



**Kingdom of Cambodia**  
Ministry of Planning



*Cambodia*

## **CAMBODIA HUMAN DEVELOPMENT REPORT 2007**

# ***Expanding Choices For Rural People***

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This report is the outcome of a joint effort by the Ministry of Planning, the Royal Government of Cambodia and the UNDP Country Office in Cambodia. It has been prepared through a broad-based consultation process with academics, policymakers and field professionals. Close to a dozen formal consultations were held, in addition to individual meetings that facilitated the work. The report also incorporates firsthand experiences from the field.

An Advisory Panel comprising senior Government officials, academics, NGO representatives and key development professionals working on Cambodian issues was constituted in October 2006 to steer the report to its logical conclusion. The panel met several times to deliberate upon and approve the report outline, provide new insights and sharpen the findings. Members read two earlier drafts of the report and offered comments. Some were kind enough to send individual feedback and share research material in addition to participating in lengthy meetings.

Panel members included: H.E. Mr. Ngy Chanphal (Under Secretary of State, Ministry of Interior), H.E. Mr. Sao Chivoan (Under Secretary of State, Ministry of Rural Development), H.E. Dr. Hang Chuon Naron (Secretary-General, SNEC, and Ministry of Finance), Mr. Sar Sovann (Deputy Director-General, Ministry of Land Management, Urban Planning and Construction), Ms. Heang Siek Ly (Deputy Director-General, Ministry of Planning), Mr. Kith Seng (Director, Planning Department, Ministry of Agriculture, Forestry and Fisheries), H.E. Mr. Eng Roland (Ambassador-at-Large), Ms. Pok Panha Vichetr (Director, CIDA), Mr. Ok Serey Sopheap (Consultant, CDRI), Mr. Russell Peterson (Advisor, NGO Forum), Mr. Von Monin (Dean, Royal University of Agriculture), Mr. Kang Chandararath (Director, Cambodia Institute of Development Studies), Mr. Chan Sophal (Senior Research Manager, CDRI), Mr. Huot Pum (Senior Economist, RULE), Mr. Hor Soneath (Programme Officer, Mekong Private Sector Development Facility), Mr. Tim Conway (Poverty Specialist, The World Bank), Ms. Meike Pasch (GTZ, Cambodia), Mr. Peter Kooi (Board Director, ACLEDA Bank), Representatives from Mong Rethy Group, Dr. Yang Saing Koma (President, CEDAC), Ms. Delphine Vann Roe (Oxfam GB), Mr. Douglas Gardner (UN Resident Coordinator, and UNDP Resident Representative), Ms. Anne-Isabelle Degryse-Blateau (UNDP Programme Director), Mr. Robert Glofcheski (Chief Economist, UNDP Cambodia, Lao PDR, Vietnam), Mr. Scott Leiper (Senior Programme Advisor, UNDP) and Ms. Anna Collins-Falk (Senior Policy Advisor at the Ministry of Women's Affairs, UNDP).

The theme and early results were also formally presented in meetings held with the United Nations Country Team in Cambodia, NGOs working on development issues, UNDP staff, senior officials of the Ministry of Planning, and an inter-Ministerial expert team. Comments of each have been incorporated in the report.

The report has been externally reviewed by four international experts: Dr. G. Edgren (former Ambassador of Sweden to Vietnam), Mr. H. Bjorkman (Country Director, UNDP Indonesia), Dr. A. Rajivan (Regional Programme Coordinator, Human Development Report Unit, UNDP Regional Centre in Colombo), and Dr. John Kurien (Consultant, Tonle Sap Programme, FAO).

The process of preparing and finalising the report was carried out under the overall direction of Ms. Dinravy Khorn, Senior National Manager, UNDP Insights for Action Initiative. The principal facilitators were Dr. Sarthi Acharya (UNDP), Dr. Andrew Pinney (UNDP Advisor, Ministry of Planning), Mr. Muan Sarath (Ministry of Planning), Mr. Raksa Pen (UNDP), Ms. Margaret A. Lamb (UNDP), Mr. Brooks Evans (UNDP), Ms. Moun Soparat (UNDP), and Ms. Kay Kirby Dorji (Consultant).

Extreme gratitude is extended to all of the above mentioned professionals, who dedicated countless hours in the preparation of this NHDR. Through the collaborative efforts of all those involved, we have been able to successfully achieve a report with a scope and depth that will hopefully provide a useful contribution to the policy debate on rural livelihoods, natural resources and Cambodian development in general.



Human development is about fostering an environment wherein people can develop their potential, create more choices for themselves and live a long, healthy and productive life. UNDP has produced Human Development Reports for the last 17 years, which have promoted 'people-centred' development. National Human Development Reports (NHDRs) are designed to be advocacy documents based on thorough research. Globally, over 400 of these have been produced in 135 countries. Cambodia began to produce NHDRs in 1997.

This report is the sixth, focusing on natural resources and rural livelihoods. The Cambodian NHDR is the outcome of a joint effort by the UNDP Country Office in Cambodia and the Ministry of Planning. This report describes the status of human development in Cambodia at the regional and provincial levels. The different human development indices have also been constructed for each province, distinguishing high performance areas from those which require more attention.

The report makes an independent assessment of human development, the state of rural livelihoods and their relationship with the natural resource base of the country. It also delves into policy recommendations and opportunities to galvanize rural areas.

The Cambodian society and economy have gradually matured since the end of civil conflict. The economy has grown briskly — one of the more rapidly expanding growth rates in Asia — albeit built on an extremely narrow base: garment manufacturing, tourism, construction and more recently, paddy cultivation. In the social sector, literacy has risen by one percentage point each year and the infant mortality rate has fallen. Cambodia's HDI ranking is 129 in 177 countries; higher than that of most Sub-Saharan African countries and a few Asian countries.

There are, however, problems: widening inequality in incomes and opportunities, as well as persistent rural poverty are realities widely recognised by the government, NGOs and other development partners alike. Women in rural areas continue to die in unacceptably large numbers during childbirth. Children are malnourished, particularly in provinces located on the plateau and near the Tonle Sap. Poor students enrol in primary schools, but poverty compels them to leave school at an early age. Finally, land issues continue to pose serious challenges to ordinary people's livelihoods. Excessive fragmentation, inequality and landlessness, as well as land conflicts are some manifestations of the contested issue natural resources have become. Developing rural areas, therefore, is an issue of serious concern that has yet to be adequately addressed.

Development of rural areas calls for a dedicated focus of human and financial resources. Rural communities must have access to education and health care, their earnings must rise, and they should be socially, politically and economically empowered.

Translated into actionable points, rural development requires institutional reforms to ensure farmers' access to land and natural resources, market reforms to increase rural workers' returns on their labour, and concerted investment in rural infrastructure and human capital to scale up people's skills and quality of life. These proposals dovetail with those contained in the *National Strategic Development Plan, 2006-2010* (NSDP) and the further decentralisation, de-concentration and governance improvement processes taking place in the country.

The Ministry of Planning and UNDP Cambodia sincerely hope and believe that this report will contribute to furthering the debate on the various facets of human development in rural areas of Cambodia and also help to strengthen policy formulation and implementation for the benefit of all Cambodians in both rural and urban areas.



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## Promoting rural livelihoods for prosperity and peace

Cambodia has achieved remarkable progress over the past decade in a number of areas important to human development. Peace and stability have been restored and maintained. Economic growth has risen to double-digit rates, averaging 11.2 percent in the last three years. Successive multi-party elections have been held, with a third set of national elections on the horizon in 2008. A vibrant media and civil society are developing. Access to education and health services has improved, poverty has steadily declined, and further moderate progress has been made toward a number of other Cambodia Millennium Development Goals (CMDGs). These are major achievements in light of challenges that had to be overcome.

Nevertheless, poverty and near-poverty remain high, and other human development indicators continue to reflect difficult living conditions, especially in rural areas, where the vast majority of Cambodians live and work, largely at a subsistence level. Most of the high growth over the past decade has been urban-based and narrowly focused on surging garment exports that may be vulnerable, record levels of tourism and a boom in the construction industry. Similarly, the base of major beneficiaries of development over the past decade also has increasingly narrowed.

Building upon recent achievements and avoiding major setbacks will require well-targeted efforts to broaden the sources and benefits of economic growth, while mitigating the emerging risks.

The onset of political stability and high economic growth rates in urban areas provide a major opportunity to accelerate implementation of long-overdue reforms and better share growing prosperity with the less fortunate half of the Cambodian population, again primarily in the rural areas. This also will help secure longer-term peace and stability by greatly diminishing some of the growing risks from rising land tensions, rapidly widening inequalities, perceived widespread corruption and the potential for 'resource curse' outcomes from future offshore oil and gas revenues.

The Government's Rectangular Strategy and the *National Strategic Development Plan, 2006-2010* (NSDP) provide a broad roadmap toward this end, emphasising improved governance, a considerable increase in public investments in rural areas, and support to the development of a job-creating private sector. However, the quality of implementation will be critical.

Given the still-weak institutional capacities, implementation efforts will best be prioritised and targeted at areas offering the highest returns for improving human well-being, achieving shared prosperity and securing longer-term peace and stability.

The analysis in this report concludes that some of the highest rates of return are likely to be generated from targeted efforts in the following areas:

### 1. Fair and effective governance of land

Especially important is the need for much greater transparency, equal access to relevant information, and genuine participation by rural people and communities in land-related decisions that affect their livelihoods, security and well-being. Accelerated land titling is urgently needed, with priority given to the more vulnerable half of the Cambodian population, especially smallholder farm families.



Strong economic efficiency and equity arguments exist for doing so. Smallholder farms generate higher yields per hectare and become economically viable above a minimum size of three to ten hectares. Similarly, accelerated access to reasonable-quality surplus land is needed for landless and near-landless farm families through Social Land Concessions (SLCs) supported by basic infrastructure and essential public services. In general, strong legal action is needed against land grabbing and land encroachment. A well-designed land tax also can help curb speculators while providing additional revenues to local and national governments for financing improved quality of basic social services.

*Smallholder farms generate higher yields per hectare and become economically viable above a minimum size of three to ten hectares*

As allowed in the 2001 Land Law, communal land titles should be issued to indigenous communities heavily reliant on traditional common property resources like forests, and capacities developed for sustainable management of such resources. In the case of common-property fishing resources, more of the commercially restricted fishing lots should be converted to protected fish sanctuaries to promote sustainable breeding and to enrich fishing waters generally.

In addition, major reform of the system of Economic Land Concessions (ELCs) is urgently needed for the sake of economic efficiency, equity and national well-being. An open review of ELCs is urgently needed, as is a rollback on ELCs generating low to negative value-added. In the meantime, ELCs should be revoked where concessions have been allocated outside the terms clearly specified by law, or where concession agreements have clearly not been honoured. Similarly, the awarding of new ELCs should be suspended, at least until adequate institutional review and monitoring capacity can be put in place. This would reduce the risk of ELCs encroaching on the lands and common property resources of vulnerable rural communities. Similarly, effective safeguards will help guard against ELCs set up purely for purposes of land speculation or as a veil for illegal logging. The equally urgent passage and implementation of an effective anti-corruption law will greatly support these efforts.

## 2. A substantial increase of public investments in agricultural productivity

Especially needed are the following: improved access to quality extension services, some of which are readily available in neighbouring countries, and easy access to up-to-date market information; a major expansion of irrigation, rural electrification and investment in rural feeder roads; and much-improved access to credit at reasonable terms. The reported substantial jump in yields from the simple application of the System of Rice Intensification (SRI) is but one example of what is possible with better knowledge. Extension services also can facilitate the adoption of a 'farming systems' approach, where multiple crops (including tree crops), along with livestock and fisheries, form an integrated system. This can diversify activities away from the widespread mono-cropping of paddy. As demonstrated in neighbouring countries like Thailand and Vietnam, the farming systems approach can work very well for smallholder farms and help lift families above the poverty line. Similarly, the promotion of voluntary farmers' groups and associations may contribute to better negotiated prices for farm inputs and outputs and can facilitate the development of contract farming arrangements for selected crops.

The criteria on which all such public investment decisions should be taken include cost efficiency and affordability for rural end-users. Ensuring adequate local capacities for operations, maintenance and sustainability also will be crucial.

### 3. Broadened and diversified job-creating sources of growth in both rural and urban areas

For the well-being of the vast majority of Cambodian people and their future livelihoods, the root causes of Cambodia's unnecessarily high-cost economy must be uprooted to bring down prohibitive costs for transportation, port handling, energy and other essential business services. Such informal costs are especially onerous on the poor. In one striking example, field research observations indicate that between the Tonle Sap and the Thai market, fish exporters make payments up to 28 times. This could largely explain why fisher families get only 25 to 35 percent of the price paid by consumers.

A substantial improvement in economic governance, including reduced corruption and the elimination of layers of informal fees, is needed to lower costs and motivate private-sector investments in agricultural diversification, cash crops, agro-processing, off-farm income-generating activities and job-creating enterprises in manufacturing. An important immediate objective should be ensuring that costs and pricing of such essential services are at least as competitive as in neighbouring countries. Here again, the urgent passage and implementation of an effective anti-corruption law will greatly support an improved environment for private investments in diverse job-creating enterprises.

### 4. Substantial investments in human capabilities

Further increasing literacy rates, and enrolment and completion rates in primary and lower secondary schools, has become urgent in today's intensely competitive regional and global economies. Incentives to stay in school, such as school feeding programmes, motivated teachers with adequate salaries, and investments in adequate school facilities, including water and sanitation, must underpin such efforts. Market-linked vocational training and business skills development are also needed. Development of a university hydrology/irrigation programme and basic training at the provincial level will help head off a shortage of skills needed for effective water management. Affordable and effective public health services are clearly essential to the well-being and productivity of the rural labour force. Inexpensive methods of making raw water potable through the simple use of sunlight's ultraviolet rays are now available and need to be popularised.

### 5. Ensuring a 'resource blessing' from offshore oil and gas

Avoiding a 'resource curse' from future oil and gas revenues, and ensuring a 'resource blessing' will by no means be automatic without advance planning and putting in place the needed institutional safeguards to ensure transparency and effective management and investment of such resource revenues.

An immediate need exists to begin planning institutional safeguards against potential 'resource curse' outcomes from future offshore oil and gas. Needed safeguards include a revenue management law and a well-designed, transparent petroleum fund where all types of petroleum-related revenues (signature bonuses, royalties, production sharing and dividends) will be deposited before disbursement to the budget in alignment with the NSDP at a rational rate of investment. Furthermore, borrowing against future unknown oil and gas revenues has proven dangerous to the financial stability of other oil-exporting developing countries and may require safeguards. Preliminary results from quantitative modelling simulations indicate that investing a large share of future oil and gas revenues in rural infrastructure and human capital will generate the highest rates of return to sustained economic growth, diversification, human development and longer-term peace and stability.

### *Some recent achievements...*

Cambodia has recorded impressive achievements in recent years, especially in light of some of the challenges of the past decades. Most importantly, peace and stability have been largely restored, thereby greatly increasing human security. This, combined with a robust regional and global economy, has enabled steady to high economic growth rates for the past ten years.

Despite earlier pessimism over garment exports following the end of the Multi-Fibre Agreement, such exports have maintained positive short-term growth and generated increased employment and incomes among mainly female workers from the countryside. Tourist arrivals have grown at 25 percent per annum and are expected to reach a record two million in 2007. Growth in the construction industry has boomed, and those fortunate enough to own well-located land have enjoyed substantial gains in personal wealth. The agricultural sector also demonstrated strong potential because of improved weather and initial investments in irrigation. On the political front, the country peacefully concluded a second set of Commune Council elections in early 2007, with the third set of national elections on the horizon in 2008.

Especially important, poverty has continued to decline at a moderate but steady pace of around one percentage point per annum. Infant and child mortality rates, although still high, have decreased to 66 and 83, respectively, per 1,000 live births. Primary school net enrolment rates have risen significantly, to 76 percent. Adult literacy rates likewise have risen, to 74 percent, and the gender gap in literacy is narrowing. Child nutrition has further improved. HIV/AIDS has been sharply curtailed. These and other achievements have contributed to a moderate increase in the country's Human Development Index (HDI), which ranks Cambodia 129 of 177 countries.

