which change is achieved, rather than simply the form of the arrangements that are achieved. To a great extent, what then matters is that there are fair rules and appropriate forums in which debate between contesting parties can occur and new organizational arrangements can emerge.

A number of the other cases of equity-enhancing policies cited elsewhere in this report reinforce these conclusions. The evolution of the systematic land titling program, for example, can be considered a good example of significant improvement through a cautious, evolutionary approach to the improvement of regulatory institutions. And in those MOPS case study villages where testimony suggests domestic violence is beginning to decline, it is because the law on the book is reinforced by local actors disseminating information, facilitating discussion and connecting citizens to institutional actors (notably NGOs) that can support their case. In this case, too, the outcomes are short of the ideal: abusive husbands are jailed locally for a matter of days as a warning, without cases proceeding to court and the far heavier sentences that application of the statute law would mandate. Nonetheless, it *is* progress: wives, neighbors, police and local authorities no longer regard domestic violence as a purely private issue; victims now know where to seek solidarity and material support; abusers now expect punishment; and outcomes, in terms of the incidence of violence as reported in focus group discussions, appear to have improved markedly. As an interim step on a road to the ultimate goal of strict application of the law by state institutions of justice, the current situation—in which existence of the law backed up by

The roles of civil society and external development partners

Organized civil society has a potentially valuable role to play in promoting the ideal of equity in Cambodia’s national development process. Community organizations and NGOs can help poor and marginalized groups in society to achieve a collective voice in the policy process, channeling concerns to policy-makers at both local and national levels. Together with an independent press, these organizations help improve

communication from the grassroots to senior policy-makers, helping officials to identify when problems are occurring and what solutions might be most likely to succeed. Civil society also plays a key role in establishing a culture of transparency and accountability. Institutional arrangements that create a space for citizens, individually or collectively, to feed back to the upper level of Government can help to identify both when more commitment is needed, and when policies are failing in implementation due to corruption or capacity bottlenecks.

For their part, Cambodia's official development partners need to ensure that they effectively support Government commitments to equitable development. To do this, they need to fulfill their commitments under international and national agreements on ownership, harmonization and alignment, moving away from donor-driven models of aid (that is, models characterized by tied spending, projects and externally-determined technical assistance), and towards genuine partnerships around collectively-agreed development goals.

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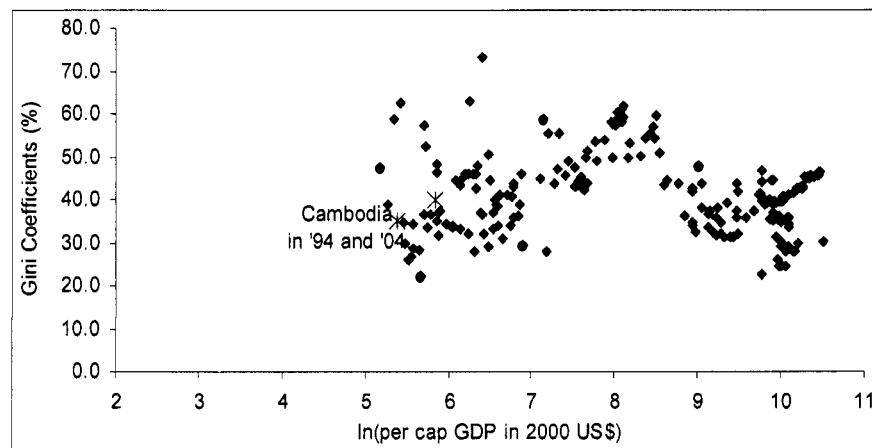
Annex 1 Inequality and growth: Cambodia in context of ASEAN and rest of world

Table 1.3 Inequality, growth, and per capita GNP: Cambodia cf other ASEAN countries, 1961-2005

	comparison time periods	per capita GNP at the mid-point of the time period analyzed (in 2000 US\$)	Gini coefficient (%)	cumulative GDP growth rate for the time period analyzed (%)
Cambodia	1993-97	226	34.7	29
	1998-04	297	40.3	56
Indonesia	1961-65	195	33.3	4
	1966-70	212	30.7	32
	1971-75	276	34.6	36
	1976-80	355	42.2	38
	1961-65	366	41.3	34
Thailand	1966-70	473	42.6	39
	1971-75	590	41.7	26
	1961-65	877	45.6	30
Malaysia	1966-70	1044	50.0	25
	1991-95	266	35.7	40
Vietnam	1996-00	364	35.5	28
	2001-05	444	37.6	34
Laos	1990-94	241	30.4	27
	1995-99	299	37.0	27
	2000-04	351	34.6	26

Source: World Development Indicators (<http://ddp-ext.worldbank.org/ext/DDPQQ/>); Global inequality dataset of Deininger and Squire (1996) at <http://econ.worldbank.org/wbsite/external/extdec/extresearch/0,,contentMDK:20699070~pagePK:64214825~piPK:64214943~theSitePK:469382,00.html>

Figure 1.9 Inequality in Cambodia and the rest of the world



Source: World Development Indicators

Annex 2: Empirical framework and regression results for analysis of urban inequality

To assess the extent of structural transformation that has taken place in urban areas, the following empirical framework was used:

There are two wage (or consumption) equations:

$$\log y_i = \sum_{k=1}^K \alpha_{97,k} w_{k,i} + \sum_{l=1}^L \beta_{97,l} x_{l,i} + \gamma_{97} Z_i + \mu_{97,i} \quad \text{for 1997} \quad (1)$$

$$\log y_i = \sum_{k=1}^K \alpha_{04,k} w_{k,i} + \sum_{l=1}^L \beta_{04,l} x_{l,i} + \gamma_{04} Z_i + \mu_{04,i} \quad \text{for 2004} \quad (2)$$

where y_i represents real wages or consumption; $W_i = \{w_{k,i}\}_{k=1}^K$ are the dummy variables corresponding to the 4 education levels; $X_i = \{x_{l,i}\}_{l=1}^L$ are the dummy variables corresponding to the 12 industries and Z_i is the vector including all the other independent variables such as gender, age, and marital status.

Estimates the equations (1) and (2) for each individual are:

$$\log \hat{y}_i = \hat{\alpha}_{97} W_i + \hat{\beta}_{97} X_i + \hat{\gamma}_{97} Z_i \quad \text{for 1997} \quad (3)$$

$$\log \hat{y}_i = \hat{\alpha}_{04} W_i + \hat{\beta}_{04} X_i + \hat{\gamma}_{04} Z_i \quad \text{for 2004} \quad (4)$$

The wage or consumption difference during the period 1997-2004 can be decomposed as the follows:

$$\begin{aligned} \log \tilde{y}_{04} - \log \tilde{y}_{97} = & \hat{\alpha}_{97} (\bar{W}_{04} - \bar{W}_{97}) + (\hat{\alpha}_{04} - \hat{\alpha}_{97}) \bar{W}_{04} + \\ & \hat{\beta}_{97} (\bar{X}_{04} - \bar{X}_{97}) + (\hat{\beta}_{04} - \hat{\beta}_{97}) \bar{X}_{04} + \\ & \hat{\gamma}_1 \bar{\lambda}_1 - \hat{\gamma}_0 \bar{\lambda}_0 \end{aligned} \quad (5)$$

where $(\bar{W}_{04} - \bar{W}_{97})$ denotes the main effects of education which signify the changing education stock of the population; $(\hat{\alpha}_{04} - \hat{\alpha}_{97})$ denotes the year effects of education which indicate the changes in returns to education; $(\bar{X}_{04} - \bar{X}_{97})$ denotes the main effect of industry that signify a structural transformation or the changing industry composition; and $(\hat{\beta}_{04} - \hat{\beta}_{97})$ denotes the year effects of industry which suggest the changes to industry-specific premiums. First, a sub-sample of paid employees with wages in urban areas was analyzed. Then, the entire sample of urban households with consumption approximating income was analyzed. The results are similar.

Table 1– Estimation of wage equations (Paid employees)

Dependant variable: logarithm of real wage; standard errors in parantheses

	Phnom Penh and other urban			
	1997		2004	
	Model 1	Model 2	Model 1	Model 2
Male	0.091 (0.050)*	0.139 (0.050)***	0.073 (0.030)**	0.139 (0.030)***
Age	-0.011 (0.010)	0.012 (0.010)	0.011 (0.010)	0.032 (0.010)***
Squared age	0.011 (0.020)	-0.015 (0.010)	-0.022 (0.010)**	-0.044 (0.010)***
Head of household	-0.011 (0.060)	0.001 (0.060)	-0.057 (0.040)	-0.018 (0.040)
Married	0.062 (0.060)	0.020 (0.050)	0.056 (0.040)	0.087 (0.030)**
Immigrant	0.248 (0.090)***	0.235 (0.080)***	-0.071 (0.030)**	-0.073 (0.030)**
Work hours in the past 7 days	0.014 (...)***	0.010 (...)***	0.012 (...)***	0.009 (...)***
Highest grade level successfully completed (ref.= Class 3 or below)				
Class 4-6	0.196 (0.080)**	0.240 (0.080)***	0.166 (0.050)***	0.174 (0.050)***
Class 7-9	0.009 (0.070)	0.144 (0.070)**	0.195 (0.040)***	0.251 (0.050)***
Class 10-12	-0.091 (0.070)	0.111 (0.070)	0.341 (0.050)***	0.468 (0.050)***
Class 12 or above	-0.079 (0.080)	0.113 (0.080)	0.473 (0.050)***	0.637 (0.050)***
Industry during the past 7 days (ref.= Public administration and defense; compulsory social security)				
Agriculture, hunting and forestry; Fishing		0.255 (0.130)*		0.341 (0.070)***
Mining and quarrying; Manufacturing; Electricity, gas, and water supply		0.579 (0.070)***		0.762 (0.050)***
Construction		0.637 (0.080)***		0.543 (0.060)***
Wholesale and retail trade; repair of motor vehicles, motorcycle and personal and household goods		0.688 (0.110)***		0.370 (0.080)***
Hotels and restaurants		0.492 (0.180)***		0.557 (0.080)***
Transport, storage and communications		0.593 (0.080)***		0.763 (0.080)***
Financial intermediation		-0.126 (0.120)		0.494 (0.160)***
Real estate, renting and business activities		0.209 (0.180)		0.124 (0.180)
Education		0.371 (0.080)***		0.245 (0.050)***
Health		0.065 (0.130)		0.125 (0.100)
Other community, social and personal service activities		0.432 (0.090)***		0.604 (0.050)***
Extra-territorial organization and bodies		1.388 (0.140)***		1.046 (0.090)***
Constant	10.798 (0.230)***	10.086 (0.220)***	10.925 (0.150)***	10.053 (0.150)***
R^2	0.075	0.219	0.089	0.189
Number of observations	1299	1299	3089	3089

Notes: "..." signifies that the absolute value is inferior to 0.001.

*** indicates coefficient significant at 1% level;

** indicates coefficient significant at 5% level;

* indicates coefficient significant at 10% level.

Source: Royal Government of Cambodia Ministry of Planning, National Institute of Statistics: Cambodia Socio-economic Survey 1997 and 2004.

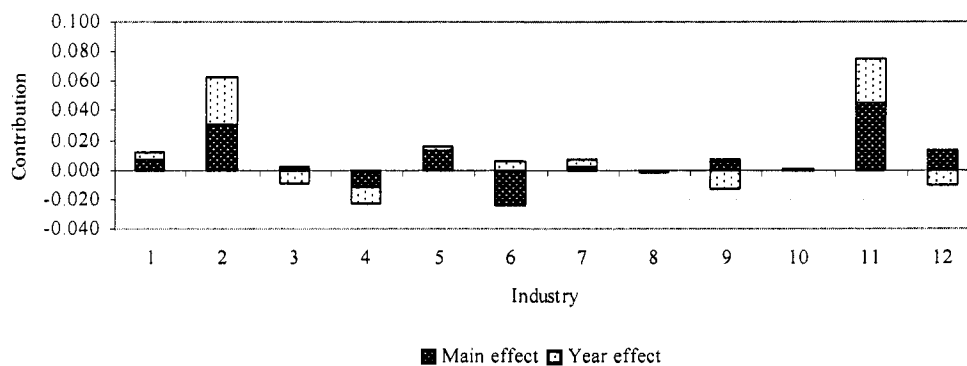
Table 2 Decomposition of wage difference between 1997 and 2004 (Phnom Penh and other urban)

	Wage difference	Contribution of various variables to wage difference				
		Education		Industry		Other variables
		Main effect	Year effect	Main effect	Year effect	
Percentage	100.0	0.4	43.1	15.2	6.9	43.7
Absolute value						
Total	0.554	0.003	0.192	0.084	0.038	0.242
Agriculture, hunting and forestry; Fishing				0.007	0.005	
Mining and quarrying; Manufacturing; Electricity, gas, and water supply				0.030	0.032	
Construction				0.002	-0.009	
Wholesale and retail trade; repair of motor vehicles, motorcycle and personal and household goods				-0.011	-0.011	
Hotels and restaurants				0.014	0.003	
Transport, storage and communications				-0.024	0.005	
Financial intermediation				0.003	0.005	
Real estate, renting and business activities				-0.001	-0.001	
Education				0.007	-0.013	
Health				...	0.001	
Other community, social and personal service activities				0.046	0.030	
Extra-territorial organization and bodies				0.013	-0.011	

Notes: Group of reference: Public administration and defense; compulsory social security.

"..." signifies that the absolute value is inferior to 0.001.

Source: Royal Government of Cambodia Ministry of Planning, National Institute of Statistics: CSES 1997, CSES 2004.

Figure 1 Contribution of various industries to wage growth (Phnom Penh and other urban)

- | | | | |
|---|---|----|---|
| 1 | Agriculture, hunting and forestry; Fishing | 7 | Financial intermediation |
| 2 | Mining and quarrying; Manufacturing; Electricity, gas, and water supply | 8 | Real estate, renting and business activities |
| 3 | Construction | 9 | Education |
| 4 | Wholesale and retail trade; repair of motor vehicles, motorcycle and personal and household goods | 10 | Health |
| 5 | Hotels and restaurants | 11 | Other community, social and personal service activities |
| 6 | Transport, storage and communications | 12 | Extra-territorial organization and bodies |

Table 3 Summary statistics of urban heads of households (i.e., in Phnom Penh and other urban areas), 1997 and 2004

	1997	2004
Gini Coefficient	0.433	0.432
Real per capita consumption (Riel)	3905	4924
Male (%)	72.7	75.6
Married (%)	75.2	78.4
Sector/Industry during the past 12 months (%)		
Primary sector		
Agriculture, hunting and forestry; Fishing	24.7	23.4
Secondary sector	10.1	9.8
Mining and quarrying; Manufacturing; Electricity, gas, and water supply	6.2	5.7
Construction	3.9	4.0
Tertiary sector	50.2	55.2
Wholesale and retail trade; repair of motor vehicles, motorcycle and personal and household goods	18.4	18.7
Hotels and restaurants	0.2	0.8
Transport, storage and communications	8.6	9.0
Financial intermediation	1.3	0.5
Real estate, renting and business activities	0.8	0.6
Public administration and defense; compulsory social security	14.3	13.4
Education	2.2	3.9
Health	1.0	1.3
Other community, social and personal service activities	2.7	5.7
Extra-territorial organization and bodies	0.8	1.4
Missing information	15.0	11.6
Highest grade level successfully completed (%)		
Class 3 or below	35.8	28.7
Class 4-6	22.1	22.6
Class 7-9	24.4	24.8
Class 10-12	10.2	11.6
Class 12 or above	7.5	12.3
Number of observations	2200	3494

Source: CSES 1997; CSES 2003.

Table 4 Effects of education and industry on household consumption differences between 1997 and 2004 for all urban households

	Main effects (changes in the stock of schooling attainment or composition of industry)	Year effects (changes in returns to schooling or in industry premia)	Total effects
education	13.5%	35.2%	48.7%
industry	2.5%	46.8%	49.3%

Source: CSES 1997; CSES 2003.

Table 5 Rates of return to various levels of schooling and returns to sectors of employment (i.e., sector or industry premium), 1997 and 2004

Highest grade level successfully completed (ref.= Class 3 or below)	1997	2004
Class 4-6	0.154 (0.040)***	0.187 (0.030)***
Class 7-9	0.166 (0.040)***	0.263 (0.030)***
Class 10-12	0.363 (0.050)***	0.445 (0.040)***
Class 12 or above	0.400 (0.060)***	0.609 (0.040)***
Sector of head's main occupation during the past 12 months (ref.= Primary sector)		
Secondary sector	0.252 (0.050)***	0.307 (0.040)***
Tertiary sector	0.368 (0.040)***	0.506 (0.030)***

Source: CSES 1997; CSES 2004

Note: These coefficients are obtained from running a standard Mincerian regression with dependant variable as logarithm of real consumption, and other explanatory variables include age, gender, marital status etc (see details in ANNEX); standard error in parentheses; *** denotes significant at the 1% level.

Table 6 Estimation of consumption equation (urban household heads)

Dependant variable: logarithm of real per capita consumption

	Phnom Penh and other urban			
	1997		2004	
	Model 1	Model 2	Model 1	Model 2
Male	-0.059 (0.050)	-0.017 (0.050)	0.000 (0.040)	0.050 (0.040)
Age	0.030 (0.010)***	0.029 (0.010)***	0.030 (0.010)***	0.028 (0.010)***
Squared age	-0.024 (0.010)***	-0.024 (0.010)***	-0.024 (0.010)***	-0.024 (0.010)***
Married	0.130 (0.050)**	0.135 (0.050)**	0.059 (0.050)	0.052 (0.040)
Immigrant	0.194 (0.060)***	0.202 (0.060)***	-0.181 (0.020)***	-0.185 (0.020)***
Work hours in the past 7 days	0.003 (0.000)***	0.003 (0.000)***	0.001 (0.000)	0.001 (0.000)*
Household size	-0.093 (0.010)***	-0.092 (0.010)***	-0.101 (0.010)***	-0.102 (0.010)***
Highest grade level successfully completed (ref.= Class 3 or below)				
Class 4-6	0.154 (0.040)***	0.147 (0.040)***	0.187 (0.030)***	0.170 (0.030)***
Class 7-9	0.166 (0.040)***	0.154 (0.040)***	0.263 (0.030)***	0.245 (0.030)***
Class 10-12	0.363 (0.050)***	0.333 (0.050)***	0.445 (0.040)***	0.424 (0.040)***
Class 12 or above	0.400 (0.060)***	0.376 (0.060)***	0.609 (0.040)***	0.581 (0.040)***
Sector of head's main occupation during the past 12 months (ref.= Primary sector)				
Secondary sector	0.252 (0.050)***		0.307 (0.040)***	
Tertiary sector	0.368 (0.040)***		0.506 (0.030)***	
Industry of head's main occupation during the past 12 months (ref.= Agriculture, hunting and forestry; Fishing)				
Mining and quarrying; Manufacturing; Electricity, gas, and water supply		0.386 (0.060)***		0.463 (0.050)***
Construction		0.022 (0.070)		0.077 (0.050)
Wholesale and retail trade; repair of motor vehicles, motorcycle and personal and household goods		0.416 (0.040)***		0.576 (0.030)***
Hotels and restaurants		0.358 (0.250)		0.396 (0.110)***
Transport, storage and communications		0.227 (0.050)***		0.326 (0.040)***
Financial intermediation		0.550 (0.110)***		0.673 (0.150)***
Real estate, renting and business activities		0.439 (0.140)***		0.893 (0.140)***
Public admin & defense; compulsory social security)		0.348 (0.050)***		0.547 (0.040)***
Education		0.388 (0.090)***		0.434 (0.060)***
Health		0.563 (0.120)***		0.648 (0.090)***
Other community, social and personal service activities		0.393 (0.080)***		0.464 (0.050)***
Extra-territorial organization and bodies		0.543 (0.140)***		0.705 (0.090)***
Constant	7.146 (0.170)***	7.128 (0.170)***	7.326 (0.140)***	7.355 (0.140)***
R ²	0.237	0.254	0.352	0.373
Number of observations	1823	1823	2945	2945

Notes: The standard errors are presented in parentheses.

*** indicates coefficient significant at 1% level;

** indicates coefficient significant at 5% level;

* indicates coefficient significant at 10% level.

Source: Royal Government of Cambodia Ministry of Planning, National Institute of Statistics: CSES 1997, CSES 2004.

**Table 7 Decomposition of consumption difference between 1997 and 2004
(Phnom Penh and other urban)**

	Difference	Contribution of various variables to consumption difference				
		Education		Industry		Other variables
		Main effect	Year effect	Main effect	Year effect	
Percentage	100.0	13.5	35.2	2.5	46.8	2.1
Absolute value						
Total	0.181	0.024	0.064	0.004	0.085	0.004
Mining and quarrying; Manufacturing; Electricity, gas, and water supply				-0.002	0.004	
Construction				0.000	0.002	
Wholesale and retail trade; repair of motor vehicles, motorcycle and personal and household goods				0.001	0.030	
Hotels and restaurants				0.002	0.000	
Transport, storage and communications				0.001	0.009	
Financial intermediation				-0.005	0.001	
Real estate, renting and business activities				-0.001	0.003	
Public administration and defense; compulsory social security				-0.003	0.027	
Education				0.007	0.002	
Health				0.002	0.001	
Other community, social and personal service activities				0.012	0.004	
Extra-territorial organization and bodies				0.004	0.002	

Notes: Industry: industry of head's main occupation during the past 12 months.

Group of reference: Agriculture, hunting and forestry; Fishing.

"..." signifies that the absolute value is inferior to 0.001.

Source: Royal Government of Cambodia Ministry of Planning, National Institute of Statistics: CSES 1997, CSES 2004..

Annex 3: How can titling be translated into poverty reduction?

For simplicity, the titling program is assumed to work in the following way: households affected by the program initially have none of their plots titled, and will have all their plots titled after the intervention. The assumption implies that the number of households affected by the program will equal the number of titles issued divided by the average number of plots per household among potential program beneficiaries. We also assume that poor households are equally likely as non-poor households to have their plots titled.

The poverty impact of the program is calculated in the following way: The poverty rate among potential beneficiaries (households that own land without titles), is estimated to be 42 percent. Then, we estimate how much agriculture income would increase as a result of titles. Then, we simulate the increase of total income, which is proportionate to the share of agriculture income in total income. The increase in total income is assumed to translate fully to household consumption. Based on simulated post-titling consumption of these households, we calculate the poverty rate among beneficiaries after the program has been implemented. Note that all this is based on the assumption that beneficiary selection is uncorrelated with pre-program poverty status. The number of people escaping poverty as a result of the titling program is computed as the number of households escaping poverty times the average household size among potential beneficiary households that are poor before the program (this number is 5.7). The change in the national poverty rate is computed as the total number of poor divided by the total population.

This model of simulation ignores the following effects that are potentially important:

- *Multiplier effects.* The increased consumption of farmers will spill over into the non-farm sector. This is not taken into account in the model, which is a source of downward bias in the impact estimates.
- *Effects on other non-crop income.* Land titles might affect the ability to invest in other sectors than crop agriculture, because land can be offered as collateral for loans. Therefore titling might also affect income from non-agricultural enterprises, livestock-raising and so on. This is not accounted for in the simulation.
- *General equilibrium effects.* Imagine that titling works by increasing agricultural investment. Then if massive titling were to take place, aggregate demand for agricultural investment goods would increase, which would affect the price of those goods might and production could increase, which in turn prompts more investment and further multiplier effects in the economy.
- *Network-effects.* Titles to some extent have the properties of “network goods” – the more other people have them, the more valuable a title is for an owner. One reason for this is that titles make it easier to transact land. Therefore, the more other people have titles, the more potential transaction partners one has, but this potential can only be realized, if one has titled land. These effects would imply increasing marginal returns to titling.