### *Despite achievements, growth needs to be more inclusive of rural people...*

Substantial disparities exist in human development indicators between urban and rural areas, especially the more isolated rural areas. Of the one-third of the country's population that live below the poverty line, 90 percent live and work in rural areas, especially in the mountainous/plateau regions, the rural plains and the Tonle Sap. Most worrisome, the gap in living standards between the large numbers of rural poor and urban elites has continued to widen rapidly, as has the gap between the rural poor and a minority of rural rich.

A substantial 20 percent of the country's population remain food-poor and do not get the minimum average of 2,100 calories per day to satisfy basic nutritional needs. Another significant share of the rural population survives just above the poverty line and remains vulnerable to renewed poverty from bad weather, ill health and other such risks. Malaria, dengue, diarrhoea and water-borne diseases are rampant, and each year 30,000 children die from largely preventable causes. Access to potable water is well under 40 percent in rural areas and, alarmingly, less than ten percent for the poorest half of the rural population.

Maternal mortality rates in rural areas remain very high, at well over 450 per 100,000 live births. Rural women continue to carry a disproportionately high share of family work, and studies show that domestic violence haunts the lives of women and children. The Gender Empowerment Index (GEI) remains quite low, reflecting the low share of women in senior political and public decision-making positions.

While primary school enrolments are up significantly, completion rates are alarmingly low. Fewer than 50 percent of enrolled children complete to Grade six, implying a highly uneducated future labour force unable to compete in the knowledge-based regional and global economies.

The current political stability and economic growth in urban areas provides an ideal time to enact long-overdue reforms to share prosperity with the less fortunate half of society that is concentrated in rural areas. The many benefits of such policy implementation include peace and stability by decreasing the rising

*Of the one-third of the country's population that live below the poverty line, 90 percent live and work in rural areas... most worrisome, the gap... between... rural poor and urban elites has continued to widen rapidly*

tensions over land, significant inequalities, perceived government mismanagement and the potential for a 'resource curse' from future oil and gas revenues. In particular, land grabbing by the stronger, and land encroachment by powerful outside commercial interests, have greatly increased uncertainty and insecurity for many of the rural poor.

### *Rural investments long overdue...*

For a variety of reasons, public-sector investments supporting agricultural productivity and related rural infrastructure have been modest over the past decade; as a result, productivity and rural incomes remain low and poverty high. Notably, statistical analysis shows a strong correlation between lower crop yields and a higher incidence of poverty among smallholder farmers.

Extension services reach fewer than ten percent of farm households. The share of arable land with controlled irrigation may be as low as seven percent. As a result, crop yields are well below half those in neighbouring Vietnam where 45 percent of arable land is irrigated. Access to electricity in rural areas is strikingly low, at around ten percent, thereby greatly impeding productivity and human development.

Backward and forward linkages to sources of high growth in urban areas are also weak. While tourism is growing at 25 percent per annum and creating direct employment in the construction, hotel and tourist industries, backward linkages to rural areas surrounding major tourist attractions must be developed. Notably, Siem Reap province, home of Angkor Wat, remains one of the poorest provinces in Cambodia.

Although garment exports surged further ahead and related employment increased significantly – to more than 300,000 mostly female workers from rural areas – this still represents a modest fraction of the underemployed rural labour force. While female garment workers remit a significant share of their earnings to their families in the countryside, this also represents a modest share of rural family incomes. In general, only 13 percent of rural households report receiving remittances from relatives working in urban areas, and such remittances accounted for less than ten percent of the recipients' household incomes.

Advances in rural development will, therefore, require sizable public investment to improve agricultural productivity and diversification through increasing access to extension services, strengthening economic linkages, and dramatically improving infrastructure such as roads, irrigation, and electrification. These changes are particularly urgent given the rapidly growing number of youths entering the labour force and limited employment opportunities.

### *Emerging challenges and risks, as well as new forms of insecurity...*

Further beneath the surface of double-digit growth rates, potentially serious imbalances and challenges to recent achievements are emerging. These will require urgent action to consolidate and build upon past gains, and to better secure longer term socio-economic stability. Available data indicate that consumption, income and wealth have become highly concentrated at this very early stage of Cambodia's transition from a largely impoverished, agrarian-based society to a more prosperous, urban one with a broad-based, stable middle class. In light of the low average income per capita in Cambodia, the consumption-based Gini coefficient is already quite high, at 0.42. While real per capita consumption for the poorest one-fifth rose only eight percent in the past decade, it grew 45 percent for the richest one-fifth of the population.

*The sudden liberalisation of land markets... without first putting in place adequate institutional safeguards... left these weaker and less-informed members of society highly vulnerable*

Equally worrisome is the extremely high and rising concentration of landholdings, still the main form of family savings and economic and social security in Cambodia. Without direct and indirect offsetting measures, this high concentration of land wealth will in turn almost automatically generate even wider disparities in future incomes, wealth and opportunities. Available data suggest that the best off one-fifth of the population already control up to 70 percent of available land. In addition, land conflicts have been rising because of land grabbing and the encroachment of large ELCs, often backed by powerful land speculators who are able to push out weaker and less-informed rural people.

In retrospect, the sudden liberalisation of land markets from 1989 onward, without first putting in place adequate institutional safeguards, laws and effective governance, left these weaker and less-informed members of society highly vulnerable to unregulated market forces and information asymmetries – to the advantage of the better-informed, influential and powerful. Landlessness among rural households has already risen to 20 percent and may be increasing by as much as two percentage points per year. Moreover, most of the up to 80 percent of rural households that own land are without secure title, leaving them vulnerable to the land grabbing and encroachment noted above.

Access to common property resources like fish and forests, which provide a partial safety net and traditional insurance for the poorest of the poor against negative contingencies such as bad weather and poor crops, also has been diminishing due to encroachment and overexploitation. This is especially true in the northeastern provinces, where many indigenous people still lack community title to their traditional lands despite provisions in the 2001 Land Law. Available data suggest that indigenous minorities have already lost 30 percent of their traditional forest lands, and that poverty has risen from 40 percent to 58 percent in the mountainous/plateau provinces – the only region in the country where poverty appears to have gained during the past decade.

Landlessness and the search for alternative livelihoods have also put pressure on available common property fishing resources such as the Tonle Sap. As a result, vulnerability and economic insecurity for the poorest fisher families also has risen substantially. While the Government freed up half the area tied up in large commercial fishing lots in 2001, this was reportedly the less productive half, contributing little to poverty reduction.

At the more macro level, high growth rates have been so narrowly based that recent economic gains remain vulnerable to sudden setbacks from outside factors such as a global/regional economic downturn; the ending of US and EU safeguards against Chinese garment exports, currently scheduled for 2008; increasing competition from Vietnam following that country's entry into the World Trade Organisation (WTO); or a potential H5N1 epidemic/pandemic that would greatly affect local health, tourism and even foreign investment. Therefore, diversification of both the urban and rural economies will be essential to broaden the economic base and provide better insurance against potential external shocks.

Adding to the emerging opportunities and challenges will be the potentially substantial revenues from offshore oil and gas beginning in the near future, as well as inland mining of other minerals like bauxite. For many other developing countries, the sudden surge of revenues from such extractive industries has negatively affected the competitiveness and growth of employment-generating sectors ('Dutch disease'), fuelled corruption, left the majority of people worse off, and in a number of cases proved destabilising. Cambodia's weak institutional capacities and somewhat fragmented public finance system suggest a high risk of 'resource curse' outcomes in the absence of needed safeguards.

<sup>(1)</sup> Agrawal, Nisha, "Opening Remarks at the Launch of the Cambodia Equity Report 2007: Sharing Growth", The World Bank, Phnom Penh, Cambodia, June 12, 2007, <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/CAMBODIAEXTN/0,,contentMDK:21368954~menuPK:293861~pagePK:2865066~piPK:2865079~theSitePK:293856,00.html>

### *Rectangular Strategy and NSDP provide broad 'road map'...*

International experience indicates that the best time for a government to accelerate the implementation of reforms, including long-overdue, politically difficult reforms, is when economic growth is high and the majority of a country's people would support such reforms on the basis of efficiency, equity and national well-being. Consolidating and building upon recent gains and diminishing some of the emerging risks will require well-targeted interventions to arrest and reverse the more worrisome underlying trends.

Fortunately the Government's Rectangular Strategy and the NSDP point the direction to improved governance, increased investments in rural areas and a more enabling environment for private enterprise. Nevertheless, the quality of implementation will be critical in moving from plan to action and securing the needed outcomes.

In light of still-weak institutional capacities, implementation will best be focused on a realistic set of priorities that will have the biggest positive impact on improving human well-being and securing longer-term peace and stability for the nation.

*"Opportunities multiply as they are seized..."*

*His Excellency Prime Minister Samdech Hun Sen, 22 February 2007*

Clearly, reaching the CMDGs by 2015 and substantially improving human well-being in Cambodia will require an unprecedented focus on improving rural livelihoods. In other successful developing countries in the region, a vibrant rural economy based on smallholder family farms has provided a solid bedrock of rural stability with adequate livelihoods for rural labour, allowing for greater economic diversification that also includes higher-value-added manufacturing and service industries, typically in urban areas.

Fortuitously, the timing is right to take the needed decisions and actions to elevate Cambodia to a much higher level of development, with shared prosperity and longer-term stability. Effective implementation of the Rectangular Strategy and the NSDP will be crucial. Given still-weak institutional capacities at the central, provincial and sub-provincial levels, a greater focus on existing implementation capacities is needed in areas likeliest to generate the highest socio-economic returns. All of these efforts can be reinforced through the careful management and investment of potentially large revenues from oil and gas beginning in upcoming years. Together, these will boost efforts to substantially improve human well-being, equity and long-term socioeconomic stability, ensuring that the outlook for Cambodia and its people is truly blessed over the coming decades.



# CHAPTER 1





The concept of human development (HD) has been popularised since the early 1990s through UNDP's publication of global, regional and national Human Development Reports (HDR). The HD paradigm emphasises satisfaction of people's basic needs rather than simply pursuit of aggregate growth rates. Economies must grow to achieve increased prosperity, but this growth should be inclusive and sustainable to ensure widespread human development. HD goes further to include such diverse choices as political and social freedom, as well as opportunities for people to be creative and productive and live with dignity. The paradigm thus embraces issues of democratic decentralisation, human rights and freedom from fear. The essence of human development is to strengthen people's capacities and opportunities to build an enabling environment to improve everyone's human development potential, in all of its fields.

The fundamental difference between human development and earlier interpretations of development is that human development identifies people, rather than physical goods and services, to be the real wealth of a nation. A country is developed only if its people are free and possess choices and entitlements.<sup>(1)</sup>

Three essential elements that define an HD Index (HDI) are: that people lead long and healthy lives, they attain knowledge, and they acquire the resources needed for a decent standard of living. HDI reflects three key components of HD, but it is not a summary of all aspects of HD in one index.

This chapter explains (1) the concepts underlying Human Development Reports (HDRs) and (2) examines the challenges facing Cambodia that have led to this HDR on rural livelihoods. It concludes by (3) giving the overall outline of the report.

## 1.1 Human Development Reports

Global, regional, national and even sub-national Human Development Reports have been undertaken. Global reports have been produced annually since 1990; NHDRs (National HDRs) are independent, nationally owned documents on the state of human development, prepared by experts and intellectuals and supported by UNDP. They are designed to be advocacy documents based on thorough research and are meant to generate debate on the means to enhance human development in a country. Cambodia produced its first NHDR in 1997; this is the sixth:

- 1997: Poverty assessment
- 1998: Women's contribution to development
- 1999: Village economy and development
- 2000: Children and employment
- 2001: Societal aspects of the HIV/AIDS epidemic
- 2007: Expanding choices for rural people

This Cambodian Human Development Report thus focuses on natural resource use issues and rural livelihoods.

<sup>(1)</sup> Definitions and detailed explanations can be found in different Global Human Development Reports (<http://hdr.undp.org/reports>). Of particular interest from the point of view of definitions are the global HDRs from 1990, 1998, 2001 and 2003.

### Box 1.1: Cambodia – some recent history

Between the 1950s and mid-1960s, Cambodia was considered a prosperous country in the regional context: Its per-capita income was higher than that of Thailand, and it exported food. The forest cover was about 70 percent of the total area, supplementing rural livelihoods. The population ranged from 4 to 4.5 million, and things were looking up after self-rule had begun when the French departed in 1953.

From the mid-1960s onward, political instability grew across Asia as a result of the Vietnam War. By 1970, the Cambodian economy had slowed considerably and strong inflationary trends set in. A crisis began in 1970 when the Government of Prince Norodom Sihanouk was overthrown and a military dictatorship established. Large-scale political disturbances and civil war ensued, resulting in the triumph of the Khmer Rouge in 1975. This ruling party began to redefine both state and society: It followed a form of agrarian socialism wherein the urban population was emptied out to rural areas and even rural populations were relocated; private property and money were abolished; and the family structure was undermined in favour of collectives. Internal and external strife led to the involvement of Vietnamese forces and the forcible removal of the Khmer Rouge from power in 1979.

Between 1980 and 1989, Vietnamese forces remained in Cambodia, and all countries other than the former Soviet bloc imposed trade, aid and other forms of embargo. Armed conflict, particularly in the western and northwestern parts of the country, persisted throughout the 1980s, greatly impeding development. Internal conflict also continued following the departure of Vietnamese troops in 1989. The Government tried to establish basic governance institutions, reopen schools and restructure agriculture through cooperative farming (*Krom Samaki*). Land, officially owned by the State at that time, was formally privatised in 1989.

The Paris Peace Accords of 1991 led to a United Nations peacekeeping operation to supervise the transition to a peaceful multi-party democracy. The United Nations Transitional Authority in Cambodia (UNTAC) was assigned to supervise disarmament and demobilisation, coordinate international reconstruction aid, and ensure conditions for free and fair elections in 1993. A new democratic coalition Government was set up. Foreign capital in the garment and forestry/commercial agricultural sectors and services began to flow in, and between 1993 and 1997 Gross Domestic Product (GDP) grew rapidly.

However, the country faced another setback in 1998 when the ruling coalition fell apart. Stability was re-established soon after, with the successful conclusion of the second national elections. The economy has since grown at close to eight percent annually, fuelled largely by urban-based garment production, tourism and some service-sector activities. The agricultural sector continues to be narrowly focused on paddy production despite the country having moderate and humid agro-climatic conditions that would permit a greater range of crops.

Cambodia has yet to fully recover from nearly three decades of civil war, which seriously undermined the social fabric and societal institutions. These are still being rehabilitated. Other developmental challenges exist as well, including the establishment of basic infrastructure, human capital formation and agricultural/rural development.

Sources: Chandler (1993); Vickery (1984); Ear (1995); Mysliwiec (1988), and Consultative Group Documents (annual)

## 1.2 Development challenges and *raison d'être* for a report on rural livelihoods

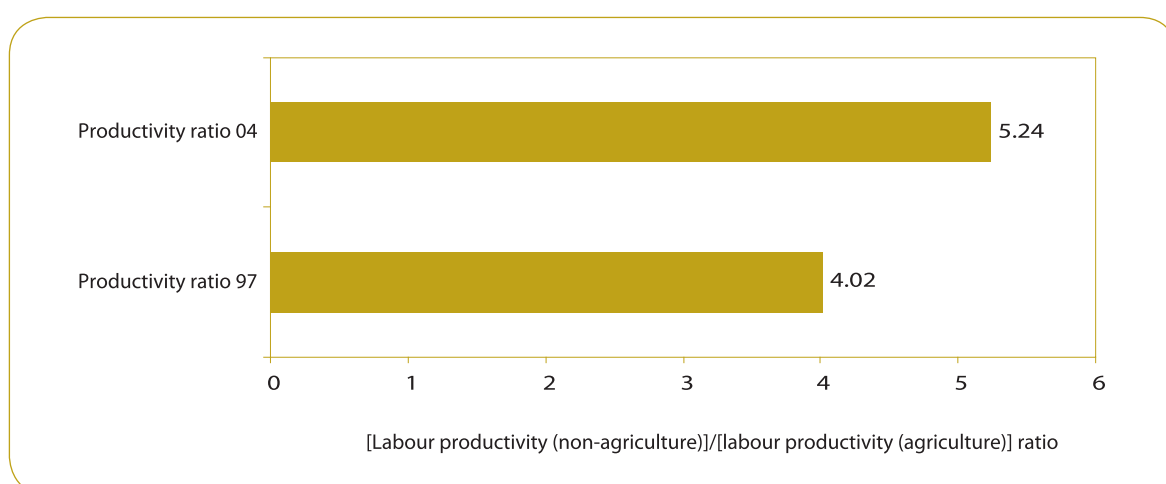
Cambodia has made notable progress since the Paris Peace Accords of 1991. Some key accomplishments, although believed by some to be fragile, include: national elections in 1993 and regularly thereafter; return of all feuding factions to a democratic framework with the dissolution of the Khmer Rouge in 1998; Commune Council elections in 2002 and 2007; an open market and fast-growing economy that has attracted foreign investments since 1993; and expanding tourism, a thriving civil society and a vibrant media. Cambodia is a full member of ASEAN and WTO. Thus, the country has gradually recovered from being a nation of conflict in the 1970s, 1980s and early 1990s.

Yet Cambodia must face many challenges to move from being an aid-dependent Least Developed Country (LDC) with more than a third of its population subsisting below the poverty line, mostly in rural areas.

A large proportion of Cambodians are engaged in primary-sector activities, namely, paddy cultivation, fishing, forest product extraction and, more recently, wage labour. In 1997, 76 percent of the total workforce engaged in agriculture, forestry and fishery activities, which marginally reduced to 74 percent in 2004. When translated into absolute numbers, however, there was an increase in workers in this sector of about 17 percent overall (male, 26 percent; female, 12 percent). Thus, not only is the primary-sector workforce large in proportion to the total, but it also is growing in absolute terms.<sup>(2)</sup>

The per-worker production in agriculture and its allied activities was about 1.06 million riels (constant prices, 2000) in 1997, which reduced slightly to 1.05 million riels by 2004. In contrast, the per-worker production in the non-agricultural sectors, which stood at 4.02 million riels in 1997, rose to 5.50 million riels in 2004. As a result, the ratio between non-agricultural and agricultural labour productivity has increased from 4 to 5.2 in these seven years (Figure 1.1). The most obvious reasons for this gap are relatively slow growth in the primary sector during the period and no significant absorption of workers in the more productive non-agricultural sector, which has resulted in rural poverty being consistently higher than urban. Next, land and other natural resources in Cambodia are commercialising fast, fuelled by a swift albeit uneven penetration of market forces in an otherwise largely unregulated subsistence economy.

Figure 1.1: Ratio of labour productivity between agricultural and non-agricultural sectors, 1997 and 2004



Source: Calculated from national income data (<http://www.nis.gov.kh>), SES-97, SES-04 and CIPS-04

There is, therefore, a lack of synchronisation between the changes taking place and rural people's preparedness for them. Early signs indicate that, if unchecked, these tendencies would lead to greater impoverishment of much of the rural population, who are likely to face increased shocks and uncertainty with a reduced ability to cope.

Rural-urban inequalities and economic deprivation of the rural masses have perennially caused tension and violence in the country. Increasing rural-urban inequalities and poverty therefore require this issue to be addressed before it becomes contentious once again.<sup>(3)</sup>

<sup>(2)</sup> These calculations are based on the new population estimates by the National Institute of Statistics (RGC 2005a). Estimates of sectoral distribution of the workforce in 2004 have been taken from the Cambodia Inter-Census Population Survey (CIPS-04), while work participation is from the Cambodian Socio-economic Survey 1997 (SES-97) and SES-04. SES-97 showed a labour participation rate of 65.8 percent, while SES-04 showed it to be 74.6 percent; hence, there has been an increase in absolute numbers, exceeding the natural population growth.

Government policies must enable and sustain rapid, pro-poor and regionally dispersed economic growth with a strong commitment to social development (education, health, housing, social infrastructure, women's status) and to good governance; in short, they must promote a comprehensive, people-friendly rural development framework to combat the problems of inequality and poverty. Critical requirements in the rural context include: access to and optimal utilisation of land, tenure security, sustainable exploitation of the natural resource base (forests, fish) and, above all, transition from an extraction-oriented economy toward one that also can add value to naturally produced or extracted goods. This NHDR analyses the current situation and suggests approaches to strengthening rural livelihoods.

## 1.3 Report outline

*The report aims at the following:*

- a. *Identifying principal issues involved in land and natural resources, historically and geographically, and their links to people's livelihoods.* The discussion encompasses such issues as agricultural land, its ownership and use, land concessions (economic/agricultural, forestry and fishery concessions), and access of the rural population to land. Given that demographic pressures, changes in land use and land markets, market penetration and land concessions are forcing many rural households into a rapid transition in livelihoods away from traditional activities, much of the rural population faces a relatively high degree of uncertainty. Policy options to smooth the impact of this transition will be discussed.
- b. *Analysing farm and off-farm incomes as well as addressing issues of land productivity, incomes from farms, fisheries and forests, and livelihoods diversification away from natural resources.* The principal policy initiatives proposed are improved land titling and security of tenure, rationalisation of landholdings (to address both excessive fragmentation of small landholdings and the existence of very large unproductive ones), promotion of modern inputs (fertiliser/farmyard manure, high-yielding variety seeds, pest management and other innovations), crop diversification, investments in irrigation, and promotion of market competition. The report also proposes methods to enhance off-/non-farm incomes. Finally, it proposes introducing alternative technologies, newer activities and other support services.
- c. *Addressing key questions relating to markets for inputs and outputs, transport and transit facilities, human capital, infrastructure and an enabling macro-environment.*

Issues of governance, gender and regional integration are integrated throughout the report.

Unprecedented for Cambodia is the possibility of human development goals being met with investments from revenues soon to be available from exploitation of the country's oil and gas reserves. Hence, many of the proposals made here can be realised if these revenues, expected as early as 2009/10, are prudently used; planning for their deployment should begin without delay.

Following a typical Human Development Report format, this report first informs on the state of human development in the country, wherein key HD issues in different geographic areas are flagged. Rural livelihoods are then discussed, followed by issues pertaining to improving HD through strengthening livelihood strategies. As stated earlier, the report places special emphasis on the sub-national dimensions of HD.

<sup>(3)</sup> Rural poverty and urban-rural gaps have been noted in records going back to the 1860s (Mohout 1862). In the 1950s and 1960s these gaps were the basis of the insurgency that finally resulted in the triumph of the Khmer Rouge (Ear 1995; Chanda 1986). More recent concerns can be seen in EIC (2006) and World Bank (2005).

*Chapter 1* introduces the theme of the report.

*Chapter 2* presents a development scorecard, including the status of human development, poverty, education, health and housing indices. HD indices are computed at the province level for the first time.

*Chapter 3* outlines the status of land and natural resources and puts forth proposals for institutional reforms in the land, fisheries and forestry sectors to improve human development and smooth rural people's transition from their earlier livelihood patterns to the present.

*Chapter 4* puts forward approaches to improving incomes from crop agriculture, fishing, and the off-farm and non-farm sectors (agro-processing and rural industrialisation).

*Chapter 5* discusses related larger policy options, i.e., building human capital, investing in key infrastructure, creating credible institutions and putting in place better governance, each aimed at creating an enabling environment for raising rural people's incomes.

*Chapter 6* presents some conclusions, exploring possibilities of sequencing and funding rural development, specifically through earmarked funding from expected revenues from the recently discovered Cambodian oil and gas fields.

The report's recommendations complement the Rectangular Strategy laid down in the NSDP.



# CHAPTER 2





**H**uman development is a dynamic, multi-dimensional, multi-disciplinary and action-oriented paradigm. It does not lay out rigid definitions of what lies within and outside its domain. Fundamental to the definition are human beings: their empowerment, welfare and quality of life. The HDI is one of many indicators used for measuring human development. This chapter reviews Cambodia's progress in human development.

A key issue in HD analysis is to assess the current development pattern and its implications for human well-being. Are rural people enjoying the freedoms that come with a democratic order and a growing economy?

This chapter looks at (1) Cambodia's human development scorecard, examining social factors, economic growth, poverty levels and trends, the status of literacy/education and health, and patterns of habitat and potable drinking water. It then (2) highlights development performance through human development indices, comparing the national development performance to other countries in the region, and concluding with an analysis of human development standings for each of the country's 24 provinces.

## 2.1 Cambodia's human development scorecard

### The society

Cambodia emerged as a multi-party democracy in 1993 and has since held three national elections that have largely been recognised as free and fair. It also successfully conducted two Commune Council elections in 2002 and 2007. Civil society too is active, with a large number of national and international NGOs operating in the country, many committed to addressing issues such as human rights, problems of minority groups and gender parity, while others work on social and economic issues. In addition, the print and electronic media function with a fair degree of vibrancy.

As in many countries in Asia, Cambodian society faces some problems in its democratic functioning and in upholding human rights and rights to property. Four issues merit particular attention:

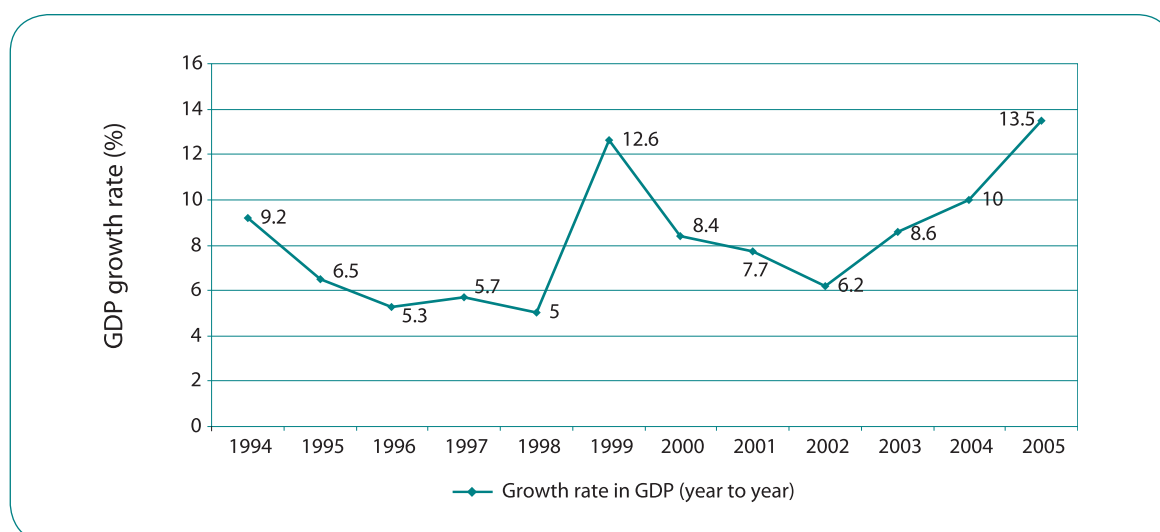
- a. The need for effective implementation of the rule of law, with low levels of corruption
- b. Lack of appropriate regulation and infrastructure, leading to limited market access and expensive credit
- c. Top-heavy decision-making despite a multi-tiered governance system; the decision-making process is slow, arduous and not always efficient. Ambiguity also exists in decision making where more than one authority makes decisions on the same matter, e.g., land
- d. Low State revenues and civil service salaries. This leads to poor motivation and continuance of low skills levels, which are likely to underlie poor service delivery, particularly in rural areas

Among the more worrisome outcomes of weaknesses in governance is the conflict over land, since it deprives the poor of their sources of livelihood. Worst affected are the western and northeastern provinces, but cases of evictions of migrants have been reported from larger cities as well. Migration of people from one rural location to another in search of improved livelihoods also has been considerable and due at least partly to insecurity of land tenure as well as to displacement. Indigenous minorities are particularly adversely affected by this type of displacement.

## Economic growth

The Cambodian economy has grown briskly in the last decade and a half. While the overall growth rate averaged close to eight percent per annum (in riels at constant 2000 prices), dips occurred in 1997, 1998, 2001 and 2002 because of the Asian financial crisis, internal political disturbances, and cycles of flood and drought (Figure 2.1). Since 2002, income has grown rapidly and steadily. In dollar terms, growth was slower in the 1990s, given the sharp devaluation of the riel during 1997-98. Since then, an almost complete dollarisation of the Cambodian economy has helped stabilise real purchasing power.

Figure 2.1: Year-to-year GDP growth rates in Cambodia, 1994-2005 (constant 2000 prices)



Source: RGC (2006 b)

In earlier years (circa 1996), the agricultural sector's share of Gross Domestic Product (GDP) was more than 45 percent; services came next; and the industrial sector was small, having less than a 15 percent share (Figure 2.2). This picture has changed significantly, with the agricultural contribution to the economy shrinking to 30-32 percent of GDP and the industrial contribution rising to more than 27 percent. The contribution of the service sector to the overall economy has remained stable, ranging between 35 and 40 percent from 1993 to 2005. (Figure 2.2).

Four comments can be made on the rate and distribution of economic growth in the Cambodian economy:

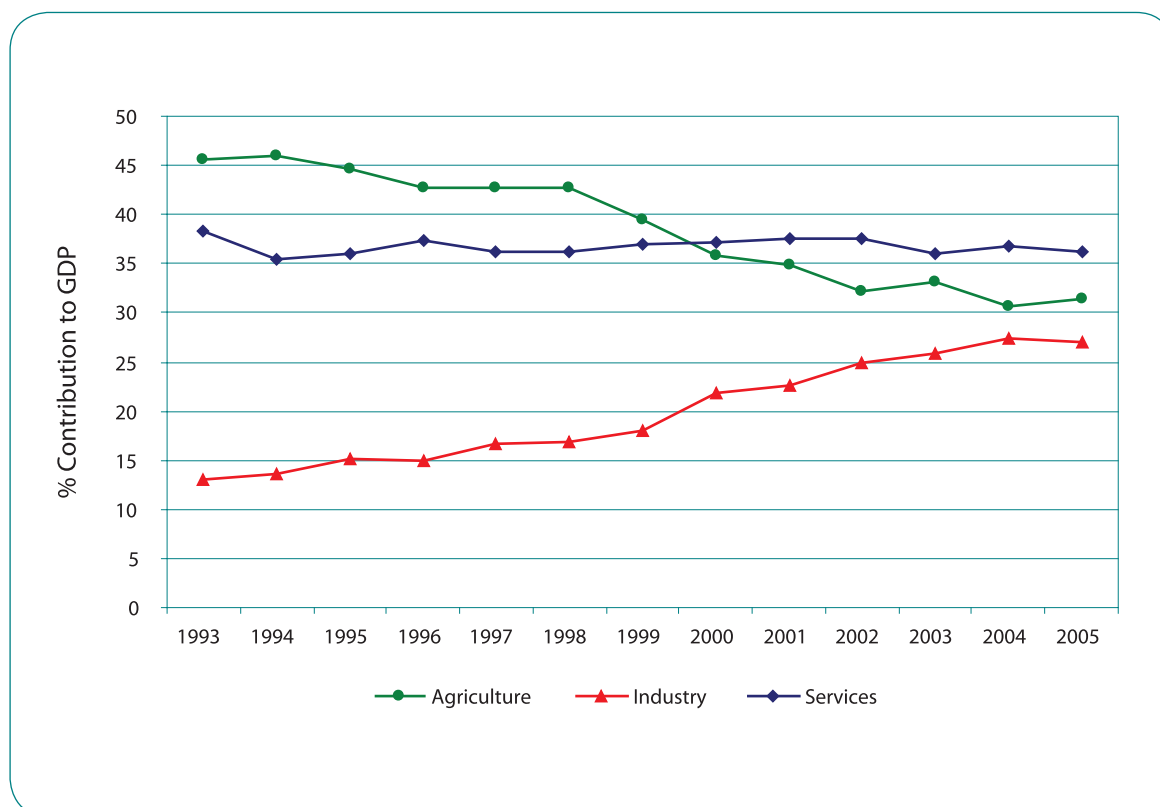
- a. In principle, a reduction in the share of agriculture in GDP is a progressive sign. Agriculture slowed at the beginning of the new millennium, and only in 2005 did rice production spike at 44 percent over the previous year. This is believed to be largely due to recovery from earlier drought conditions.<sup>(4)</sup> A paddy yield rate of 2.18 tonnes/ha (2003-05 average) means that agriculture has some way to go before it reaches its full potential.<sup>(5)</sup> Because agriculture and its allied activities employ most people in the countryside, low and uneven yield rates across regions have implications for farmers' incomes, and hence, human development. Thriving agriculture often is the basis for greater economic diversification.

<sup>(4)</sup> See Dapice, Vallely and Wilkinson (2006).

<sup>(5)</sup> The Technical Working Group (TWG) on agriculture and water makes a similar observation. See TWG – Agriculture and Water (2006), pg. 24.