Table 1. Projected Population

year	Population (Million persons)	Male (Million persons)	Female (Million persons)
1962	5.7	2.9	2.8
1982	6.9	3.1	3.8
1992	9.0	4.1	4.9
1993	9.3	4.3	5.0
1994	9.9	4.7	5.2
1995	10.9	5.2	5.6
1996	11.6	5.6	6.0
1997	11.9	5.8	6.1
1998	12.1	5.9	6.3
1999	12.4	6.0	6.4
2000	12.6	6.1	6.5
2001	12.8	6.2	6.6
2002	13.0	6.3	6.7
2003	13.3	6.4	6.9
2004	13.5	6.6	6.9
2005	13.8	6.7	7.1
2006	14.1	6.8	7.2
2007	14.4	7.0	7.4
2008	14.7	7.1	7.5
2009	15.0	7.3	7.7
2010	15.3	7.4	7.8
2011	15.6	7.6	8.0
2012	15.9	7.8	8.2
2013	16.2	7.9	8.3
2014	16.6	8.1	8.5
2015	16.9	8.3	8.7
2016	17.3	8.5	8.8
2017	17.6	8.6	9.0
2018	18.0	8.8	9.2
2019	18.4	9.0	9.4
2020	18.7	9.2	9.5

Sources: Statistical Year Book 2005 and CSES 2003/2004, National Institute of Statistics

Table 2. Projected population by age and sex, 1998 - 2005

Age Group	1998	1999	2000	2001	2002	2003	2004	2005
In number								
Both Sexes	12,132,172	12,351,382	12,573,580	12,802,982	13,040,668	13,287,053	13,542,410	13,806,923
0	303,248	322,557	326,691	333,344	341,299	349,751	358,494	367,445
1 - 4	1,617,243	1,501,614	1,392,980	1,290,659	1,226,417	1,265,354	1,294,227	1,327,545
5 - 9	1,815,638	1,850,836	1,901,630	1,951,379	1,964,089	1,869,041	1,776,591	1,675,892
10 - 14	1,698,245	1,727,619	1,744,740	1,754,525	1,765,741	1,786,935	1,822,625	1,873,971
15 - 19	1,376,726	1,469,639	1,540,633	1,593,402	1,634,974	1,670,707	1,700,413	1,718,220
20 - 24	763,696	834,101	949,426	1,090,594	1,230,203	1,348,435	1,440,152	1,510,626
25 - 29	910,000	873,480	816,272	758,947	729,146	745,213	814,497	927,835
30 - 34	801,585	824,348	853,667	880,868	893,892	885,741	850,809	795,772
35 - 39	712,675	733,673	746,181	754,239	763,541	777,717	800,420	829,626
40 - 44	509,072	540,047	578,372	619,591	657,494	687,863	708,632	721,358
45 - 49	425,977	437,290	445,490	454,000	467,370	488,421	518,496	555,703
50 - 54	320,009	334,698	352,407	371,355	389,071	404,060	415,198	423,484
55 - 59	263,135	268,716	273,902	279,768	287,626	298,279	312,343	329,304
60 - 64	209,945	214,313	219,781	225,953	232,205	238,179	243,586	248,727
65 - 69	170,959	172,909	174,271	175,656	177,646	180,654	184,839	190,043
70 - 74	114,924	120,489	125,308	129,390	132,695	135,265	137,224	138,828
75+	119,095	125,053	131,829	139,312	147,259	155,438	163,864	172,544
Female	6,274,554	6,384,294	6,495,047	6,609,280	6,727,537	6,850,016	6,976,854	7,108,140
0	148,651	158,242	160,178	163,407	167,273	171,381	175,631	179,982
1 - 4	793,400	737,415	684,961	635,500	604,419	623,354	637,206	653,295
5 - 9	889,829	908,076	933,274	957,587	963,813	917,708	873,052	824,342
10 - 14	826,549	840,085	849,559	856,600	864,488	876,666	895,079	920,529
15 - 19	696,500	737,689	766,677	786,313	801,466	815,742	829,444	839,221
20 - 24	401,044	435,980	493,004	562,338	629,900	685,554	726,419	755,389
25 - 29	472,720	455,019	427,264	399,492	385,228	393,467	428,017	484,347
30 - 34	422,557	433,749	447,772	460,576	466,539	462,396	445,335	418,473
35 - 39	379,487	387,817	393,756	398,662	404,365	411,975	423,157	437,184
40 - 44	304,526	317,027	330,678	344,578	357,419	368,326	376,653	382,726
45 - 49	246,697	256,418	265,278	273,953	283,356	294,052	306,324	319,778
50 - 54	184,399	193,203	203,485	214,625	225,724	236,180	245,660	254,368
55 - 59	150,285	154,008	157,692	161,860	167,138	173,920	182,398	192,326
60 - 64	121,251	123,926	127,108	130,675	134,386	138,105	141,704	145,318
65 - 69	98,593	100,161	101,442	102,731	104,288	106,311	108,882	111,950
70 - 74	67,025	70,504	73,474	76,017	78,157	79,941	81,438	82,775
75+	71,041	74,975	79,445	84,366	89,578	94,938	100,455	106,137
Male	5,857,618	5,967,088	6,078,533	6,193,702	6,313,131	6,437,037	6,565,556	6,698,783
0	154,597	164,315	166,513	169,937	174,026	178,370	182,863	187,463
1 - 4	823,843	764,199	708,019	655,159	621,998	642,000	657,021	674,250
5 - 9	925,809	942,760	968,356	993,792	1,000,276	951,333	903,539	851,550
10 - 14	871,696	887,534	895,181	897,925	901,253	910,269	927,546	953,442
15 - 19	680,226	731,950	773,956	807,089	833,508	854,965	870,969	878,999
20 - 24	362,652	398,121	456,422	528,256	600,303	662,881	713,733	755,237
25 - 29	437,280	418,461	389,008	359,455	343,918	351,746	386,480	443,488
30 - 34	379,028	390,599	405,895	420,292	427,353	423,345	405,474	377,299
35 - 39	333,188	345,856	352,425	355,577	359,176	365,742	377,263	392,442
40 - 44	204,546	223,020	247,694	275,013	300,075	319,537	331,979	338,632
45 - 49	179,280	180,872	180,212	180,047	184,014	194,369	212,172	235,925
50 - 54	135,610	141,495	148,922	156,730	163,347	167,880	169,538	169,116
55 - 59	112,850	114,708	116,210	117,908	120,488	124,359	129,945	136,978
60 - 64	88,694	90,387	92,673	95,278	97,819	100,074	101,882	103,409
65 - 69	72,366	72,748	72,829	72,925	73,358	74,343	75,957	78,093
70 - 74	47,899	49,985	51,834	53,373	54,538	55,324	55,786	56,053
75+	48,054	50,078	52,384	54,946	57,681	60,500	63,409	66,407

Sources: First Revision Population Projection for Cambodia 1998-2020

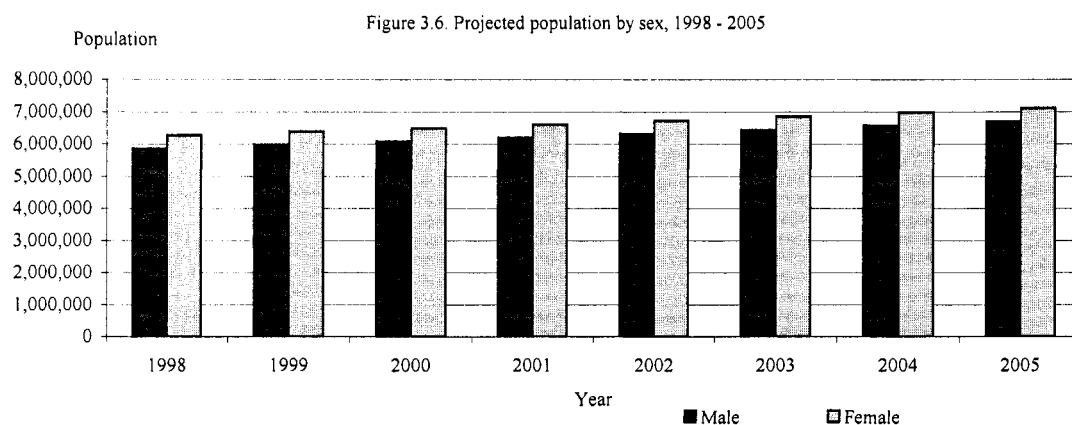
National Institute of Statistics (NIS) and Royal University of Phnom Penh (RUPP).

Table 3. Projected population by province and sex, 1998 - 2005

Province / Municipality	1998	1999	2000	2001	2002	2003	2004	2005
In number								
Both Sexes	12,132,172	12,351,382	12,573,580	12,802,982	13,040,668	13,287,053	13,542,410	13,806,923
Banteay Meanchey	638,892	657,322	675,363	693,805	712,795	732,310	752,392	773,092
Battambang	887,507	901,565	915,876	930,726	946,332	962,672	979,823	997,840
Kampong Cham	1,691,798	1,712,448	1,734,143	1,756,657	1,780,286	1,804,956	1,830,722	1,857,500
Kampong Chhnang	440,144	449,604	459,206	469,120	479,457	490,220	501,455	513,179
Kampong Speu	630,782	643,865	657,005	670,487	684,476	698,949	713,967	729,552
Kampong Thom	599,695	610,559	621,504	632,752	644,429	656,474	668,895	681,692
Kampot	557,322	562,647	568,501	574,600	581,072	587,868	595,036	602,624
Kandal	1,129,876	1,144,426	1,159,181	1,174,438	1,190,445	1,207,096	1,224,433	1,242,506
Koh Kong	138,309	146,288	153,544	160,892	168,366	175,947	183,648	191,468
Kratie	276,706	284,428	292,206	300,139	308,287	316,606	325,097	333,761
Mondul Kiri	34,406	35,492	36,594	37,708	38,854	40,016	41,201	42,412
Phnom Penh	1,039,607	1,077,286	1,114,479	1,152,572	1,191,668	1,231,630	1,272,386	1,313,851
Preah Vihear	126,389	129,844	133,372	136,988	140,711	144,521	148,407	152,378
Prey Veng	995,211	1,000,220	1,006,270	1,012,811	1,019,936	1,027,518	1,035,672	1,044,376
Pursat	390,004	394,576	399,290	404,266	409,621	415,354	421,528	428,173
Ratanak Kiri	99,703	102,506	105,344	108,260	111,290	114,426	117,664	121,028
Siem Reap	734,126	750,818	767,768	785,204	803,289	821,964	841,268	861,214
Sihanoukville	163,303	169,395	175,591	181,926	188,447	195,130	201,981	209,005
Stung Treng	85,602	88,068	90,562	93,552	95,721	98,396	101,136	103,933
Svay Rieng	503,080	507,402	512,093	516,882	521,872	527,053	532,478	538,180
Takeo	833,381	841,642	850,397	859,531	869,157	879,220	889,777	900,880
Oddor Meanchey	82,345	84,413	86,511	88,647	90,843	93,077	95,410	97,803
Kep	30,123	31,132	32,168	33,221	34,311	35,434	36,592	37,786
Pailin	23,861	25,436	26,612	27,798	29,003	30,216	31,442	32,690
Male	5,857,618	5,967,088	6,078,533	6,193,702	6,313,131	6,437,037	6,565,556	6,698,783
Banteay Meanchey	313,721	322,854	331,831	340,999	350,470	360,204	370,224	380,559
Battambang	435,451	442,582	449,873	457,421	465,389	473,718	482,462	491,652
Kampong Cham	817,293	827,522	838,306	849,490	861,315	873,655	886,569	900,010
Kampong Chhnang	208,865	213,741	218,697	223,800	229,136	234,683	240,468	246,499
Kampong Speu	303,251	309,871	316,550	323,393	330,522	337,892	345,542	353,489
Kampong Thom	288,096	293,593	299,161	304,874	310,833	316,972	323,307	329,837
Kampot	267,487	270,280	273,359	276,552	279,954	283,512	287,260	291,225
Kandal	543,278	550,829	558,532	566,474	574,841	583,526	592,566	601,990
Koh Kong	70,851	75,070	78,933	82,835	86,805	90,827	94,906	99,045
Kratie	137,075	141,061	145,085	149,180	153,396	157,697	162,084	166,559
Mondul Kiri	17,384	17,954	18,532	19,113	19,715	20,325	20,946	21,580
Phnom Penh	501,922	519,384	536,675	554,410	572,689	591,407	610,528	630,016
Preah Vihear	62,951	64,814	66,721	68,670	70,678	72,726	74,814	76,943
Prey Veng	469,443	471,749	474,626	477,782	481,280	484,957	488,941	493,215
Pursat	187,378	189,751	192,188	194,751	197,514	200,467	203,640	207,048
Ratanak Kiri	49,124	50,519	51,931	53,380	54,895	56,465	58,087	59,774
Siem Reap	355,722	364,035	372,509	381,217	390,291	399,655	409,345	419,362
Sihanoukville	80,800	83,898	87,052	90,272	93,591	96,992	100,473	104,042
Stung Treng	42,415	43,647	44,897	46,614	47,479	48,819	50,192	51,591
Svay Rieng	237,371	239,533	241,897	244,304	246,831	249,449	252,194	255,082
Takeo	398,523	402,677	407,114	411,743	416,652	421,774	427,150	432,811
Oddor Meanchey	41,577	42,700	43,844	45,001	46,194	47,400	48,664	49,952
Kep	14,757	15,296	15,848	16,405	16,983	17,577	18,189	18,820
Pailin	12,883	13,728	14,372	15,022	15,678	16,338	17,005	17,682