A concern...  
is that the  
garment sector  
constituted about  
50 percent of all  
industrial output  
in 2005

Figure 2.2: GDP contribution by sectors in Cambodia, 1993-2005



Note: Percentages will not total 100 because taxes are not shown in the graph. Source: RGC (2006b)

- b.** Industrial growth is commendable in that garment export levels have been maintained despite the expiration of the Multi-Fibre Agreement (MFA). A concern, however, is that the garment sector constituted about 50 percent of all industrial output in 2005 (69 percent of all manufacturing), up from 42 percent in 2000 and only nine percent in 1996. This heavy and increasing dependence on one sector can be risky, particularly with almost no vertical integration, and thus limited control over costs.<sup>(6)</sup> European and US markets have imposed limits on Chinese imports, but this may not continue for long under WTO rules.
- c.** Tourism holds a large share in the services sector, with activity narrowly concentrated around the temples of Siem Reap. This too has few multiplier effects in the local economy, with even horticultural and other food products served in hotels being procured from neighbouring countries rather than grown locally. Notably, Siem Reap is one of the three poorest provinces.
- d.** Non-agricultural activities are far too densely concentrated in Phnom Penh, Siem Reap and one or two other centres near the borders. The vast countryside predominantly subsists on primary-sector activities – land, fish and forests.

### Poverty levels and trends <sup>(7)</sup>

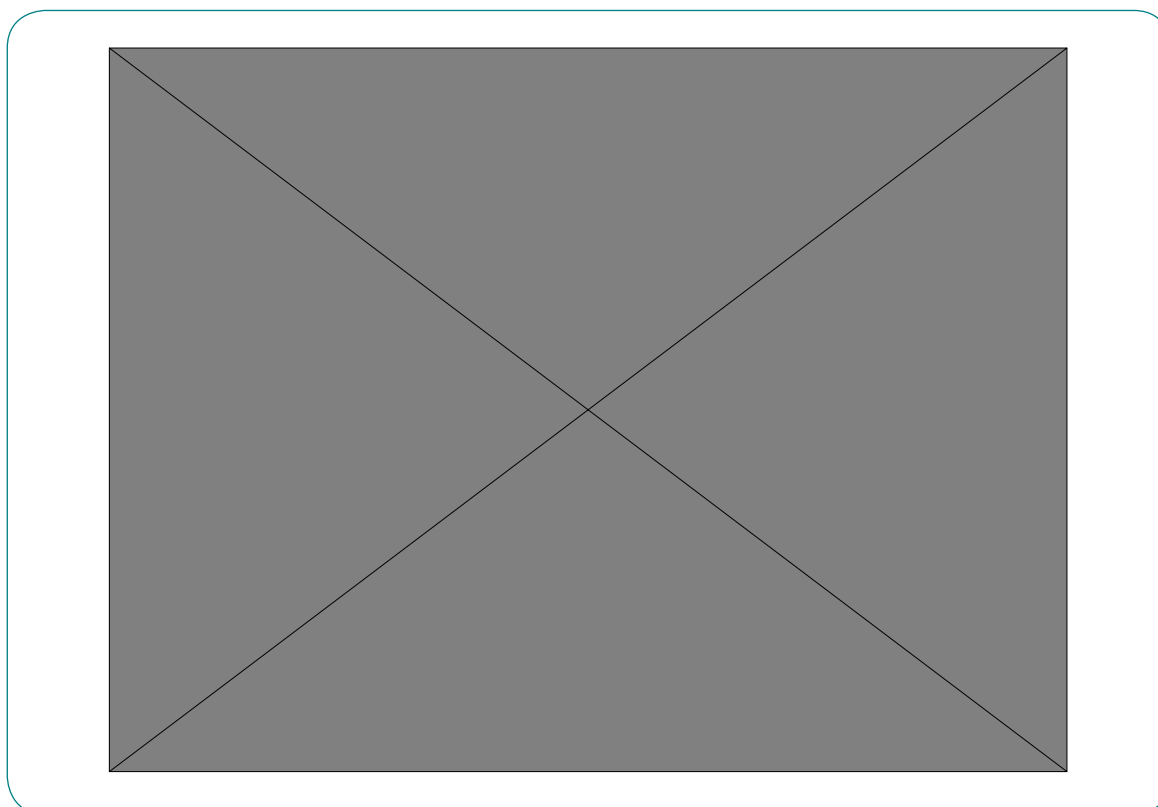
The Socio-economic Survey (SES) of 2003-04 has been the most comprehensive of all surveys to date. Sub-national poverty headcounts are presented in Figure 2.3.

<sup>(6)</sup> E.g., 'Cambodian garment industry finds it difficult to be internationally competitive even at workers' wages being US\$60-65 per month' (Phnom Penh Post, 21 September-5 October 2006 issue).

<sup>(7)</sup> Data sources for this section: RGC (2006), World Bank (2006).



Figure 2.3: Incidence of poverty in Cambodia by broad geographic zones, 2003-04



Source: RGC (2006)

- a. The proportion of those subsisting below the poverty line in 2003-04 was 34.68 percent. The incidence of poverty in rural areas was higher, at about 39 percent, and in urban areas outside Phnom Penh was 25 percent, while in Phnom Penh it stood at just five percent. Regional differences are considerable: the plateau/mountain region (north/northeast) had the highest incidence of poverty, at 52 percent, followed by the Tonle Sap region, 43 percent; the Mekong delta plains, 32 percent; and the coastal zone, 27 percent. One mitigating factor is that the mountain region is rather sparsely populated, but because many parts of that region are inhabited by indigenous minorities, this implies a higher proportion of poor people among these populations.
- b. No data from country-wide surveys – conducted in 1993-94, 1996, 1997, 1999 and 2003-04 – are meaningfully comparable because of differing coverage, survey design and ways in which questions were posed. However, the National Institute of Statistics (NIS) has carefully matched areas surveyed in 2003-04 with those surveyed in 1993-94. A comparison of data from these two surveys (i.e., for areas that could be compared on a geographical basis: about 56 percent of villages, 84 percent of urban areas outside Phnom Penh, and the municipality of Phnom Penh) suggests that the incidence of poverty in these areas declined from about 39 percent in 1993-04 to 28 percent in 2003-04. On aggregate, people also have begun to consume more non-food items compared to a decade ago, another indicator of increased wealth. The depth of poverty (i.e., the gap in per capita consumption between the poverty line and that of the poorest households) also has decreased. At the same time, inequality has increased: consumption by the poorest one-fifth of the population improved by eight percent from 1993-94 to 2004, while that of richest rose by about 45 percent (country average: 32 percent). Among the low-income ASEAN member countries, only the Philippines has higher inequality of consumption.

## Box 2.1: Connecting communes

With the potential of microcredit inspiring even the awarding of the 2006 Nobel Peace Prize, a similarly inspired initiative saw its pilot launch take place in several Cambodian provinces on 15 January 2007.

In conjunction with Nokia-KTH, the German Technical Cooperation Agency (GTZ), Camshin and several Cambodian microfinance institutions, UNDP has assisted in the realisation of a private sector-led village phone initiative in 40 communes in Kampong Cham, Kampong Chhnang and Siem Reap. The programme is part of UNDP's Growing Sustainable Business (GSB) Initiative, which seeks to stimulate market-driven solutions to poverty through concrete business investments, by promoting public and private partnerships.

Through the programme, a village phone operator is supplied with a mobile phone package, which includes the phone itself along with a solar panel recharger, a phone book and phone credit. The operator then provides phone service at a subsidised rate to the community for a three- to six-month trial period to generate income.

For Oum Phally, a farmer and medical representative in the Tangsrey commune of Siem Reap's Batheay district, use of these inexpensive phones as a source of revenue in the community is a fresh idea. "I was very excited about the chance to earn a small profit to help my family," explained the father of two and new village operator. "I think my community will really appreciate the new phone – they will be able to call their family even when they work and live far away".

Nokia-KTH's Business Development Manager, Charles Ashley, points out that there are multiple interests at play in this win-win initiative. "There are one billion mobile phone users in the world today. They say that South and Southeast Asian markets hold the next billion," explains Ashley as he and Phally watch technicians unpack the solar panel recharge kit.

While the pilot projects represent only the early stages of the programme, 500 such partnerships could be completed within a year if the microfinance project catches on. The number of mobile phones per capita (teledensity) in Cambodia is quite low in relation to its neighbours, despite the fact that as many as 80 percent of communes could be connected.

UNDP Project Officer Jean Boisvert sees several benefits in introducing mobile phones to the most remote rural areas. "The phones can be used to close some of the gaps in the value chain for farmers," Boisvert said. "Using this village service, they will be able to call ahead to markets and check on the current prices and demand before losing time in transit. It's meant to provide rural Cambodians with access to valuable communication services and help bridge the digital divide."



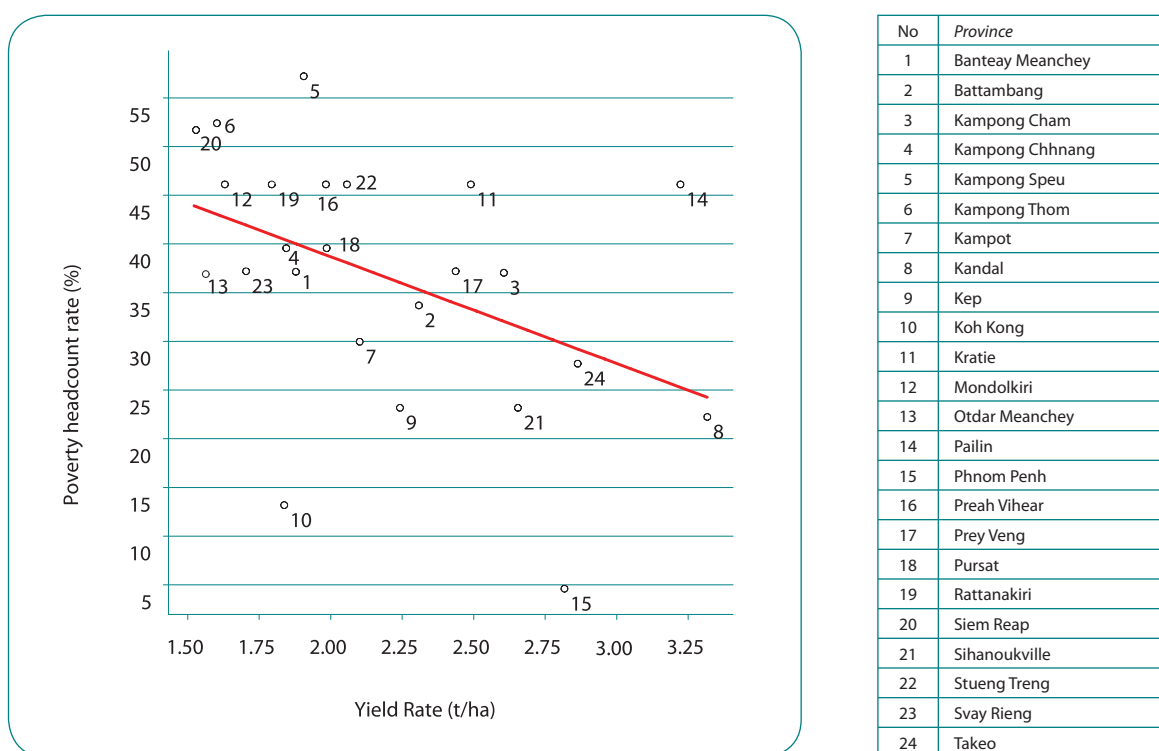
- c. Poverty has been unevenly reduced across population groups and regions. The very poor (people and areas) have gained less than the not-so-poor and non-poor. The incidence of poverty has increased in the plateau/mountain region, while it has decreased elsewhere. As a result, the gap in the standards of living between different areas and population groups has widened substantially.<sup>(8)</sup>

In other Asian countries, poverty has been reduced through higher agricultural yields (i.e., people earn more from agriculture) and diversification in occupations (i.e., people get jobs outside crop agriculture). In Cambodia, an inverse association exists between the incidence of poverty in a province and its agricultural productivity (tonnes/ha, wet-season rice) (Figure 2.4). Therefore, any improvement in the agricultural yield rates can contribute to poverty alleviation (elasticity of reduction in the incidence of poverty with respect to yield rate is 0.95). In brief, poverty can best be alleviated if yield rates and gainful employment in rural areas increase.

<sup>(8)</sup> Wages of vulnerable workers have not risen significantly over 1998-2006, as seen from Cambodia Development Resource Institute (CDRI) data. This trend further points toward different gains for different occupational groups.



Figure 2.4: Relationship between provincial poverty headcount rates (2003-04) and provincial average wet-rice yield (2003-05 average)



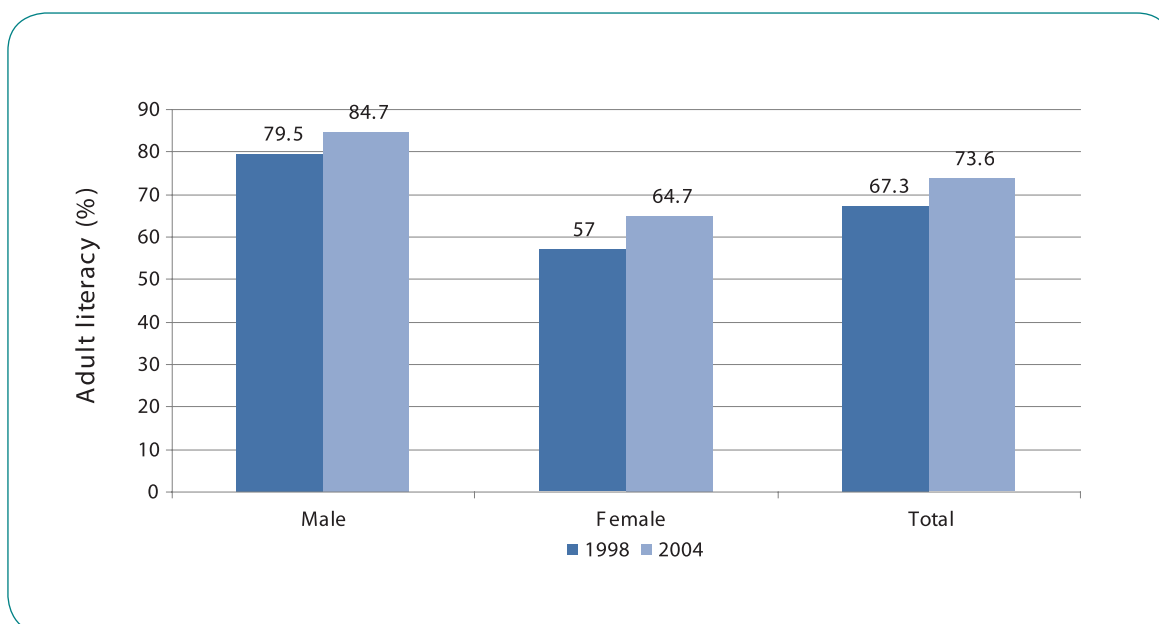
Note: Correlation coefficient  $-r = 0.446$  accounting for 16.2% of variation.

Sources: for paddy productivity, RGC (2004, 2005, 2006c); for poverty, RGC (2006)

### The state of literacy and education

Cambodia has made considerable progress in literacy and education: Over the six-year period 1998-2004, adult literacy rose from 67.3 percent to 73.6 percent (males from 79.5 to 84.7 percent, females from 57 to 64.7 percent). While a gender gap in literacy still can be found, it has narrowed over this period (Figure 2.5).

Figure 2.5: Adult literacy rates in Cambodia, 1998 and 2004



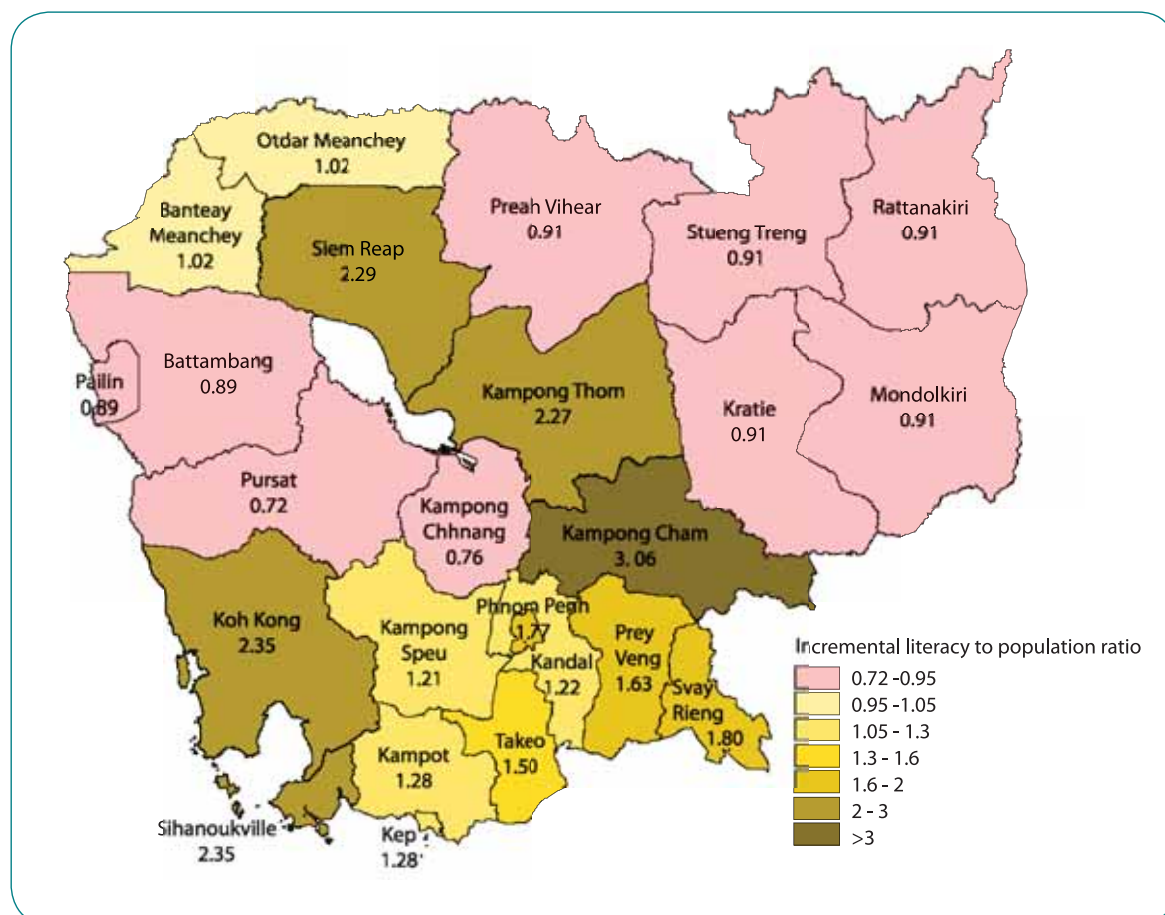
Source: Cambodia Inter-Census Population Survey 2004

To determine the literacy gain between 1998 and 2004, the following formula has been used:

$$\text{Incremental Literacy (IL)} = [(\text{Literates}_{2004} - \text{Literates}_{1998}) / (\text{Population}_{2004} - \text{Population}_{1998})]$$

If IL is more than one, the gain in literacy outstrips the gain in population; if IL equals one, there is no marginal gain in literacy; and if IL is less than one, the population growth outstrips the increase in the number of literates. All data pertain to populations aged seven years and older.

Figure 2.6: Incremental literacy-to-population ratio, 1998-2004

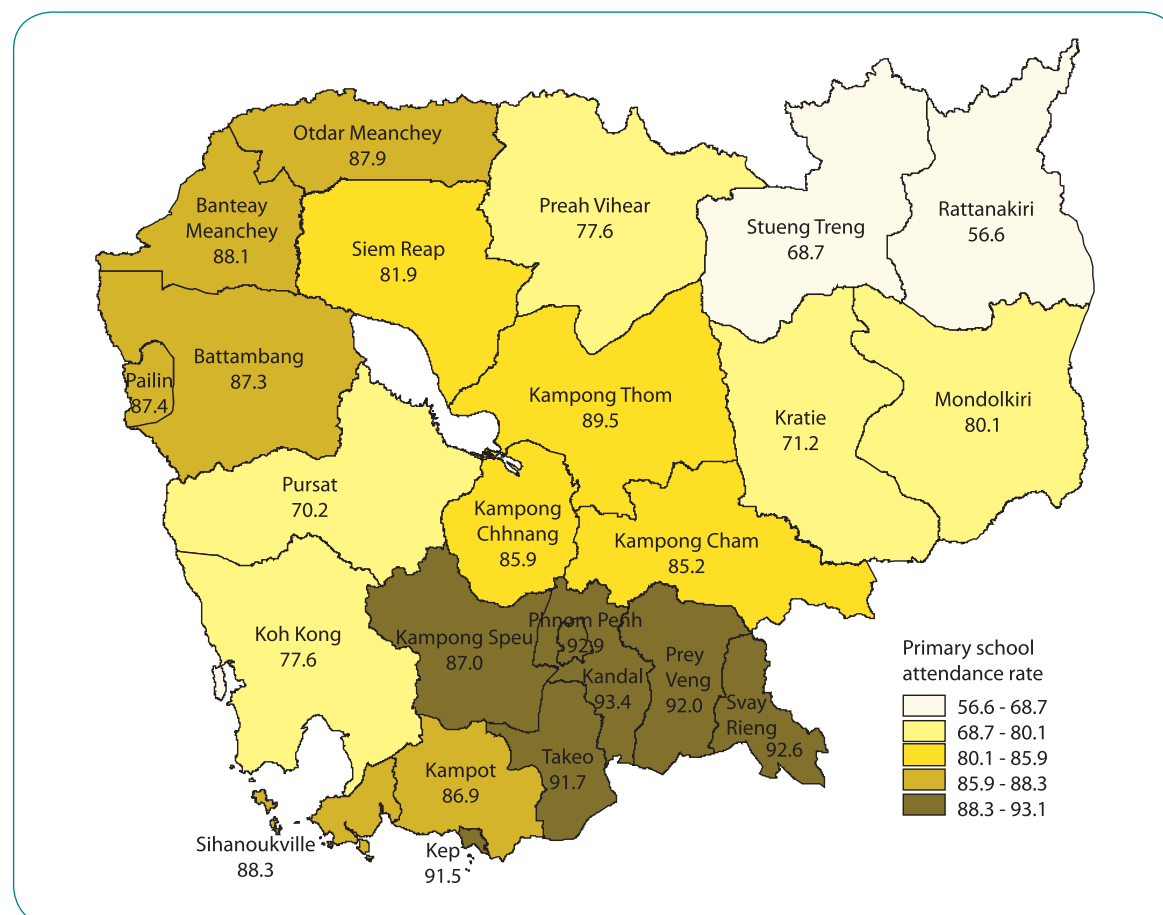


Source: Calculated from CIPS-04

Including the population aged seven years and older, rather than simply looking at adults, better captures recent efforts to improve literacy. Phnom Penh, Kampong Cham, Kampong Thom, Siem Reap, Koh Kong and Sihanoukville are the high achievers, where increases in literacy have outpaced population growth. Literacy among the incremental populations also has kept up or risen in the northeastern and some northwestern provinces (Banteay Meanchey, Otdar Meanchey). Provinces where literacy rates have decreased include Battambang, Pailin, Pursat and Kampong Chhnang. A recent influx of immigrants whose offspring may not yet have gained access to the school system ranks among reasons for a poor performance in literacy in these provinces (Figure 2.6).

The country's average net admissions rate (primary school attendance as a proportion of the relevant age group) was 82.6 in 2005-06. This represents a significant improvement, but is still far from 100 percent. It also is among the lowest in Southeast Asia.<sup>(9)</sup> The northeastern provinces are weakest relative to the country average. Some of the more developed provinces, such as Battambang, still rank lower than the national average for net primary school attendance (Figure 2.8). Finally, except in Kampong Thom, Kampong Speu, Otdar Meanchey, Rattanakiri and Takeo, the net admissions rate of girls is lower than that of boys. Low enrolment now will translate into adult illiteracy in about a decade.

Figure 2.7: Primary school attendance rate, by province



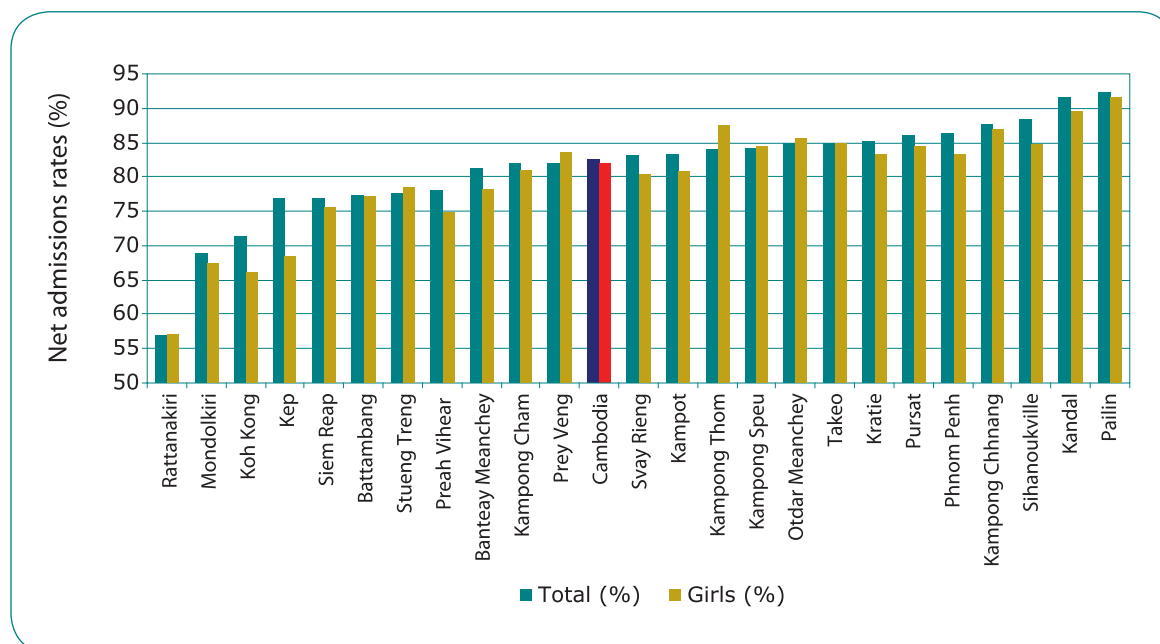
Source: Calculated from CIPS-04

The average number of years of education in 2003-04 was 3.7 (Figure 2.9). This is low when seen in the Southeast Asian context.

<sup>(9)</sup> See World Bank (2006), pg. 97.

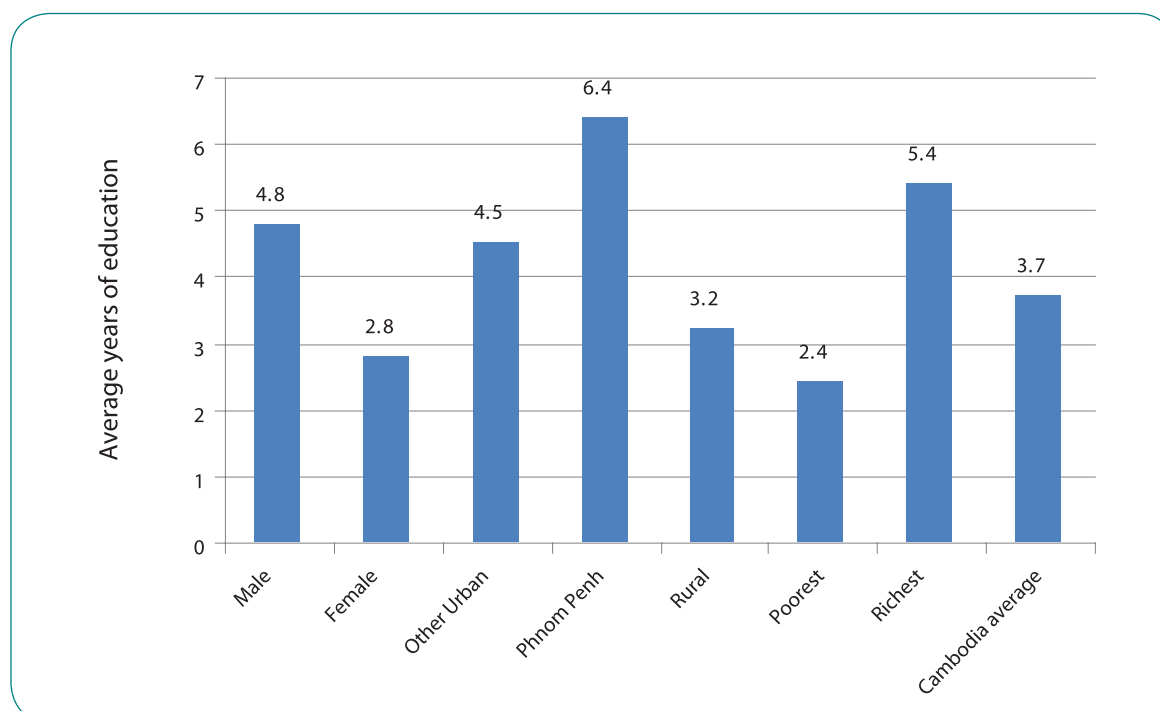
Important demand-retarding factors for education include the prevalence of child labour – about 23 percent, among the highest in Southeast Asia – and high direct and indirect costs of education

Figure 2.8: Net admissions rate by province, 2005-06



Calculated from EMI data; <http://www.nis.gov.kh/index.htm>

Figure 2.9: Average years of education, 2003-04



Calculated from EMI data; <http://www.nis.gov.kh/index.htm>

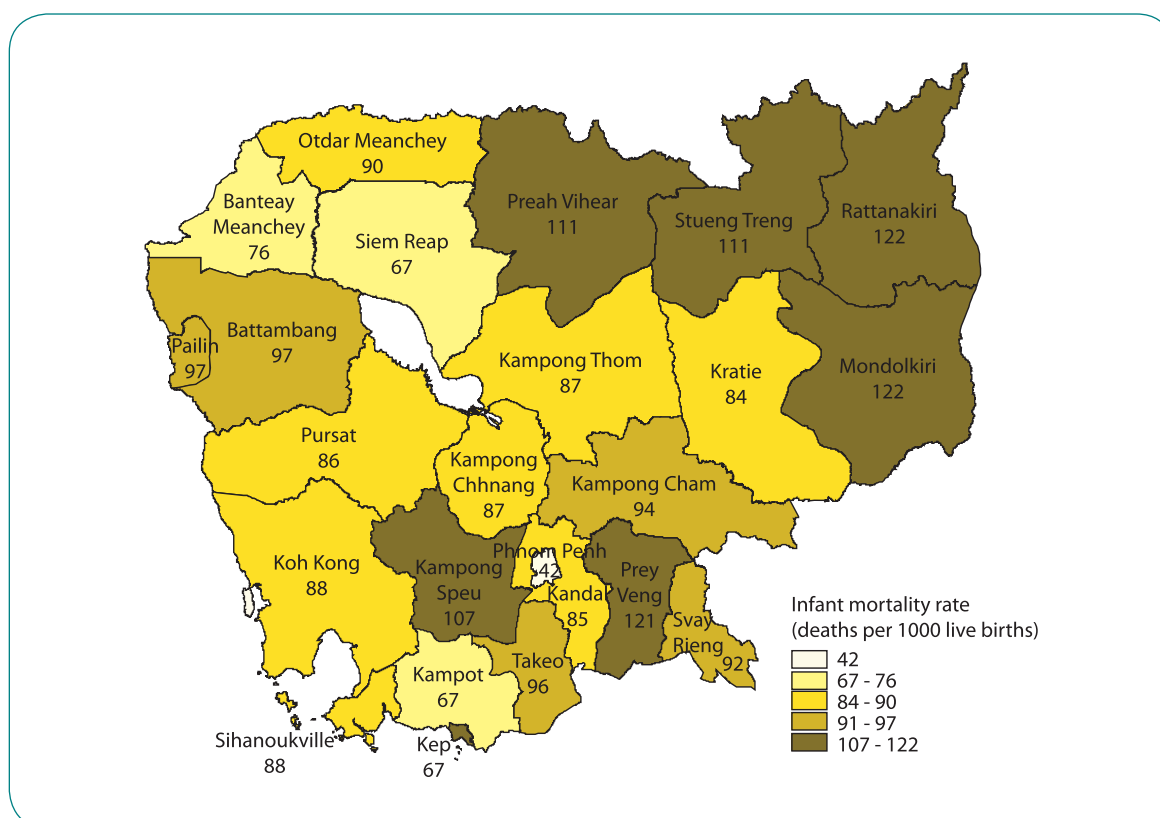
Important demand-retarding factors for education include the prevalence of child labour – about 23 percent, among the highest in Southeast Asia – and high direct and indirect costs of education (school fees, uniforms, teaching materials and tuition). Supply constraints include low quality of schools, non-availability of good teachers and low teacher salaries. To increase girls' education, global studies have shown that providing latrines, more secondary schools and other measures gives impetus to parents to send their daughters to school. For both boys and girls, parents must be encouraged to accept that options exist once their children complete primary school, either in the job market or in further education.