Table 3. Projected population by province and sex, 1998 - 2005

Province / Municipality	1998	1999	2000	2001	2002	2003	2004	2005
In number								
Continued								
Female	6,274,554	6,384,294	6,495,047	6,609,280	6,727,537	6,850,016	6,976,854	7,108,140
Banteay Meanchey	325,171	334,468	343,532	352,806	362,325	372,106	382,168	392,533
Battambang	452,056	458,983	466,003	473,305	480,943	488,954	497,361	506,188
Kampong Cham	874,505	884,926	895,837	907,167	918,971	931,301	944,153	957,490
Kampong Chhnang	231,279	235,863	240,509	245,320	250,321	255,537	260,987	266,680
Kampong Speu	327,531	333,994	340,455	347,094	353,954	361,057	368,425	376,063
Kampong Thom	311,599	316,966	322,343	327,878	333,596	339,502	345,588	351,855
Kampot	289,835	292,367	295,142	298,048	301,118	304,356	307,776	311,399
Kandal	586,598	593,597	600,649	607,964	615,604	623,570	631,867	640,516
Koh Kong	67,458	71,218	74,611	78,057	81,561	85,120	88,742	92,423
Kratie	139,631	143,367	147,121	150,959	154,891	158,909	163,013	167,202
Mondul Kiri	17,022	17,538	18,062	18,595	19,139	19,691	20,255	20,832
Phnom Penh	537,685	557,902	577,804	598,162	618,979	640,223	661,858	683,835
Preah Vihear	63,438	65,030	66,651	68,318	70,033	71,795	73,593	75,435
Prey Veng	525,768	528,471	531,644	535,029	538,656	542,561	546,731	551,161
Pursat	202,626	204,825	207,102	209,515	212,107	214,887	217,888	221,125
Ratanak Kiri	50,579	51,987	53,413	54,880	56,395	57,961	59,577	61,254
Siem Reap	378,404	386,783	395,259	403,987	412,998	422,309	431,923	441,852
Sihanoukville	82,503	85,497	88,539	91,654	94,856	98,138	101,508	104,963
Stung Treng	43,187	44,421	45,665	46,938	48,242	49,577	50,944	52,342
Svay Rieng	265,709	267,869	270,196	272,578	275,041	277,604	280,284	283,098
Takeo	434,858	438,965	443,283	447,788	452,505	457,446	462,627	468,069
Oddor Meanchey	40,768	41,713	42,667	43,646	44,649	45,677	46,746	47,851
Kep	15,366	15,836	16,320	16,816	17,328	17,857	18,403	18,966
Pailin	10,978	11,708	12,240	12,776	13,325	13,878	14,437	15,008



Source: First Revision Population Projection for Cambodia 1998-2020
National Institute of Statistics (NIS) and Royal University of Phnom Penh (RUPP).

Table 4. Projected life expectancy at birth by province and sex, 1998-2005

Province / Municipality	1998	1999	2000	2001	2002	2003	2004	2005
Male								
Banteay Meanchey	56.8	57.3	58.0	58.6	59.2	59.8	60.5	61.1
Battambang	51.8	52.5	53.3	54.1	54.9	55.7	56.5	57.3
Kampong Cham	49.5	50.2	50.9	51.6	52.3	53.0	53.7	54.5
Kampong Chhnang	44.7	45.4	46.2	47.0	47.8	48.6	49.4	50.2
Kampong Speu	59.4	59.8	60.3	60.7	61.2	61.6	62.1	62.5
Kampong Thom	60.4	60.8	61.1	61.5	61.9	62.3	62.7	63.1
Kampot	51.3	51.9	52.7	53.4	54.2	54.9	55.6	56.4
Kandal	54.0	54.6	55.3	55.9	56.6	57.3	57.9	58.6
Koh Kong	58.7	59.2	59.7	60.3	60.8	61.3	61.9	62.4
Kratie	58.6	58.9	59.4	59.8	60.2	60.6	61.0	61.4
Mondul Kiri	36.5	37.3	38.1	38.9	39.7	40.5	41.3	42.1
Phnom Penh	68.3	68.5	68.6	68.7	68.9	69.0	69.1	69.2
Preah Vihear	58.6	58.9	59.4	59.8	60.2	60.6	61.0	61.4
Prey Veng	48.8	49.5	50.3	51.0	51.8	52.6	53.3	54.1
Pursat	42.6	43.3	44.1	44.9	45.6	46.4	47.2	48.0
Ratanak Kiri	36.5	37.3	38.1	38.9	39.7	40.5	41.3	42.1
Siem Reap	56.8	57.4	58.0	58.6	59.2	59.7	60.3	60.9
Sihanoukville	51.3	51.9	52.7	53.4	54.2	54.9	55.6	56.4
Stung Treng	58.6	58.9	59.4	59.8	60.2	60.6	61.0	61.4
Svay Rieng	50.9	51.4	51.9	51.4	53.0	53.5	54.0	54.5
Takeo	52.3	52.8	53.4	54.0	54.6	55.2	55.7	56.3
Oddor Meanchey	56.8	57.2	57.6	58.0	58.4	58.8	59.2	59.6
Kep	51.3	51.8	52.5	53.1	53.8	54.4	55.0	55.7
Pailin	51.8	52.4	53.1	53.7	54.4	55.0	55.6	56.3
Female								
Banteay Meanchey	63.1	63.6	64.3	64.9	65.6	66.2	66.8	67.5
Battambang	57.8	58.5	59.3	60.1	60.9	61.7	62.5	63.3
Kampong Cham	55.2	55.9	56.6	57.3	58.1	58.8	59.5	60.3
Kampong Chhnang	49.9	50.6	51.4	52.2	53.0	53.8	54.6	55.5
Kampong Speu	65.8	66.2	66.7	67.1	67.6	68.1	68.5	69.0
Kampong Thom	66.8	67.2	67.6	68.0	68.4	68.8	69.2	69.5
Kampot	57.2	57.9	58.6	59.4	60.1	60.9	61.6	62.4
Kandal	60.1	60.7	61.4	62.1	62.8	63.5	64.1	64.8
Koh Kong	65.1	65.6	66.2	66.7	67.2	67.8	68.3	68.8
Kratie	65.0	65.3	65.8	66.2	66.6	67.0	67.4	67.9
Mondul Kiri	40.3	41.0	41.8	42.6	43.4	44.3	45.1	45.9
Phnom Penh	74.8	74.9	75.1	75.2	75.3	75.5	75.6	75.7
Preah Vihear	65.0	65.3	65.8	66.2	66.6	67.0	67.4	67.9
Prey Veng	54.5	55.2	55.9	56.7	57.5	58.3	59.1	59.9
Pursat	47.4	48.1	48.9	49.7	50.5	51.3	52.1	52.9
Ratanak Kiri	40.3	41.0	41.8	42.6	43.4	44.2	45.1	45.9
Siem Reap	63.2	63.7	64.3	64.9	65.5	66.1	66.7	67.3
Sihanoukville	57.2	57.9	58.6	59.4	60.1	60.9	61.6	62.4
Stung Treng	65.0	65.3	65.8	66.2	66.6	67.0	67.4	67.9
Svay Rieng	56.8	57.3	57.8	58.3	58.9	59.4	60.0	60.5
Takeo	58.3	58.9	59.5	60.0	60.6	61.2	61.8	62.4
Oddor Meanchey	63.2	63.5	63.9	64.4	64.8	65.2	65.6	66.0
Kep	57.2	57.8	58.4	59.1	59.7	60.4	61.0	61.7
Pailin	57.8	58.4	59.1	59.7	60.4	61.0	61.7	62.3

Source: First Revision Population Projection for Cambodia 1998-2020

National Institute of Statistics (NIS) and Royal University of Phnom Penh (RUPP).

Table 5. Total employment by sector and main industry, 1993-2005 ("000)

Total labor force	Adjusted												
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Population estimates ('000)	9,300	9,869	10,863	11,668	11,970	12,132	12,351	12,574	12,803	13,041	13,287	13,542	13,807
Population ratio													
Employment as a % of population	49.7	47.9	45.4	43.9	43.7	45.7	45.6	47.1	48.9	50.4	52.4	55.3	57.1
Total Employment (Actual, Impute - 1993, 2002, 2003, 2005)	4,621	4,728	4,934	5,124	5,231	5,550	5,635	5,918	6,262	6,571	6,965	7,496	7,878
Population Census based adjusted total employment													
Total Employment by Sector/Main Industry													
AGRICULTURE SECTOR	3,661	3,705	3,824	3,991	4,026	4,210	4,209	4,346	4,384	4,426	4,471	4,520	4,655
Agriculture as % of total employment	79	78	78	78	77	76	75	73	70	67	64	60	59
AGRICULTURE AND HUNTING	3,434	3,467	3,581	3,740	3,766	3,942	3,936	4,057	4,068	4,080	4,091	4,103	4,197
FORESTRY AND LOGGING	38	43	42	42	45	47	46	54	55	56	56	57	58
FISHING, OPERATION OF FISH HOUSEHOLDS	188	194	202	208	215	222	227	235	261	291	323	360	400
INDUSTRY SECTOR	180	203	234	249	292	319	379	519	664	741	835	947	1,059
Industry as a % of total employment	4	4	5	5	6	6	7	9	11	11	12	13	13
Mining and quarrying	6	6	5	5	6	7	8	12	14	15	16	17	19
Manufacturing	133	148	169	189	232	264	313	429	552	601	656	720	789
Utilities	3	3	3	3	4	5	4	4	5	6	10	16	17
Construction	38	47	56	52	50	42	54	74	94	120	153	195	234
SERVICES SECTOR	780	820	876	884	912	1,021	1,048	1,053	1,214	1,404	1,659	2,028	2,163
Services as a % of total employment	17	17	18	17	17	18	19	18	19	21	24	27	27
Trade	448	424	448	471	497	501	526	550	644	756	888	1,042	1,104
Hotels and Restaurants	7	8	9	10	10	18	19	19	21	24	27	30	43
Transport and Communications	82	90	95	98	98	99	112	120	169	178	187	196	206
Financial Intermediation	2	2	5	5	6	5	7	8	6	9	12	16	23
Public Administration	116	150	170	143	138	222	187	147	149	159	169	180	185
Real Estate and Business Services	11	10	10	11	11	12	13	16	16	16	15	15	16
Other Services	114	136	139	147	152	165	184	193	207	263	361	549	586

Source. Various Socio-Economic and Labor Force Surveys, National Institute of Statistics.