Higher and technical education in Cambodia is generally weak, and standards are not uniform across different institutions of learning. The Government has taken up a number of reforms in recent years, which have resulted in helping reduce dropouts and broadening the base of education at all levels. However, remaining critical concerns include low primary school completion rates (less than 50 percent), costs of education (all levels), gender gaps (all levels), rural-urban gaps, inter-provincial gaps, and the quality of education.<sup>(10)</sup>

### The status of health

Like education, the health status of Cambodia reflects notable progress. Life expectancy at birth for males in Cambodia was 60 years in 2004, up substantially from 52 in 1998, and for females stood at 65 years, also up substantially, from 56 in 1998.

Figure 2.10: Infant mortality rates, by province



Source: Calculated from CIPS-04

The infant mortality rate (IMR) reported by the Demographic Health Survey (DHS) 2005 suggests that this number has reduced from 95 to 65 deaths per 1,000 live births between 2000 and 2005 alone (Figure 2.11a). This sharp reduction has been very encouraging, as has an all-around improvement in child survival rates during the period. In all probability, this also may underlie the steep rise in life expectancy. To consider differences in childhood mortality between males and females, however, the reference period must be extended back ten years to ensure a sufficient sample size. We find that female infant and child mortality statistics are lower than males in all cases (Figure 2.11b), although this is a regularly reported phenomenon. At the same time, the Maternal Mortality Ratio (MMR), at 472 per 100,000 live births, remains alarmingly high and has not improved over the past five years. A possible explanation for the discrepancy in progress

<sup>(10)</sup> RGC (2006d).

between IMR and MMR lies in the increase in attended births, oral rehydration and other measures that have saved many infants. In contrast, maternal mortality occurs due to internal haemorrhage, severe anaemia and additional complications for which health services are still scarce in rural areas.

Figure 2.11a: Infant and child mortality, 2000 and 2005

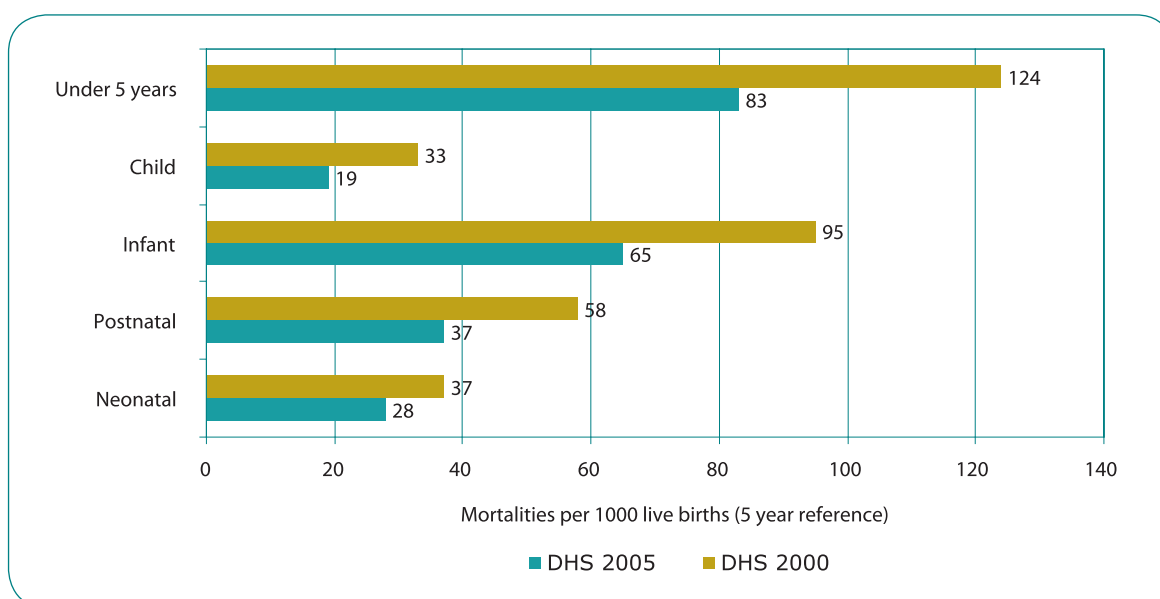
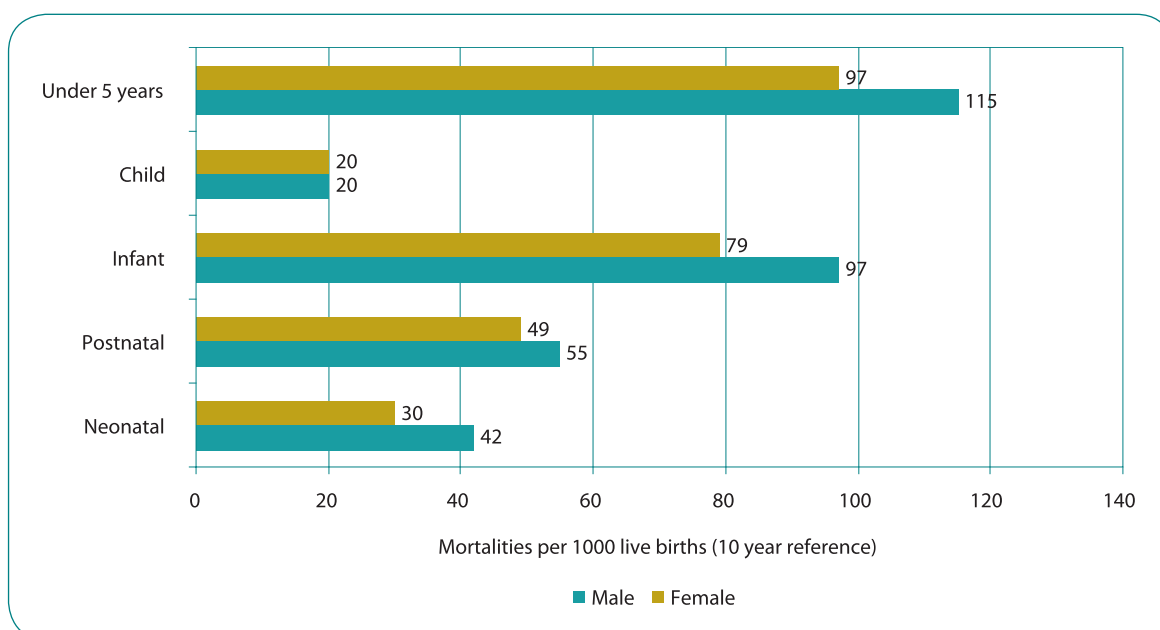


Figure 2.11b: Male and female infant and child mortality, 1995 and 2005

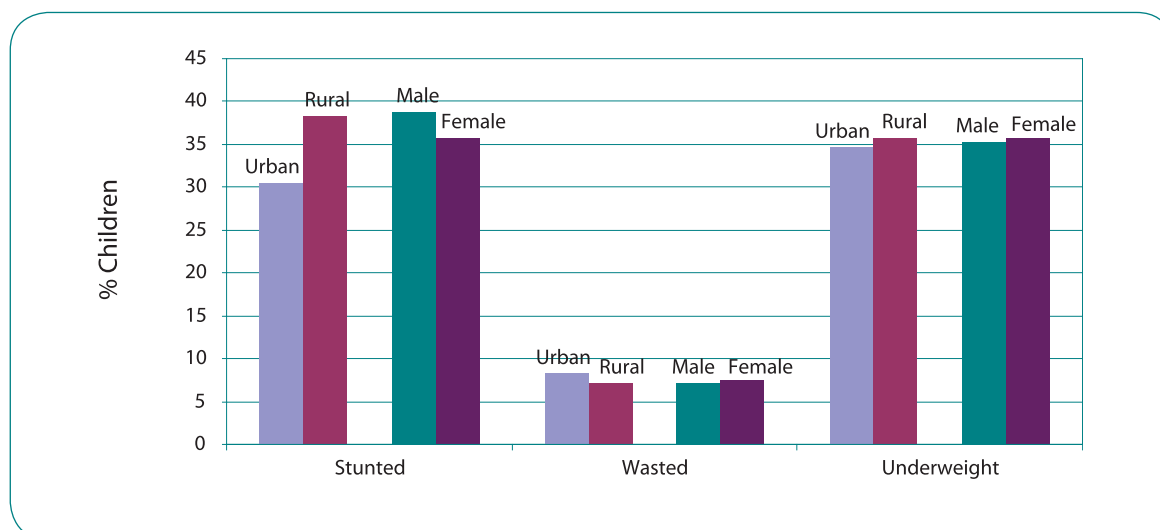


Source: DHS surveys, National Institute of Public Health, Ministry of Health and NIS

Malnourishment manifests itself in slower body growth among children: smaller height-to-age ratio (stunted), lesser weight-to-height ratio (wasted) and/or lower weight-to-age ratio (underweight). Malnutrition is more prevalent in rural than urban areas, although a gender-specific bias does not seem to exist (Figure 2.12). Data suggest that the worst-performing provinces on these measures are Pursat and Siem Reap, followed by the provinces Otdar Meanchey and Kampong Thom (Figure 2.13). A major problem in these provinces, as in other Tonle Sap provinces, is lack of access to potable drinking water. Villages on the Tonle Sap (both in Pursat and Siem Reap) often drink raw water from lakes and rivers. This causes perpetual abdominal (diarrhoeal) ailments, thereby reducing the absorption of ingested nutrients required for healthy growth.

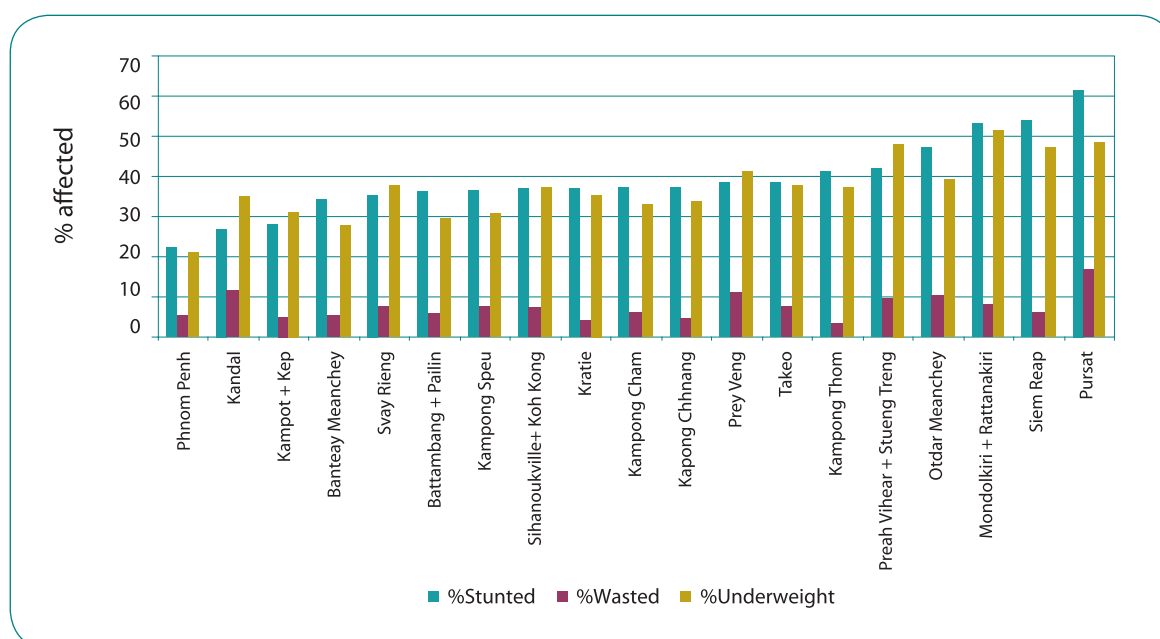


Figure 2.12: Nutritional status of children by location and sex, 2005



Source: DHS surveys, National Institute of Public Health, Ministry of Health and NIS

Figure 2.13: Nutritional status of children by province, 2005



Source: DHS surveys, National Institute of Public Health, Ministry of Health and NIS

While presenting a report card on specific health ailments is too ambitious for this report, it is heartening to note that awareness about HIV/AIDS has risen and the proportion of people affected by it has reduced. However, transmission is now increasingly between husbands and wives, which will require different approaches to raising awareness and reducing gender inequality. Malaria, dengue and water-borne diseases, however, continue to plague the population.

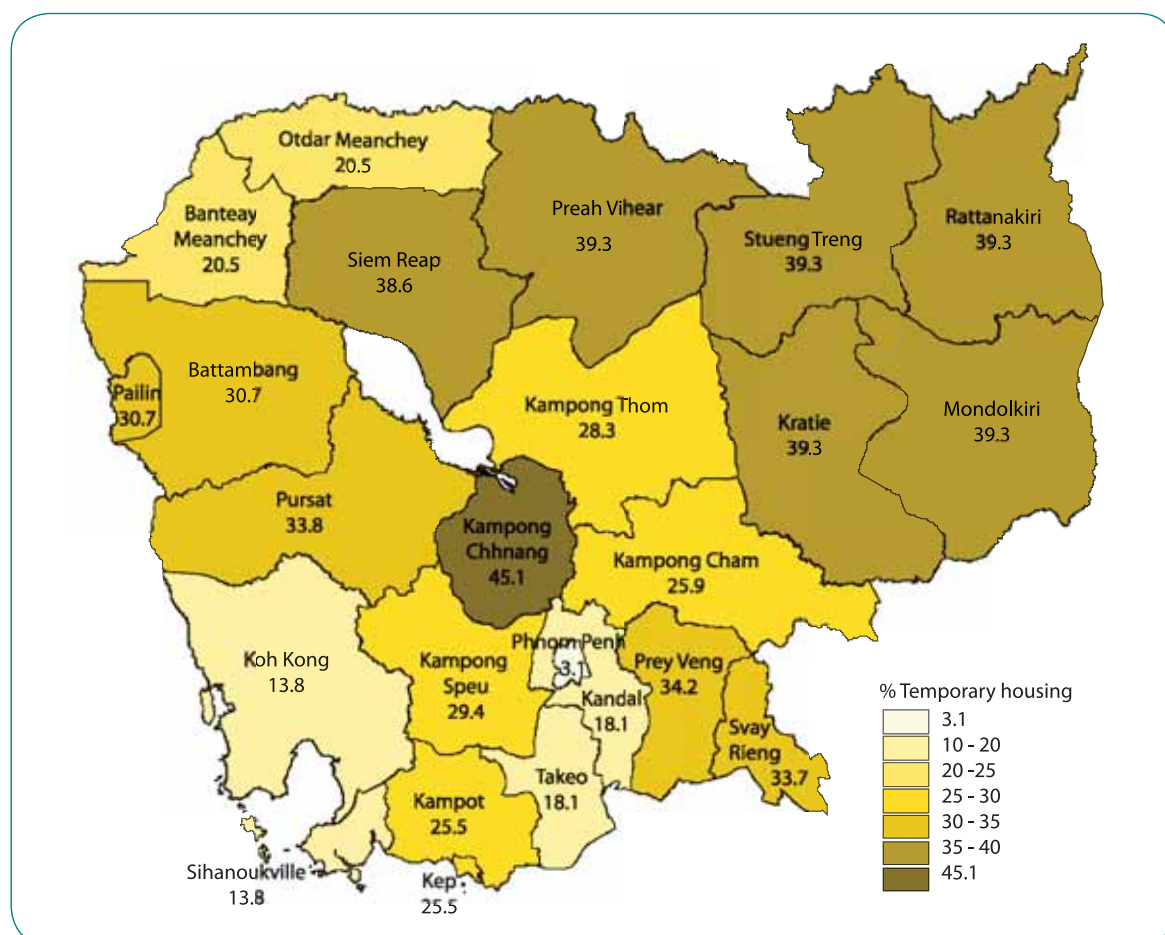
Results from the 2005 DHS indicate that 0.6 percent of adult Cambodians aged 15 to 49 are infected with HIV. While reduced HIV/AIDS infection rates are very encouraging, a note of caution is appropriate: as the country develops, it can be expected that women will have greater mobility, men will be more likely to be employed and educated, and wealth will improve generally for both men and women. All of these factors are associated with the potential for higher rates of HIV/AIDS infection in Cambodia; hence, continued close vigilance and efforts will be needed.