Table 6. Percentage of population by religion, age and sex: 1998 and 2004

Age Group	GPCC 1998						CIPS 2004					
	Total Popul-ation	Religion					Total Popul-ation	Religion				
		Buddh-ism	Islam	Christia-nity	Other	Not Reported		Buddhism	Islam	Christi-anity	Other	Not Reported
Both sexes	100.0	96.4	2.1	0.5	0.8	0.2	100.0	96.4	2.5	0.3	0.8	0.0
0 - 4	100.0	96.3	2.3	0.3	1.0	0.2	100.0	96.5	1.9	0.2	1.3	-
5 - 9	100.0	96.3	2.3	0.4	0.8	0.1	100.0	96.4	2.4	0.2	0.9	0.0
10 - 14	100.0	96.3	2.3	0.4	0.7	0.2	100.0	96.5	2.6	0.2	0.7	0.0
15 - 19	100.0	96.7	1.9	0.4	0.7	0.3	100.0	96.1	2.9	0.3	0.7	0.0
20 - 24	100.0	96.5	1.8	0.6	0.9	0.3	100.0	96.4	2.8	0.3	0.5	0.0
25 - 29	100.0	96.5	1.9	0.5	0.9	0.3	100.0	96.3	2.1	0.5	1.1	0.0
30 - 34	100.0	96.4	2.0	0.5	0.8	0.2	100.0	96.8	2.0	0.5	0.7	0.0
35 - 39	100.0	96.2	2.2	0.6	0.9	0.2	100.0	96.7	2.0	0.2	1.0	0.1
40 - 44	100.0	96.1	2.3	0.7	0.8	0.2	100.0	96.8	2.2	0.4	0.6	0.0
45 - 49	100.0	96.1	2.2	0.6	0.9	0.1	100.0	96.5	2.5	0.3	0.6	0.0
50 - 54	100.0	96.3	2.1	0.6	0.9	0.1	100.0	95.8	3.3	0.4	0.5	-
55 - 59	100.0	96.6	2.0	0.5	0.8	0.2	100.0	95.9	3.1	0.4	0.7	-
60 - 64	100.0	96.3	2.1	0.4	0.9	0.3	100.0	95.7	3.5	0.2	0.6	-
65 - 69	100.0	96.5	2.1	0.4	0.8	0.3	100.0	96.7	2.7	0.3	0.3	-
70 - 74	100.0	96.1	2.2	0.4	1.0	0.4	100.0	96.6	2.3	0.3	0.6	0.2
75+	100.0	95.4	2.3	0.3	1.1	0.9	100.0	95.2	3.6	0.2	0.9	0.1
Over all male	100.0	96.3	2.1	0.5	0.8	0.2	100.0	96.4	2.5	0.3	0.8	0.0
0 - 4	100.0	96.3	2.3	0.4	0.9	0.2	100.0	96.6	2.0	0.2	1.2	-
5 - 9	100.0	96.3	2.3	0.4	0.8	0.2	100.0	96.5	2.3	0.3	0.9	0.0
10 - 14	100.0	96.2	2.4	0.4	0.8	0.2	100.0	96.6	2.6	0.2	0.6	0.0
15 - 19	100.0	96.7	1.9	0.4	0.7	0.3	100.0	96.3	2.9	0.2	0.5	0.0
20 - 24	100.0	96.6	1.7	0.6	0.8	0.4	100.0	96.5	2.7	0.2	0.5	0.0
25 - 29	100.0	96.5	1.8	0.5	0.8	0.3	100.0	96.3	2.1	0.5	1.1	-
30 - 34	100.0	96.4	1.9	0.6	0.8	0.3	100.0	96.8	2.0	0.5	0.7	0.0
35 - 39	100.0	96.0	2.3	0.6	1.0	0.2	100.0	96.8	1.8	0.3	1.0	0.1
40 - 44	100.0	95.6	2.4	0.8	1.0	0.2	100.0	96.5	2.3	0.4	0.7	0.0
45 - 49	100.0	95.7	2.3	0.7	1.1	0.1	100.0	96.0	3.0	0.2	0.8	-
50 - 54	100.0	96.1	2.1	0.7	1.0	0.1	100.0	95.8	3.1	0.5	0.7	-
55 - 59	100.0	96.3	2.0	0.5	1.0	0.1	100.0	96.1	2.8	0.5	0.7	-
60 - 64	100.0	96.2	2.1	0.5	1.0	0.2	100.0	95.3	3.8	0.2	0.7	-
65 - 69	100.0	96.4	2.1	0.5	0.9	0.2	100.0	95.7	3.2	0.5	0.6	-
70 - 74	100.0	96.0	2.1	0.4	1.2	0.3	100.0	97.7	1.4	0.6	0.2	-
75+	100.0	94.9	2.1	0.3	1.4	1.3	100.0	95.2	3.3	0.4	0.9	0.2
Over all female	100.0	96.4	2.1	0.4	0.8	0.2	100.0	96.4	2.5	0.3	0.8	0.0
0 - 4	100.0	96.2	2.3	0.3	1.0	0.1	100.0	96.5	1.9	0.2	1.4	-
5 - 9	100.0	96.3	2.4	0.4	0.8	0.1	100.0	96.4	2.5	0.2	0.9	-
10 - 14	100.0	96.4	2.3	0.4	0.7	0.1	100.0	96.4	2.6	0.2	0.7	0.0
15 - 19	100.0	96.6	2.0	0.4	0.7	0.2	100.0	95.9	2.9	0.3	0.9	-
20 - 24	100.0	96.4	1.9	0.6	0.9	0.3	100.0	96.3	2.9	0.3	0.5	-
25 - 29	100.0	96.5	1.9	0.5	0.9	0.2	100.0	96.3	2.1	0.5	1.1	0.0
30 - 34	100.0	96.5	2.1	0.5	0.8	0.1	100.0	96.9	2.0	0.4	0.7	-
35 - 39	100.0	96.4	2.1	0.5	0.8	0.1	100.0	96.6	2.2	0.2	1.0	-
40 - 44	100.0	96.4	2.2	0.6	0.8	0.1	100.0	97.0	2.1	0.3	0.5	-
45 - 49	100.0	96.4	2.1	0.5	0.8	0.1	100.0	96.9	2.2	0.3	0.5	0.0
50 - 54	100.0	96.4	2.1	0.5	0.9	0.2	100.0	95.8	3.4	0.4	0.4	-
55 - 59	100.0	96.8	1.9	0.4	0.7	0.2	100.0	95.7	3.3	0.4	0.6	-
60 - 64	100.0	96.3	2.1	0.4	0.9	0.3	100.0	95.9	3.3	0.3	0.4	-
65 - 69	100.0	96.6	2.0	0.3	0.6	0.4	100.0	97.5	2.3	0.2	-	-
70 - 74	100.0	96.1	2.2	0.3	0.8	0.4	100.0	95.9	2.8	0.1	0.9	0.3
75+	100.0	95.7	2.5	0.4	0.9	0.6	100.0	95.2	3.8	0.1	0.9	-

Source: 1998 General Population Census of Cambodia (GPCC 1998) and Cambodia Inter-censal Population Survey 2004 (CIPS 2004), National Institute of Statistics (NIS).

Table 7. GROSS DOMESTIC PRODUCT (In Current Prices) and PER CAPITA GDP
(Billions of Riel)

	1993r	1994r	1995r	1996r	1997r	1998r	1999r	2000r	2001r	2002r	2003r	2004r	2005r	2006p
GDP in billion Riels	6,813	7,105	8,434	9,202	10,145	11,720	13,376	14,083	15,617	16,756	18,508	21,343	25,693	29,809
Growth Rate in Percent (%)		4.3%	18.7%	9.1%	10.3%	15.5%	14.1%	5.3%	10.9%	7.3%	10.5%	15.3%	20.4%	16.0%
Per Capita GDP in '000 Riels	629	637	733	779	841	955	1,072	1,111	1,212	1,279	1,389	1,575	1,858	2,105
Growth Rate in Percent (%)		1.1%	15.2%	6.2%	8.0%	13.6%	12.3%	3.6%	9.1%	5.5%	8.6%	13.4%	18.0%	13.3%
GDP in million US \$	2,480	2,765	3,419	3,486	3,392	3,106	3,507	3,649	3,980	4,273	4,656	5,315	6,278	7,265
Growth Rate in Percent (%)		11.5%	23.7%	2.0%	-2.7%	-8.4%	12.9%	4.1%	9.1%	7.4%	9.0%	14.2%	18.1%	15.7%
Per Capita GDP in US \$	229	248	297	295	281	253	281	288	309	326	349	392	454	513
Growth Rate in Percent (%)		8.1%	20.0%	-0.8%	-4.7%	-9.9%	11.1%	2.4%	7.3%	5.6%	7.1%	12.3%	15.7%	13.0%
Household Final Consumption Expenditure (HFCE)														
Per Capita HFCE in '000 Riels	6,713	6,571	7,812	8,749	8,932	10,887	11,732	12,211	12,950	13,715	15,059	17,753	21,104	23,515
Monthly Per Capita HFCE in Riels	620	589	679	740	740	887	940	963	1,005	1,047	1,130	1,310	1,526	1,660
Monthly Per Capita HFCE in Riels	51,681	49,063	56,608	61,688	61,670	73,929	78,370	80,250	83,731	87,221	94,169	109,185	127,178	138,359

Source: National Institute of Statistics, National Account of Cambodia (June 2007)

Table 8. GROSS DOMESTIC PRODUCT (In Constant 2000 Prices) and PER CAPITA GDP
(Billions of Riel)

	1993r	1994r	1995r	1996r	1997r	1998r	1999r	2000r	2001r	2002r	2003r	2004r	2005r	2006p
GDP in billion Riels	8,521	9,297	9,896	10,431	11,018	11,570	12,947	14,083	15,215	16,210	17,589	19,351	21,956	24,334
Growth Rate in Percent (%)		9.1%	6.4%	5.4%	5.6%	5.0%	11.9%	8.8%	8.0%	6.5%	8.5%	10.0%	13.5%	10.8%
Per Capita GDP in '000 Riels	787	833	861	883	913	943	1,038	1,111	1,180	1,237	1,320	1,428	1,588	1,718
Growth Rate in Percent (%)		5.8%	3.3%	2.6%	3.4%	3.3%	10.1%	7.0%	6.3%	4.8%	6.7%	8.2%	11.2%	8.2%
GDP in million US \$	3,102	3,617	4,011	3,951	3,684	3,066	3,395	3,649	3,877	4,134	4,425	4,819	5,365	5,931
Growth Rate in Percent (%)		16.6%	10.9%	-1.5%	-6.8%	-16.8%	10.7%	7.5%	6.2%	6.6%	7.0%	8.9%	11.3%	10.5%
Per Capita GDP in US \$	287	324	349	334	305	250	272	288	301	315	332	356	388	419
Growth Rate in Percent (%)		13.1%	7.6%	-4.2%	-8.7%	-18.1%	8.9%	5.8%	4.5%	4.9%	5.2%	7.1%	9.1%	7.9%
Household Final Consumption Expenditure (HFCE)														
Per Capita HFCE in '000 Riels	8,087	8,476	9,206	10,020	9,906	10,908	11,639	12,211	12,499	13,194	14,232	16,019	17,981	19,211
Monthly Per Capita HFCE in Riels	747	759	801	848	821	889	933	963	970	1,007	1,068	1,182	1,300	1,356
Monthly Per Capita HFCE in Riels	62,255	63,284	66,710	70,648	68,390	74,075	77,750	80,250	80,815	83,909	88,998	98,517	108,357	113,036

Source: National Institute of Statistics, National Account of Cambodia (June 2007)

Table 9. Gross Domestic Product (GDP) by Economic Activity, 1993 - 2006 (Current Prices)
(Value in Billion Riels)

	1993/t/	1994/t/	1995/t/	1996/t/	1997/t/	1998/t/	1999/t/	2000/t/	2001/t/	2002/t/	2003/t/	2004/t/	2005/t/	2006/p/
AGRICULTURE, FISHERIES & FORESTRY	3,086.0	3,236.9	4,024.9	4,091.5	4,509.3	5,213.2	5,471.3	5,058.3	5,365.4	5,223.6	5,925.8	6,300.7	7,909.2	8,972.4
Crops	1,154.0	1,295.3	1,954.4	1,911.7	2,031.2	2,379.2	2,451.2	2,263.6	2,261.3	2,141.9	2,688.7	2,909.5	4,034.2	4,518.4
Livestock & Poultry	494.7	451.2	517.0	582.6	595.3	717.2	872.8	785.7	844.6	876.3	891.2	946.6	1,198.5	1,379.0
Fisheries	1,133.2	953.2	1,034.4	1,175.6	1,229.1	1,470.6	1,575.7	1,515.9	1,746.9	1,703.5	1,721.1	1,753.9	1,892.2	2,160.4
Forestry & Logging	304.0	537.2	519.1	421.6	653.8	646.2	571.6	493.0	512.5	501.9	624.8	690.7	784.3	914.6
INDUSTRY	861.6	975.0	1,202.8	1,379.2	1,662.4	1,958.4	2,413.0	3,078.0	3,484.2	4,070.1	4,631.3	5,498.1	6,436.7	7,814.7
Mining	13.1	15.9	19.4	19.5	20.4	19.2	26.4	33.5	39.8	47.7	57.9	73.8	96.7	114.8
Manufacturing	587.1	629.1	771.3	929.0	1,180.9	1,483.9	1,765.2	2,254.8	2,621.6	2,954.7	3,374.2	4,026.7	4,585.5	5,540.6
Food, Beverages & Tobacco	281.7	267.4	345.8	357.5	377.4	443.8	481.5	449.4	467.1	457.3	487.5	504.7	608.3	663.6
Textile, Wearing Apparel & Footwear	70.9	79.6	123.2	197.8	379.3	584.1	790.3	1,297.1	1,680.9	1,973.1	2,293.7	2,847.5	3,158.3	3,867.9
Wood, Paper & Publishing	82.8	118.2	108.7	142.2	166.6	170.9	151.4	132.4	103.7	112.0	104.8	119.1	148.4	171.4
Rubber Manufacturing	23.5	22.3	31.4	42.4	48.8	46.4	55.7	69.2	61.7	73.6	110.7	122.1	125.7	180.9
Other Manufacturing	128.1	141.6	162.3	189.1	208.9	238.8	286.3	306.7	308.3	338.7	377.5	433.3	544.8	656.7
Electricity, Gas & Water	24.1	30.8	36.0	44.0	49.2	59.2	56.8	58.1	72.5	82.3	93.0	110.0	123.9	164.2
Construction	237.3	299.2	376.2	386.8	411.9	396.0	564.5	731.6	750.3	985.4	1,106.3	1,287.6	1,630.5	1,995.0
SERVICES	2,686.0	2,576.0	2,883.6	3,310.9	3,559.8	4,079.1	4,740.7	5,230.9	5,985.6	6,572.4	7,053.0	8,398.1	10,002.2	11,517.0
Trade	993.0	923.2	1,002.3	1,141.7	1,230.6	1,361.3	1,476.1	1,512.0	1,609.3	1,657.8	1,761.1	2,009.0	2,364.3	2,661.2
Hotel & Restaurants	154.6	195.4	233.7	250.4	291.4	323.9	419.2	520.9	686.4	857.0	720.0	893.2	1,116.7	1,300.6
Transport & Communications	373.2	394.8	441.2	522.0	562.5	635.3	810.7	930.1	1,088.9	1,165.3	1,246.3	1,527.9	1,899.2	2,156.6
Finance	23.8	27.4	76.5	86.5	97.8	100.3	129.5	175.1	152.5	169.7	184.1	232.3	294.1	377.6
Public Administration	142.2	228.5	233.7	296.2	305.0	333.2	388.6	376.6	359.2	390.5	405.7	419.1	463.9	515.1
Real Estate & Business	622.2	451.5	483.4	537.0	601.1	733.9	764.7	855.0	967.1	1,071.4	1,289.2	1,534.6	1,700.7	1,946.6
Other services	377.1	355.2	412.8	477.1	471.3	591.2	751.9	861.2	1,122.2	1,260.7	1,446.6	1,781.9	2,163.2	2,559.4
Taxes on Products less Subsidies	194.5	334.4	395.3	483.5	536.9	594.1	865.3	870.2	920.7	1,040.4	1,065.2	1,351.9	1,597.5	1,795.2
Less: Subsidies	2.3	4.5	11.9	15.0	6.3	14.2	11.9	31.2	31.7	51.0	60.1	63.8	85.4	137.3
Less: FISIM	14.9	17.2	73.0	63.2	123.1	124.5	114.3	154.8	139.1	151.1	167.2	206.2	252.9	290.5
GROSS DOMESTIC PRODUCT (GDP)	6,813.2	7,105.0	8,433.7	9,201.9	10,145.3	11,720.3	13,376.1	14,082.6	15,616.8	16,755.5	18,508.1	21,342.7	25,692.6	29,808.8

t/ - revised estimates

p/ - preliminary estimates

FISIM - Financial Intermediation

Services Indirectly Measured

6,618.7 6,770.7 8,038.4 8,718.5 9,608.4 11,126.2 12,510.8 13,212.4 14,696.1 15,715.1 17,443.0 19,990.7 24,095.1 28,013.6

Table 10. Gross Domestic Product (GDP) by Economic Activity, 1993 - 2006 (Constant 2000 Prices)
(Value In Billion Riels)

	1993r/	1994r/	1995r/	1996r/	1997r/	1998r/	1999r/	2000r/	2001r/	2002r/	2003r/	2004r/	2005r/	2006p/
AGRICULTURE, FISHERIES & FORESTRY	3,899.7	4,278.8	4,421.5	4,479.3	4,722.0	4,966.7	5,077.6	5,058.3	5,238.2	5,108.0	5,644.7	5,595.9	6,475.5	6,830.3
Crops	1,571.1	1,606.5	1,781.7	1,845.3	1,816.6	1,972.2	2,210.1	2,263.6	2,277.3	2,168.1	2,642.8	2,582.2	3,294.8	3,469.7
Livestock & Poultry	783.7	762.6	810.2	820.8	819.9	870.6	861.4	785.7	870.3	860.6	909.7	945.2	998.3	1,080.2
Fisheries	1,158.2	1,205.3	1,304.7	1,364.9	1,441.7	1,476.6	1,443.2	1,515.9	1,605.2	1,615.0	1,641.9	1,614.4	1,705.3	1,769.9
Forestry & Logging	386.7	704.4	524.8	448.3	643.9	647.2	562.9	493.0	485.4	464.4	450.3	454.1	477.1	510.6
INDUSTRY	1,100.9	1,257.3	1,495.0	1,560.6	1,822.9	1,936.1	2,346.2	3,078.0	3,422.7	4,007.1	4,489.8	5,235.3	5,899.8	6,976.6
Mining	17.8	23.0	27.5	23.8	23.3	20.1	26.6	33.5	37.4	47.0	55.5	68.9	87.0	100.9
Manufacturing	683.1	744.5	874.8	984.5	1,255.3	1,445.5	1,730.6	2,254.8	2,597.5	2,971.7	3,337.4	3,926.7	4,308.4	5,058.9
Food, Beverages & Tobacco	358.6	341.0	409.1	410.3	420.9	446.4	467.6	449.4	460.7	448.9	469.8	445.2	485.4	501.5
Textile, Wearing Apparel & Footwear	63.1	78.9	130.2	204.8	399.2	547.5	771.2	1,297.1	1,665.7	2,021.4	2,360.3	2,946.8	3,216.6	3,872.3
Wood, Paper & Publishing	67.7	124.8	112.7	122.6	177.0	153.6	146.5	132.4	93.6	93.8	80.4	83.8	92.2	99.9
Rubber Manufacturing	23.0	21.5	24.7	29.9	31.1	54.8	62.9	69.2	69.7	69.2	62.4	57.0	51.9	53.6
Other Manufacturing	170.6	178.3	198.2	216.9	227.1	243.2	282.4	306.7	307.8	338.4	364.4	393.9	462.3	531.6
Electricity, Gas & Water	25.6	27.8	34.7	41.7	46.6	50.8	54.4	58.1	69.5	75.7	82.5	91.7	103.2	135.5
Construction	374.4	461.9	557.9	510.6	497.7	419.6	534.6	731.6	718.3	912.8	1,014.4	1,147.9	1,401.1	1,681.2
SERVICES	3,261.9	3,282.2	3,553.9	3,880.4	3,994.7	4,192.9	4,804.4	5,230.9	5,796.4	6,236.0	6,602.9	7,482.8	8,430.0	9,297.1
Trade	1,232.8	1,166.6	1,231.7	1,294.0	1,365.6	1,376.9	1,446.9	1,512.0	1,563.0	1,606.3	1,665.9	1,763.8	1,913.5	2,048.4
Hotel & Restaurants	202.3	241.8	332.9	343.0	363.6	352.2	437.8	520.9	638.6	758.6	631.5	779.5	953.1	1,079.0
Transport & Communications	537.5	595.7	635.8	707.4	665.8	681.7	876.7	930.1	1,085.9	1,157.2	1,189.6	1,311.8	1,486.5	1,550.5
Finance	28.0	34.4	88.0	97.3	107.3	100.1	128.4	175.1	147.8	163.8	174.5	210.3	251.5	311.7
Public Administration	167.6	287.1	268.7	333.0	346.9	379.8	379.8	376.6	353.5	357.2	341.2	318.5	337.1	333.2
Real Estate & Business	717.0	551.7	574.3	616.9	663.1	734.9	796.7	855.0	960.5	1,046.5	1,290.7	1,552.7	1,673.5	1,856.0
Other services	376.7	404.9	422.5	488.8	482.2	562.8	738.2	861.2	1,047.0	1,146.3	1,309.4	1,546.3	1,814.9	2,118.4
Taxes on Products less Subsidies	276.6	500.2	509.4	582.2	613.1	598.1	832.6	870.2	892.0	1,004.2	1,009.8	1,223.6	1,366.6	1,470.2
Less: Subsidies	2.3	4.7	10.7	20.5	7.9	15.2	11.5	31.2	30.8	49.2	56.9	57.9	72.1	112.3
Less: FISIM	17.6	21.6	83.9	71.1	135.0	124.2	113.4	154.8	134.7	145.8	158.5	186.6	216.2	239.8
GROSS DOMESTIC PRODUCT (GDP)	8,521.5	9,296.9	9,895.9	10,431.5	11,017.7	11,569.6	12,947.5	14,082.6	15,214.6	16,209.5	17,588.7	19,350.9	21,955.8	24,334.5

r/ - revised estimates

p/ - preliminary estimates

FISIM - Financial Intermediation

Services Indirectly Measured

8,244.9 8,796.7 9,386.5 9,849.3 10,404.6 10,971.4 12,114.9 13,212.4 14,322.6 15,205.3 16,578.9 18,127.3 20,589.1 22,864.3

Table 11. Gross Domestic Product (GDP) by Economic Activity, 1994 - 2006 (Current Prices)

(Growth Rates, in percent)