In 2004 the proportion of people getting potable drinking water was at most 40 percent – just four percent among the lowest-income one-fifth of the population

## Habitat

Large areas of Cambodia regularly are inundated during the flood season. Because of this, many people in those areas perennially dwell in temporary houses. In addition, newly settled populations live in temporary shelters until they are able to build more permanent houses. Field visits suggest that households in such residences usually lack basic facilities and hygiene; in some locales, security is a problem as well. Targeting development programmes to such households is fraught with difficulties for development agencies.

Figure 2.14: Percent residential structures classified as temporary, 2004



Source: CIPS-04

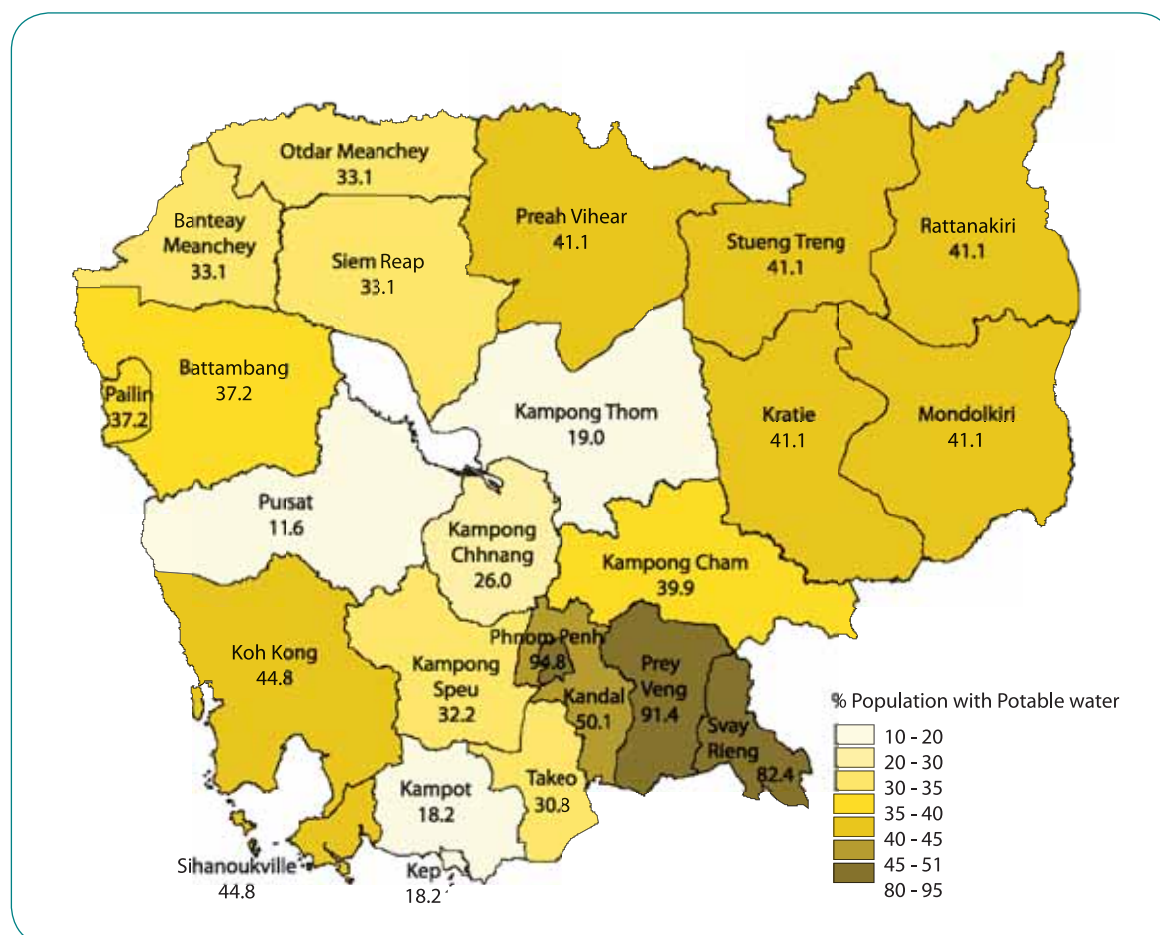
A large inter-province variation exists in the percentage of people dwelling in temporary housing. Kampong Chhnang, on the Tonle Sap, and some of the northeastern provinces have the highest proportions of populations dwelling in temporary abodes. The southern, more urbanised provinces have fewer of these temporary shelters (Figure 2.14).

## Water

Water is life, so goes the saying. Cambodia is not short of water in terms of absolute availability, but potable water is scarce. Among the main sources of infection and disease is untreated water consumed directly from unsafe water sources (rivers, lakes, ponds or unprotected wells). In 2004 the proportion of people getting potable drinking water was at most 40 percent – just four percent among the lowest-income one-fifth of the population. Outside Phnom Penh, Prey Veng and Svay Rieng, potable drinking water is in short supply

(Figure 2.15). Kampong Thom, Pursat, Kampot and Kep have the least availability of treated water. While on aggregate improvement has occurred since the last count in 1998, there is still considerable ground to cover.<sup>(11)</sup>

Figure 2.15: Proportion of population having access to potable drinking water, by province, 2004



Source: CIPS-04

### Key message:

1. Much more effective governance at the national and local levels, including much greater transparency, participation in decision-making and rule of law, will be essential to improving human well-being in Cambodia.
2. A broadening of the sectors and locations of non-agricultural economic activities will provide opportunities for many more people in rural areas to participate.
3. Further strengthening of rural health systems is needed to consolidate current achievements, address persistently high maternal mortality rates, and reduce parasitic ailments and water-borne diseases.
4. Real achievements in education remain elusive. An immediate challenge is improving primary school completion rates, especially for girls.

<sup>(11)</sup> The World Bank calculates that 59 percent of the rich have access to potable drinking water, compared to only two percent of the poor.

## 2.2 Development performance as seen through human development indices

Indices help in obtaining a composite picture of some of the important elements of human development. They also enable rankings of selected components of human well-being; however, no single index can capture all of human well-being's important dimensions.

### *International comparisons*

Cambodia ranks 129<sup>th</sup> out of 177 countries in the Human Development Index (HDI) 2006, according to the global HDR (Box 2.2). Compared to 12 selected low- and middle-income Asian countries (including ASEAN minus Singapore), Cambodia ranked in the bottom four; only Bangladesh, Lao PDR and Nepal ranked below it. Bangladesh and Nepal are very densely populated countries suffering from weak governance, and Lao PDR and Nepal face the considerable challenges of being landlocked. Lao PDR and Cambodia are transitional economies, but Cambodia regained peace and stability at a later date. Thus, low HDI is a result of several factors combined, including geographic isolation, excessive low-skill population density, lack of good governance and/or political turmoil. With peace and stability sustained for almost a decade in Cambodia, it is expected that its HDI ranking too will soon improve if appropriate governance structures are put in place and monitored.

The HDI and the Gender-Related Development Index (GDI)<sup>(12)</sup> both take into account the dimensions of a long and healthy life, knowledge and a decent living standard. The main difference is that the GDI reflects the inequalities between women and men in these achievements. Cambodia's GDI ranking is 97<sup>th</sup> out of 136 countries reporting GDI (70<sup>th</sup> percentile), while the HDI ranking is 129<sup>th</sup> out of 177 (72<sup>nd</sup> percentile). Although Cambodia's GDI and HDI values are almost the same, as in many other countries, gender gaps and inequalities remain when comparing overall indicators used to calculate HDI and more specific indicators used for GDI. In Cambodia a marked difference exists in female and male adult literacy rates, as well as differences in female and male enrolment ratios in education (especially at secondary and tertiary levels), and in estimated earned incomes, all in favour of men. The life expectancy for women is higher than for men, but as noted above, MMR remains among the highest in Asia (472 deaths per 100,000 live births).

The Gender Development Index is not usually addressed without also including the Gender Empowerment Measure (GEM) in the equation. The GEM focuses on inequalities – i.e., women's opportunities (women's political and economic participation and decision-making), rather than their capabilities. Cambodia ranks amongst the lowest in Asia on the GEM, 68<sup>th</sup> out of 75 countries, reflecting the very low level of representation of women in decision-making positions within the legislature, the executive branch and the judiciary. Although considerable progress has been made, national policies are largely responsive to gender equality and the advancement of women, and gender targets have been incorporated, concerted efforts are still required in order for women as well as men, and girls as well as boys, to participate in and benefit from development in Cambodia.

The Human Poverty Index is a non-income measure of poverty comprised of four variables, namely, illiteracy, IMR, underweight children and lack of potable drinking water. It places a higher emphasis on shortcomings or good performances compared to a linear measure like HDI, because it is exponentially rather than linearly defined (Box 2.1). Cambodia's ranking was 73<sup>rd</sup> out of 102 developing countries, according to the global HDR 2006. HPI scores for the 11 Asian countries under consideration suggest that Cambodia is lower on this count compared to the others save Bangladesh, although Lao PDR and Nepal fall close (Figure 2.16). These data point toward shortcomings in public provisioning of health, education, drinking water and sanitation in the country.

<sup>(12)</sup> GDI differs from HDI in that each of its constituents is first calculated from males and females separately and then aggregated according to the population composition, using a harmonic mean. Provincial GDI could not be constructed for lack of adequate sex-disaggregated data at the provincial level.

## Box 2.2: Computing Human Development Indices

The three indices calculated at provincial level in this report are HDI, housing-sensitive HDI and Human Poverty Index. A provincial Gender Development Index could not be constructed for lack of adequate gender-disaggregated data at the provincial level. The Human Development Index in this report has been computed at province level using equally weighted indices of:

HDI = 1/3 (inequality-adjusted consumption index) + 1/3 (literacy and net enrolment index) + 1/3 (Infant Mortality Rate)

### Cambodian modifications to facilitate provincial calculation of HD indices

These Cambodian innovations are used in the calculation of the HD indices in this report:

- While the normal HDR practice is to calculate the logarithm of the income, since the marginal utility of income does not contribute significantly to human development after incomes rise beyond a certain threshold, in the Cambodian case the absolute value of household consumption is preferred. No province has incomes or consumption levels thought to be high enough in absolute terms to warrant the logarithm of transformation.
- Per-capita household consumption substitutes for income because income data are not calculated at the provincial level in Cambodia. Moreover, consumption data are generally found more reliable than income. Per-capita household consumption has been multiplied by [1 - (Gini coefficient)] to weight consumption levels by differences in the distribution of consumption within each province.
- While HDR practice globally is to simply average the literacy rate and school Gross Enrolment Ratio, there are problems with calculating GERs (number of children in a class regardless of age cohort) when the school dropout rate is particularly high. Hence, the variable here is constructed from net admissions and literacy rate.
- In the calculation of the Human Poverty Index, IMR is substituted for life expectancy since the latter figure is not readily available at provincial level.
- An additional variable, percentage of population residing in permanent abode, is used for an alternative computation of HDI using four variables. The formulation of this variable is [1 - (houselessness index)] when calculating the alternative housing-adjusted HDI.

#### Data

- Household consumption from RGC (2006), while Gini coefficients for each province have been calculated from SES-04 primary data.
- Literacy rate for the population in the age group seven years and older from CIPS-2004.
- Net primary-level admission rates are obtained from the Education Management Information System (Ministry of Education, Youth and Sports).
- Provincial IMR levels from DHS 2005.
- Data on populations residing in temporary housing structures from CIPS-2004.

Dimension index = (Actual value – Minimum value) / (Maximum value – Minimum value)

Indicator	Maximum value	Minimum value
Household consumption	Maximum household consumption + 25%	Minimum household consumption – 25%
Literacy rate (greater than 7 years)	100	0
Infant Mortality Rate	Maximum IMR + 25%	Minimum IMR -25%
Net primary school admission	100	0
Permanent housing indicator	100	0

Human Poverty Index (HPI) has been calculated as:

$HPI = [1/3 (P_1^3 + P_2^3 + P_3^3)]^{1/3}$  where:

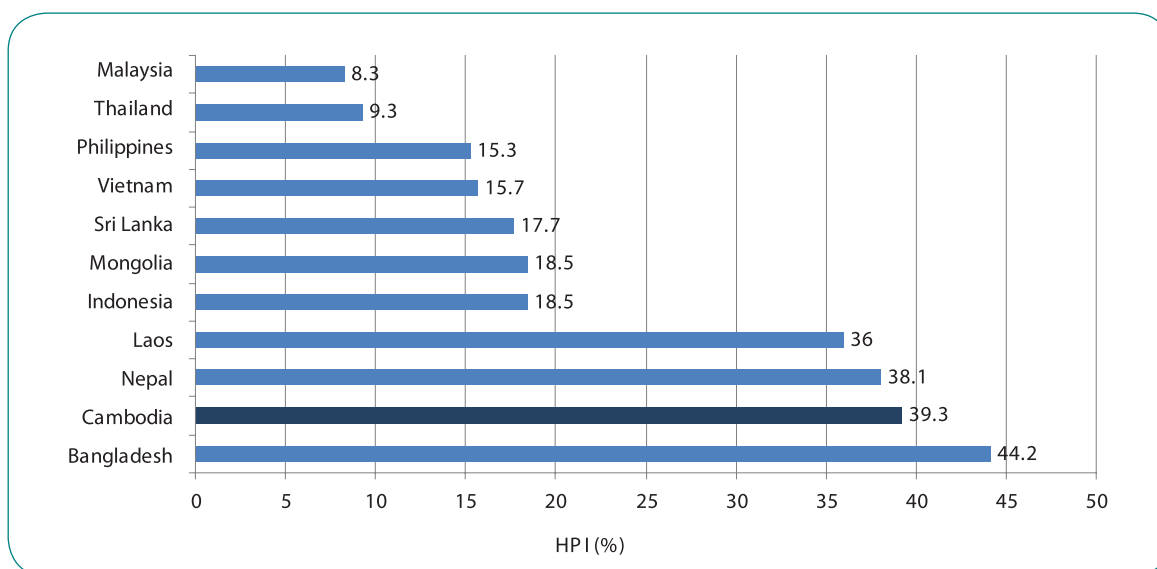
$P_1$  = Infant mortality rate (IMR, %).