	1994r/	1995r/	1996r/	1997r/	1998r/	1999r/	2000r/	2001r/	2002r/	2003r/	2004r/	2005r/	2006p/
AGRICULTURE, FISHERIES & FORESTRY													
Crops	12.2%	50.9%	-2.2%	6.3%	17.1%	3.0%	-7.7%	-0.1%	-5.3%	25.5%	8.2%	38.7%	12.0%
Livestock & Poultry	-8.8%	14.6%	12.7%	2.2%	20.5%	21.7%	-10.0%	7.5%	3.8%	1.7%	6.2%	26.6%	15.1%
Fisheries	-15.9%	8.5%	13.6%	4.6%	19.6%	7.1%	-3.8%	15.2%	-2.5%	1.0%	1.9%	7.9%	14.2%
Forestry & Logging	76.7%	-3.4%	-18.8%	55.1%	-1.2%	-11.5%	-13.7%	3.9%	-2.1%	24.5%	10.6%	13.5%	16.6%
INDUSTRY													
Mining	13.2%	23.4%	14.7%	20.5%	17.8%	23.2%	27.6%	13.2%	16.8%	13.8%	18.7%	17.1%	21.4%
Manufacturing	21.7%	21.5%	0.6%	4.9%	-5.9%	37.5%	27.0%	18.7%	19.8%	21.3%	27.5%	31.1%	18.7%
Food, Beverages & Tobacco	7.1%	22.6%	20.4%	27.1%	25.7%	19.0%	27.7%	16.3%	12.7%	14.2%	19.3%	13.9%	20.8%
Textile, Wearing Apparel & Footwear	-5.1%	29.3%	3.4%	5.6%	17.6%	8.5%	-6.7%	3.9%	-2.1%	6.6%	3.5%	20.5%	9.1%
Wood, Paper & Publishing	12.3%	54.8%	60.5%	91.7%	54.0%	35.3%	64.1%	29.6%	17.4%	16.2%	24.1%	10.9%	22.5%
Rubber Manufacturing	42.7%	-8.1%	30.8%	17.2%	2.6%	-11.4%	-12.5%	-21.7%	8.0%	-6.4%	13.6%	24.6%	15.5%
Other Manufacturing	-5.5%	40.9%	35.1%	15.1%	-4.9%	20.2%	24.1%	-10.9%	19.4%	50.3%	10.3%	2.9%	44.0%
Electricity, Gas & Water	10.5%	14.6%	16.6%	10.4%	14.3%	19.9%	7.1%	0.5%	9.9%	11.4%	14.8%	25.7%	20.5%
Construction	28.0%	16.7%	22.2%	11.8%	20.4%	-4.1%	2.3%	24.8%	13.5%	13.0%	18.3%	12.6%	32.5%
	26.1%	25.7%	2.8%	6.5%	-3.9%	42.6%	29.6%	2.6%	31.3%	12.3%	16.4%	26.6%	22.4%
SERVICES													
Trade	-4.1%	11.9%	14.8%	7.5%	14.6%	16.2%	10.3%	14.4%	9.8%	7.3%	19.1%	19.1%	15.1%
Hotel & Restaurants	-7.0%	8.6%	13.9%	7.8%	10.6%	8.4%	2.4%	6.4%	3.0%	6.2%	14.1%	17.7%	12.6%
Transport & Communications	26.4%	19.6%	7.2%	16.4%	11.1%	29.4%	24.3%	31.8%	24.9%	-16.0%	24.1%	25.0%	16.5%
Finance	5.8%	11.8%	18.3%	7.8%	12.9%	27.6%	14.7%	17.1%	7.0%	6.9%	22.6%	24.3%	13.6%
Public Administration	15.2%	179.4%	13.1%	13.0%	2.6%	29.0%	35.2%	-12.9%	11.3%	8.5%	26.2%	26.6%	28.4%
Real Estate & Business	60.7%	2.3%	26.7%	3.0%	9.2%	16.6%	-3.1%	-4.6%	8.7%	3.9%	3.3%	10.7%	11.0%
Other services	-27.4%	7.1%	11.1%	11.9%	22.1%	4.2%	11.8%	13.1%	10.8%	20.3%	19.0%	10.8%	14.5%
	-5.8%	16.2%	15.6%	-1.2%	25.4%	27.2%	14.5%	30.3%	12.3%	14.7%	23.2%	21.4%	18.3%
Taxes on Products less Subsidies													
Taxes on Products less Subsidies	71.9%	18.2%	22.3%	11.1%	10.6%	45.6%	0.6%	5.8%	13.0%	2.4%	26.9%	18.2%	12.4%
Less: Subsidies	94.2%	166.8%	26.1%	-58.1%	125.4%	-16.2%	162.0%	1.8%	60.7%	17.8%	6.2%	33.8%	60.8%
Less: FISIM	15.2%	323.8%	-13.4%	94.7%	1.1%	-8.2%	35.4%	-10.1%	8.6%	10.7%	23.3%	22.7%	14.9%
GROSS DOMESTIC PRODUCT (GDP)													
	4.3%	18.7%	9.1%	10.3%	15.5%	14.1%	5.3%	10.9%	7.3%	10.5%	15.3%	20.4%	16.0%

r/ - revised estimates

p/ - preliminary estimates

FISIM - Financial Intermediation

Services Indirectly Measured

Table 12. Gross Domestic Product (GDP) by Economic Activity, 1994 - 2006 (Constant 2000 Prices)
(Growth Rates, in percent)

	1994/r	1995/r	1996/r	1997/r	1998/r	1999/r	2000/r	2001/r	2002/r	2003/r	2004/r	2005/r	2006/p
AGRICULTURE, FISHERIES & FORESTRY													
Crops	2.3%	10.9%	3.6%	-1.6%	8.6%	12.1%	2.4%	0.6%	-4.8%	21.9%	-2.3%	27.6%	5.3%
Livestock & Poultry	-2.7%	6.2%	1.3%	-0.1%	6.2%	-1.1%	-8.8%	10.8%	-1.1%	5.7%	3.9%	5.6%	8.2%
Fisheries	4.1%	8.3%	4.6%	5.6%	2.4%	-2.3%	5.0%	5.9%	0.6%	1.7%	-1.7%	5.6%	3.8%
Forestry & Logging	82.1%	-25.5%	-14.6%	43.6%	0.5%	-13.0%	-12.4%	-1.5%	-4.3%	-3.0%	0.8%	5.1%	7.0%
INDUSTRY													
Mining	14.2%	18.9%	4.4%	16.8%	6.2%	21.2%	31.2%	11.2%	17.1%	12.0%	16.6%	12.7%	18.3%
Manufacturing	29.2%	19.6%	-13.8%	-1.7%	-13.8%	32.3%	26.0%	11.5%	25.6%	18.1%	24.2%	26.3%	15.9%
Food, Beverages & Tobacco	9.0%	17.5%	12.5%	27.5%	15.2%	19.7%	30.3%	15.2%	14.4%	12.3%	17.7%	9.7%	17.4%
Textile, Wearing Apparel & Footwear	-4.9%	20.0%	0.3%	2.6%	6.1%	4.8%	-3.9%	2.5%	-2.5%	4.7%	-5.2%	9.0%	3.3%
Wood, Paper & Publishing	25.1%	65.1%	57.3%	94.9%	37.1%	40.8%	68.2%	28.4%	21.4%	16.8%	24.9%	9.2%	20.4%
Rubber Manufacturing	84.4%	-9.8%	8.8%	44.4%	-13.3%	-4.6%	-9.7%	-29.3%	0.2%	-14.3%	4.2%	10.0%	8.4%
Other Manufacturing	-6.6%	14.7%	21.4%	3.7%	76.4%	14.8%	10.0%	0.8%	-0.7%	-9.8%	-8.6%	-9.0%	3.3%
Electricity, Gas & Water	4.5%	11.2%	9.4%	4.7%	7.1%	16.1%	8.6%	0.4%	9.9%	7.7%	8.1%	17.3%	15.0%
Construction	8.6%	24.7%	20.4%	11.7%	9.0%	7.0%	6.9%	19.7%	8.8%	9.1%	11.1%	12.5%	31.3%
	23.4%	20.8%	-8.5%	-2.5%	-15.7%	27.4%	36.8%	-1.8%	27.1%	11.1%	13.2%	22.1%	20.0%
SERVICES													
Trade	0.6%	8.3%	9.2%	2.9%	5.0%	14.6%	8.9%	10.8%	7.6%	5.9%	13.3%	12.7%	10.3%
Hotel & Restaurants	-5.4%	5.6%	5.1%	5.5%	0.8%	5.1%	4.5%	3.4%	2.8%	3.7%	5.9%	8.5%	7.1%
Transport & Communications	19.5%	37.7%	3.0%	6.0%	-3.1%	24.3%	19.0%	22.6%	18.8%	-16.8%	23.4%	22.3%	13.2%
Finance	10.8%	6.7%	11.3%	-5.9%	2.4%	28.6%	6.1%	16.8%	6.6%	2.8%	10.3%	13.3%	4.3%
Public Administration	22.8%	155.8%	10.6%	10.3%	-6.7%	28.3%	36.3%	-15.6%	10.9%	6.6%	20.5%	19.6%	24.0%
Real Estate & Business	71.3%	-6.4%	23.9%	4.2%	10.8%	-1.2%	-0.8%	-6.1%	1.1%	-4.5%	-6.7%	5.9%	-1.2%
Other services	-23.1%	4.1%	7.4%	7.5%	10.8%	8.4%	7.3%	12.3%	8.9%	23.3%	20.3%	7.8%	10.9%
	7.5%	4.3%	15.7%	-1.4%	16.7%	31.2%	16.7%	21.6%	9.5%	14.2%	18.1%	17.4%	16.7%
Taxes on Products less Subsidies													
Taxes on Products less Subsidies	80.8%	1.8%	14.3%	5.3%	-2.4%	39.2%	4.5%	2.5%	12.6%	0.6%	21.2%	11.7%	7.6%
Less: Subsidies	104.7%	128.1%	90.6%	-61.6%	93.6%	-24.6%	171.7%	-1.4%	60.1%	15.7%	1.6%	24.7%	55.7%
Less: FISIM	22.8%	287.9%	-15.3%	90.0%	-8.0%	-8.7%	36.5%	-12.9%	8.2%	8.7%	17.7%	15.9%	10.9%
GROSS DOMESTIC PRODUCT (GDP)													
GROSS DOMESTIC PRODUCT (GDP)	9.1%	6.4%	5.4%	5.6%	5.0%	11.9%	8.8%	8.0%	6.5%	8.5%	10.0%	13.5%	10.8%

r/ - revised estimates

p/ - preliminary estimates

FISIM - Financial Intermediation

Services Indirectly Measured

Table 13. Gross Domestic Product (GDP) by Economic Activity, 1993 - 2006 (Current Prices)
(Percent Distribution)

	1993r/	1994r/	1995r/	1996r/	1997r/	1998r/	1999r/	2000r/	2001r/	2002r/	2003r/	2004r/	2005r/	2006p/
AGRICULTURE, FISHERIES & FORESTRY	45.3%	45.6%	47.7%	44.5%	44.4%	44.5%	40.9%	35.9%	34.4%	31.2%	32.0%	29.5%	30.8%	30.1%
Crops	16.9%	18.2%	23.2%	20.8%	20.0%	20.3%	18.3%	16.1%	14.5%	12.8%	14.5%	13.6%	15.7%	15.2%
Livestock & Poultry	7.3%	6.3%	6.1%	6.3%	5.9%	6.1%	6.5%	5.6%	5.4%	5.2%	4.8%	4.4%	4.7%	4.6%
Fisheries	16.6%	13.4%	12.3%	12.8%	12.1%	12.5%	11.8%	10.8%	11.2%	10.2%	9.3%	8.2%	7.4%	7.2%
Forestry & Logging	4.5%	7.6%	6.2%	4.6%	6.4%	5.5%	4.3%	3.5%	3.3%	3.0%	3.4%	3.2%	3.1%	3.1%
INDUSTRY	12.6%	13.7%	14.3%	15.0%	16.4%	16.7%	18.0%	21.9%	22.3%	24.3%	25.0%	25.8%	25.1%	26.2%
Mining	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%
Manufacturing	8.6%	8.9%	9.1%	10.1%	11.6%	12.7%	13.2%	16.0%	16.8%	17.6%	18.2%	18.9%	17.8%	18.6%
Food, Beverages & Tobacco	4.1%	3.8%	4.1%	3.9%	3.7%	3.8%	3.6%	3.2%	3.0%	2.7%	2.6%	2.4%	2.4%	2.2%
Textile, Wearing Apparel & Footwear	1.0%	1.1%	1.5%	2.1%	3.7%	5.0%	5.9%	9.2%	10.8%	11.8%	12.4%	13.3%	12.3%	13.0%
Wood, Paper & Publishing	1.2%	1.7%	1.3%	1.5%	1.6%	1.5%	1.1%	0.9%	0.7%	0.7%	0.6%	0.6%	0.6%	0.6%
Rubber Manufacturing	0.3%	0.3%	0.4%	0.5%	0.5%	0.4%	0.4%	0.5%	0.4%	0.4%	0.6%	0.6%	0.5%	0.6%
Other Manufacturing	1.9%	2.0%	1.9%	2.1%	2.1%	2.0%	2.1%	2.2%	2.0%	2.0%	2.0%	2.0%	2.1%	2.2%
Electricity, Gas & Water	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%
Construction	3.5%	4.2%	4.5%	4.2%	4.1%	3.4%	4.2%	5.2%	4.8%	5.9%	6.0%	6.0%	6.3%	6.7%
SERVICES	39.4%	36.3%	34.2%	36.0%	35.1%	34.8%	35.4%	37.1%	38.3%	39.2%	38.1%	39.3%	38.9%	38.6%
Trade	14.6%	13.0%	11.9%	12.4%	12.1%	11.6%	11.0%	10.7%	10.3%	9.9%	9.5%	9.4%	9.2%	8.9%
Hotel & Restaurants	2.3%	2.8%	2.8%	2.7%	2.9%	2.8%	3.1%	3.7%	4.4%	5.1%	3.9%	4.2%	4.3%	4.4%
Transport & Communications	5.5%	5.6%	5.2%	5.7%	5.5%	5.4%	6.1%	6.6%	7.0%	7.0%	6.7%	7.2%	7.4%	7.2%
Finance	0.3%	0.4%	0.9%	0.9%	1.0%	0.9%	1.0%	1.2%	1.0%	1.0%	1.0%	1.1%	1.1%	1.3%
Public Administration	2.1%	3.2%	2.8%	3.2%	3.0%	2.8%	2.9%	2.7%	2.3%	2.3%	2.2%	2.0%	1.8%	1.7%
Real Estate & Business	9.1%	6.4%	5.7%	5.8%	5.9%	6.3%	5.7%	6.1%	6.2%	6.4%	7.0%	7.2%	6.6%	6.5%
Other services	5.5%	5.0%	4.9%	5.2%	4.6%	5.0%	5.6%	6.1%	7.2%	7.5%	7.8%	8.3%	8.4%	8.6%
Taxes on Products less Subsidies	2.9%	4.7%	4.7%	5.3%	5.3%	5.1%	6.5%	6.2%	5.9%	6.2%	5.8%	6.3%	6.2%	6.0%
Less: Subsidies	0.0%	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.5%
Less: FISIM	0.2%	0.2%	0.9%	0.7%	1.2%	1.1%	0.9%	1.1%	0.9%	0.9%	0.9%	1.0%	1.0%	1.0%
GROSS DOMESTIC PRODUCT (GDP)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

r/ - revised estimates

p/ - preliminary estimates

FISIM - Financial Intermediation

Services Indirectly Measured

Table 14. Gross Domestic Product (GDP) by Economic Activity, 1993 - 2006 (Constant 2000 Prices)
(Percent Distribution)

	1993/r/	1994/r/	1995/r/	1996/r/	1997/r/	1998/r/	1999/r/	2000/r/	2001/r/	2002/r/	2003/r/	2004/r/	2005/r/	2006/p/
AGRICULTURE, FISHERIES & FORESTRY	45.8%	46.0%	44.7%	42.9%	42.9%	42.9%	39.2%	35.9%	34.4%	31.5%	32.1%	28.9%	29.5%	28.1%
Crops	18.4%	17.3%	18.0%	17.7%	16.5%	17.0%	17.1%	16.1%	15.0%	13.4%	15.0%	13.3%	15.0%	14.3%
Livestock & Poultry	9.2%	8.2%	8.2%	7.9%	7.4%	7.5%	6.7%	5.6%	5.7%	5.3%	5.2%	4.9%	4.5%	4.4%
Fisheries	13.6%	13.0%	13.2%	13.1%	13.1%	12.8%	11.1%	10.8%	10.6%	10.0%	9.3%	8.3%	7.8%	7.3%
Forestry & Logging	4.5%	7.6%	5.3%	4.3%	5.8%	5.6%	4.3%	3.5%	3.2%	2.9%	2.6%	2.3%	2.2%	2.1%
INDUSTRY	12.9%	13.5%	15.1%	15.0%	16.5%	16.7%	18.1%	21.9%	22.5%	24.7%	25.5%	27.1%	26.9%	28.7%
Mining	0.2%	0.2%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.4%	0.4%	0.4%
Manufacturing	8.0%	8.0%	8.8%	9.4%	11.4%	12.5%	13.4%	16.0%	17.1%	18.3%	19.0%	20.3%	19.6%	20.8%
Food, Beverages & Tobacco	4.2%	3.7%	4.1%	3.9%	3.8%	3.9%	3.6%	3.2%	3.0%	2.8%	2.7%	2.3%	2.2%	2.1%
Textile, Wearing Apparel & Footwear	0.7%	0.8%	1.3%	2.0%	3.6%	4.7%	6.0%	9.2%	10.9%	12.5%	13.4%	15.2%	14.7%	15.9%
Wood, Paper & Publishing	0.8%	1.3%	1.1%	1.2%	1.6%	1.3%	1.1%	0.9%	0.6%	0.6%	0.5%	0.4%	0.4%	0.4%
Rubber Manufacturing	0.3%	0.2%	0.2%	0.3%	0.3%	0.5%	0.5%	0.5%	0.5%	0.4%	0.4%	0.3%	0.2%	0.2%
Other Manufacturing	2.0%	1.9%	2.0%	2.1%	2.1%	2.1%	2.2%	2.2%	2.0%	2.1%	2.1%	2.0%	2.1%	2.2%
Electricity, Gas & Water	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%
Construction	4.4%	5.0%	5.6%	4.9%	4.5%	3.6%	4.1%	5.2%	4.7%	5.6%	5.8%	5.9%	6.4%	6.9%
SERVICES	38.3%	35.3%	35.9%	37.2%	36.3%	36.2%	37.1%	37.1%	38.1%	38.5%	37.5%	38.7%	38.4%	38.2%
Trade	14.5%	12.5%	12.4%	12.4%	12.4%	11.9%	11.2%	10.7%	10.3%	9.9%	9.5%	9.1%	8.7%	8.4%
Hotel & Restaurants	2.4%	2.6%	3.4%	3.3%	3.3%	3.0%	3.4%	3.7%	4.2%	4.7%	3.6%	4.0%	4.3%	4.4%
Transport & Communications	6.3%	6.4%	6.4%	6.8%	6.0%	5.9%	6.8%	6.6%	7.1%	7.1%	6.8%	6.8%	6.8%	6.4%
Finance	0.3%	0.4%	0.9%	0.9%	1.0%	0.9%	1.0%	1.2%	1.0%	1.0%	1.0%	1.1%	1.1%	1.3%
Public Administration	2.0%	3.1%	2.7%	3.2%	3.1%	3.3%	2.9%	2.7%	2.3%	2.2%	1.9%	1.6%	1.5%	1.4%
Real Estate & Business	8.4%	5.9%	5.8%	5.9%	6.0%	6.4%	6.2%	6.1%	6.3%	6.5%	7.3%	8.0%	7.6%	7.6%
Other services	4.4%	4.4%	4.3%	4.7%	4.4%	4.9%	5.7%	6.1%	6.9%	7.1%	7.4%	8.0%	8.3%	8.7%
Taxes on Products less Subsidies	3.2%	5.4%	5.1%	5.6%	5.6%	5.2%	6.4%	6.2%	5.9%	6.2%	5.7%	6.3%	6.2%	6.0%
Less: Subsidies	0.0%	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.5%
Less: FISIM	0.2%	0.2%	0.8%	0.7%	1.2%	1.1%	0.9%	1.1%	0.9%	0.9%	0.9%	1.0%	1.0%	1.0%
GROSS DOMESTIC PRODUCT (GDP)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

r/ - revised estimates

p/ - preliminary estimates

FISIM - Financial Intermediation

Services Indirectly Measured

Table 15. GDP Deflator, 1994-2006 (Annual Percentage Changes)
(Inflation Rates 2000=100)

	1994t/	1995t/	1996t/	1997t/	1998t/	1999t/	2000t/	2001t/	2002t/	2003t/	2004t/	2005t/	2006t/
AGRICULTURE, FISHERIES & FORESTRY	-4.4%	20.3%	0.3%	4.5%	9.9%	2.7%	-7.2%	2.4%	-0.2%	2.7%	7.3%	8.5%	7.6%
Crops	9.8%	36.0%	-5.6%	7.9%	7.9%	-8.1%	-9.8%	-0.7%	-0.5%	3.0%	10.8%	8.7%	6.4%
Livestock & Poultry	-6.3%	7.9%	11.2%	2.3%	13.5%	23.0%	-1.3%	-2.9%	4.9%	-3.8%	2.2%	19.9%	6.3%
Fisheries	-19.2%	0.2%	8.6%	-1.0%	16.8%	9.6%	-8.4%	8.8%	-3.1%	-0.6%	3.6%	2.1%	10.0%
Forestry & Logging	-3.0%	29.7%	-4.9%	8.0%	-1.7%	1.7%	-1.5%	5.6%	2.4%	28.4%	9.6%	8.0%	9.0%
INDUSTRY	-0.9%	3.7%	9.8%	3.2%	10.9%	1.7%	-2.8%	1.8%	-0.2%	1.6%	1.8%	3.9%	2.7%
Mining	-5.8%	1.6%	16.7%	6.8%	9.1%	3.9%	0.8%	6.5%	-4.6%	2.7%	2.6%	3.8%	2.4%
Manufacturing	-1.7%	4.3%	7.0%	-0.3%	9.1%	-0.6%	-2.0%	0.9%	-1.5%	1.7%	1.4%	3.8%	2.9%
Food, Beverages & Tobacco	-0.2%	7.8%	3.1%	2.9%	10.9%	3.6%	-2.9%	1.4%	0.4%	1.9%	9.3%	10.5%	5.6%
Textile, Wearing Apparel & Footwear	-10.2%	-6.2%	2.1%	-1.7%	12.3%	-3.9%	-2.4%	0.9%	-3.3%	-0.4%	-0.6%	1.6%	1.7%
Wood, Paper & Publishing	-22.6%	1.9%	20.2%	-18.9%	18.3%	-7.2%	-3.2%	10.7%	7.8%	9.2%	9.1%	13.2%	6.6%
Rubber Manufacturing	1.3%	22.9%	11.2%	11.0%	-46.1%	4.7%	12.8%	-11.5%	20.3%	66.6%	20.8%	13.1%	39.4%
Other Manufacturing	5.8%	3.1%	6.5%	5.5%	6.8%	3.3%	-1.4%	0.2%	-0.1%	3.5%	6.2%	7.2%	4.8%
Electricity, Gas & Water	17.9%	-6.4%	1.6%	0.1%	10.4%	-10.4%	-4.3%	4.3%	4.3%	3.6%	6.5%	0.1%	0.9%
Construction	2.2%	4.1%	12.4%	9.3%	14.0%	11.9%	-5.3%	4.5%	3.4%	1.0%	2.9%	3.7%	2.0%
SERVICES	-4.7%	3.4%	5.2%	4.4%	9.2%	1.4%	1.3%	3.3%	2.1%	1.3%	5.1%	5.7%	4.4%
Trade	-1.8%	2.8%	8.4%	2.1%	9.7%	3.2%	-2.0%	3.0%	0.2%	2.4%	7.7%	8.5%	5.1%
Hotel & Restaurants	5.8%	-13.2%	4.0%	9.8%	14.8%	4.1%	4.4%	7.5%	5.1%	0.9%	0.5%	2.2%	2.9%
Transport & Communications	-4.5%	4.7%	6.3%	14.5%	10.3%	-0.8%	8.1%	0.3%	0.4%	4.0%	11.2%	9.7%	8.9%
Finance	-6.2%	9.2%	2.3%	2.5%	10.0%	0.6%	-0.8%	3.2%	0.4%	1.8%	4.7%	5.9%	3.6%
Public Administration	-6.2%	9.2%	2.3%	-1.1%	-1.4%	18.0%	-2.3%	1.6%	7.6%	8.8%	10.7%	4.6%	12.4%
Real Estate & Business	-5.7%	2.8%	3.4%	4.2%	10.2%	-3.9%	4.2%	0.7%	1.7%	-2.4%	-1.1%	2.8%	3.2%
Other services	-12.4%	11.4%	-0.1%	0.1%	7.5%	-3.0%	-1.8%	7.2%	2.6%	0.4%	4.3%	3.4%	1.4%
Taxes on Products less Subsidies	-4.9%	16.1%	7.0%	5.5%	13.4%	4.6%	-3.8%	3.2%	0.4%	1.8%	4.7%	5.8%	4.5%
Less: Subsidies	-5.2%	17.0%	-33.8%	9.1%	16.4%	11.2%	-3.5%	3.2%	0.4%	1.8%	4.6%	7.4%	3.2%
Less: FISIM	-6.2%	9.2%	2.3%	2.5%	10.0%	0.6%	-0.8%	3.2%	0.4%	1.8%	4.7%	5.9%	3.6%
GROSS DOMESTIC PRODUCT (GDP)	-4.4%	11.5%	3.5%	4.4%	10.0%	2.0%	-3.2%	2.6%	0.7%	1.8%	4.8%	6.1%	4.7%

t/ - revised estimates

p/ - preliminary estimates

FISIM - Financial Intermediation

Services Indirectly Measured