$P_2$  = Illiteracy rate for age seven years and older (%)

$P_3$  = Average of the percentage of children underweight and the percentage of population without access to safe drinking water



Figure 2.16: Human Poverty Index in select Asian countries, 2004

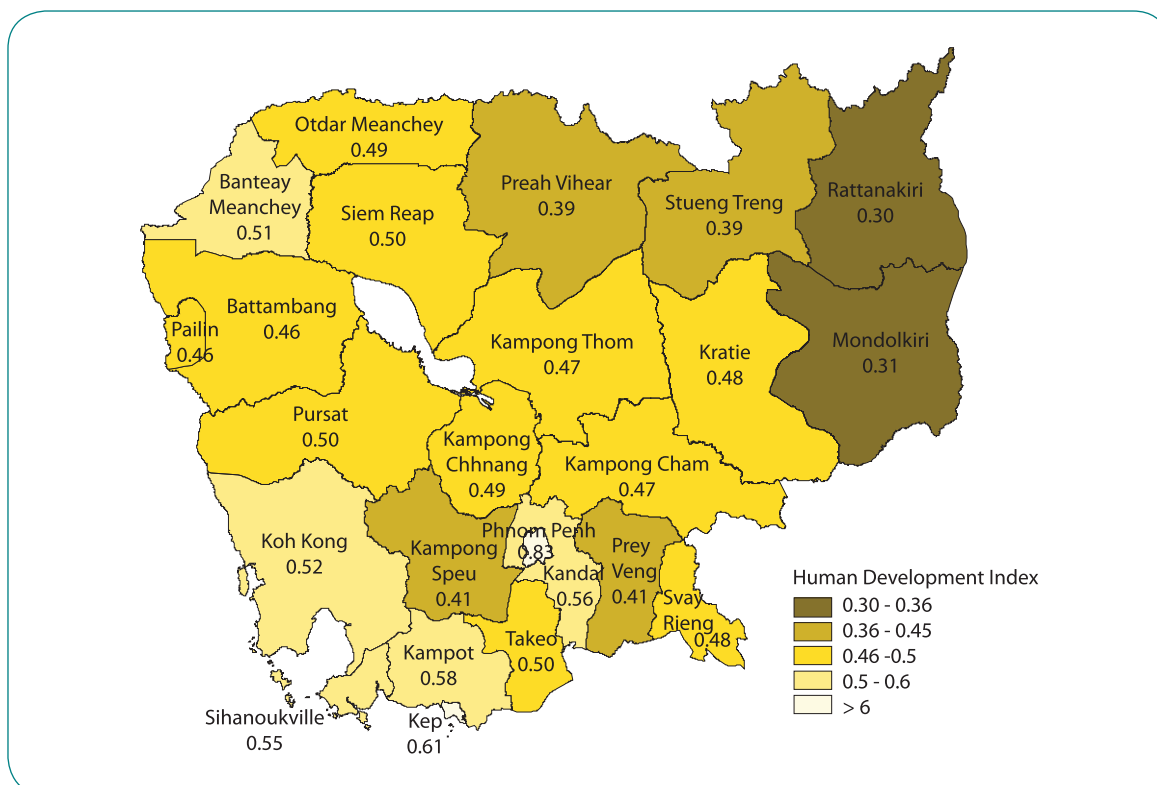


Source: UNDP (2006)

### Measuring human development within Cambodia<sup>(13)</sup>

Figure 2.17 presents the HDI values for each of the country's 24 provinces, computed according to the formulae given in Box 2.2.

Figure 2.17: Human Development Indices, by province, 2004



Data sources: See Box 2.2

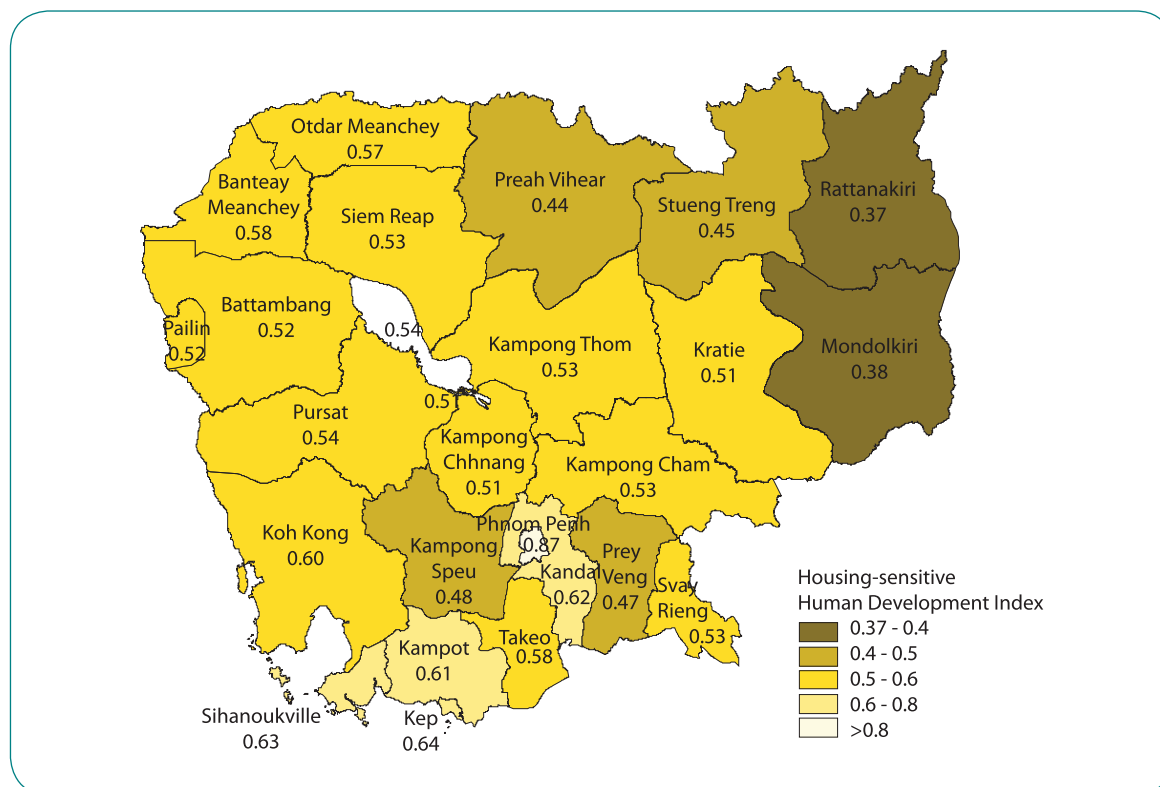
<sup>(13)</sup> The three indices presented in this section are HDI, housing-sensitive HDI and HPI. As noted elsewhere, GDI could not be constructed because of a lack of adequate gender-disaggregated data at provincial level.

## The following observations can be made:

- a. The four provinces in the northeast – Rattanakiri, Mondolkiri, Preah Vihear and Stung Treng—have the lowest HDI values. These northeastern provinces are sparsely populated and among the more remote areas of the country.
- b. Kampong Speu and Prey Veng also show low HDI values. Kampong Speu falls in a rain shadow zone, as a result of which agriculture is weak. In Prey Veng, annual flooding and excessive land fragmentation are partly responsible.
- c. HDI values of provinces on the Tonle Sap fall in the middle range.
- d. Phnom Penh enjoys the highest human development conditions (HDI=0.83), followed by Kep, Kampot, Kandal and Sihanoukville.

An additional HD index has been constructed by including a housing variable into HDI, for two reasons: 1. Communities residing on riverfronts and near flood-prone areas often lose their houses, and a situation of housing uncertainty implies greater resources required or living with uncertain housing tenure; 2. Displaced persons who have migrated within Cambodia often comprise households without a permanent abode. Both groups are captured by an index of permanent housing that has been incorporated into this modified housing-sensitive HDI for Cambodia.

Figure 2.18: Housing-sensitive HDI, by province, 2004

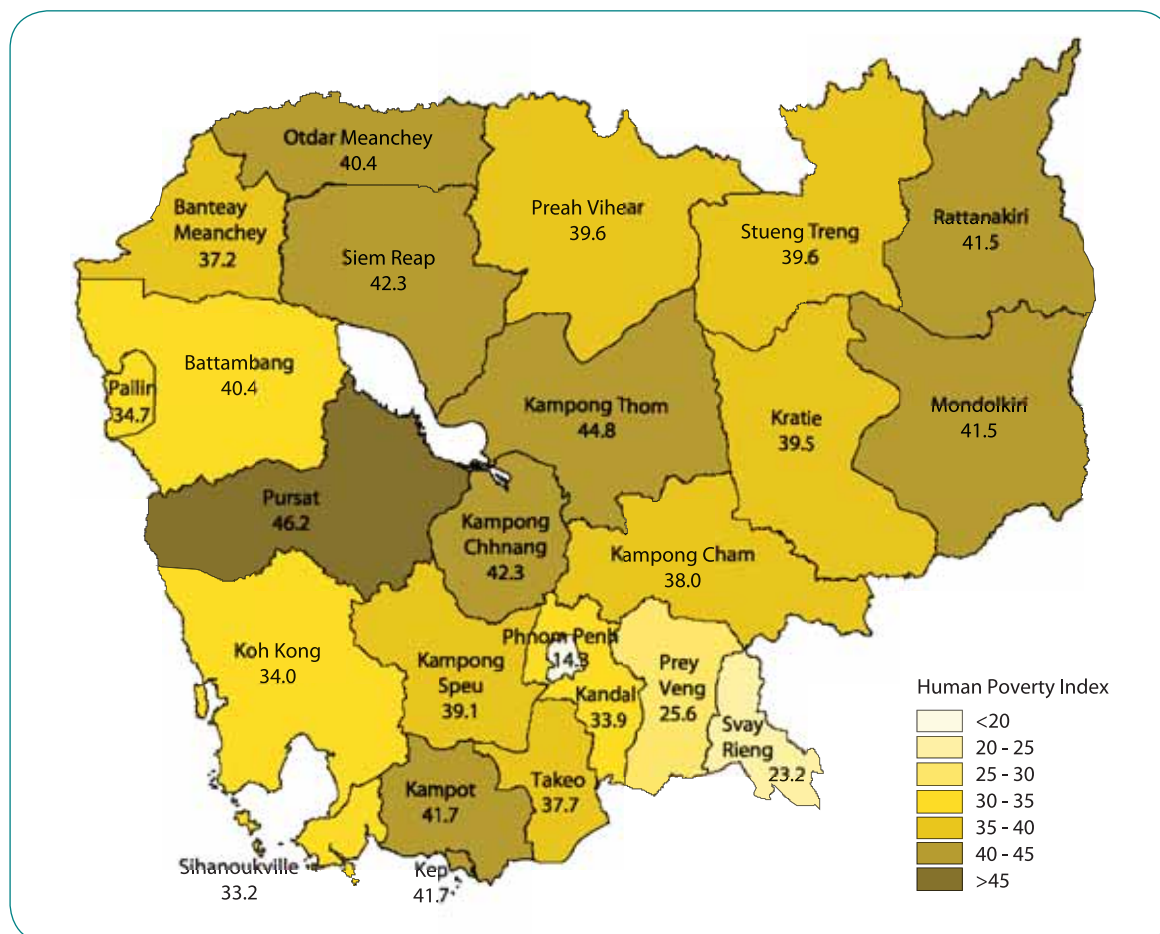


Data sources: See Box 2.2

Large differences exist between provinces in HD performance. A strong case can be made for more public investment in these provinces

Figure 2.18 presents the housing-sensitive HDI values for each of the 24 provinces. The provincial values are similar to the standard HDI (Figure 2.15), although some provinces have switched ranks. Kampong Chhnang, Siem Reap, Pursat and Prey Veng rank lower with housing-sensitive HDI, while Kampong Cham and Battambang have improved their ranking. Those provinces lower in the housing-sensitive HDI compared to the standard are in areas prone to flooding (Kampong Chhnang, Siem Reap), and also have received significant numbers of migrants (Pursat).

Figure 2.19: Human Poverty Indices, by province, 2004



Sources: See Box 2.2

A provincial map of HPI (Figure 2.19) shows that human poverty is highest around the Tonle Sap region. Most people in provinces surrounding the Tonle Sap earn their living from fishing; some live from forest incomes. Both sources provide incomes that are modest to low. These provinces also lack access to potable drinking water; thus, even those populations that might otherwise be well-fed tend to suffer from water-borne diseases, possibly leading to high HPI values. Conversely, provinces in the Mekong plains and Phnom Penh, Koh Kong and Kandal show relatively better rankings on the HPI scale, as in HDI. People's incomes often are better in these areas, where earnings come from paddy production and non-farm sources, in contrast to fish/forests on the Tonle Sap. In addition, relatively better public services are available in these provinces.

### Key message:

*Cambodia ranks low in human development among ASEAN and select other developing countries of Asia. Large differences also exist between provinces in HD performance. The least developed provinces are in the northeast and those around the Tonle Sap. A strong case can be made for more public investment in health, education and water supply in these provinces.*

## 2.3 Summing up

*Economic growth in Cambodia has been relatively high over the past decade... nevertheless, a still-high 34 percent of Cambodians still live below the poverty line*

- ❖ Cambodia has been emerging as a multi-party democracy since 1993, with a civil society presence and a developing media. However, problems with enforcing the rule of law persist. The most contentious issues centre on governance of land and security of land tenure.
- ❖ Economic growth in Cambodia has been relatively high over the past decade, at close to an average eight percent per annum, and poverty has steadily declined by about one percentage point per annum. Nevertheless, a still-high 34 percent of Cambodians still live below the poverty line. Provincial variations are found, with areas in the northeast and around the Tonle Sap among the poorest.
- ❖ Substantial progress has been made in literacy rates, but not all have benefited from this increase, particularly in Pailin, Battambang, Pursat and Kampong Chhnang. Large-scale migration has occurred in these provinces, and new settlements appear to lack basic facilities. The school dropout rates is high, especially in the northeast.
- ❖ Major strides have been made in saving infants and under-five children, but the continuing very high MMR requires urgent attention. In addition, nutrition and potable drinking water still are problematic in provinces on the Tonle Sap. Many families in provinces that are regularly flooded dwell in temporary abodes.
- ❖ On the HDI scale, Phnom Penh and other, more developed southern provinces and urban centres (Kandal, Kep and Sihanoukville) enjoy the highest levels of human development indicators. People in the sparsely populated northeastern provinces suffer the lowest levels of human development. The latter areas are inhabited by indigenous minorities, who likely are the most disadvantaged people in the country. What is surprising is that Siem Reap does not appear near the top on any of the HD indicators; the spinoff effects of tourism do not appear to have benefited the local populace. Human poverty is the highest in provinces around the Tonle Sap, which coincides with the high rate of consumption-based poverty levels there.





# CHAPTER 3





A better engagement of rural people in higher-value-added activities is clearly needed to substantially improve human development in Cambodia. For achieving a 'welfare-maximising' growth process, a range of institutional constraints relating to natural resource usage, optimal engagement of rural workers and distribution of gains will need to be addressed.

Cambodia has an asymmetric land and natural resource tenure system, defined by small farmers, fishers and the like on one hand and large concessionaires on the other, which in itself is a source of inefficiency and clash of interests. In recent years demographic pressure, an uneven penetration of largely unregulated market forces in a mainly subsistence economy, markets controlled by usury elements, lack of a full cadastral survey of land needed to clarify land ownership – all combined with weak governance – have together resulted in the deteriorating resource-population ratio.

This chapter diagnoses some of these institutional constraints and proposes possible approaches so as to improve the livelihoods of ordinary people. It examines (1) the current status of land, including fragmentation, ELCs and landlessness; (2) challenges that indigenous minorities face in holding onto traditional land rights; and the (3) effectiveness of SLCs in alleviating rural poverty. It also looks at (4) issues in land titling; (5) fisheries and livelihoods, including the rising dependence on fishing, as well as the impact of fishing lots; and (6) forests and livelihoods, including community forestry as an alternative form of forest management.

### 3.1 The current status of land <sup>(14)</sup>

#### Area, control and use

The geographic area of Cambodia is estimated at 18.1 million hectares (or 181,035 square km). The state owns 14.5 million hectares (80 percent) while 3.6 million hectares (20 percent) are with private entities. State land falls into two categories: 'state public lands' and 'state private lands'. Box 3.1 gives the definitions and Figure 3.1 shows the ownership pattern.

A full cadastral and land measurement survey is urgently needed to accurately determine current land usage. Available data suggest that forests occupy about 58 percent of the area (in some records it is 60 percent); grasslands, shrubs and inundated lands 15 percent; agricultural land 22 percent; and urban lands, water bodies, etc., about five percent.

<sup>(14)</sup> This section has drawn upon Ballard and So (2004); CDRI (2005); Chan and Acharya (2002); So, et al. (2001); and Chan, Tep and Acharya (2001), among others.

### Box 3.1: Classification of land

*The Land Law of 2001 details land by its use, ownership and control. The main categories are:*

- a.** State public property:  
This is land held by the State that has public and environmental interests, e.g., natural forest reserves, rivers, lakes, seashores and so forth. It is non-transferable, although it may be subject to temporary occupancy/use rights and logging concessions.
- b.** State private property:  
This land is owned by the State but not defined to have public interest. It is often idle land that could be put to other uses or transferred. These lands could be used for granting land concessions (for large plantations/commercial farming, mining or social concessions).
- c.** Private property:  
This land is owned by private individuals or entities. Private lands could be leased, used as collateral, inherited or transferred.

The Forest Law categorises forests as permanent forest reserves and private forests. Permanent forest reserves are located on State public property. These are classified as:

- a.** Production forests (for timber, non-timber products, degraded forests to be regenerated, etc.)
- b.** Protection forests (for biodiversity, environmental protection and maintenance of water bodies)
- c.** Conversion forests (idle State forest, mainly covered by secondary vegetation)

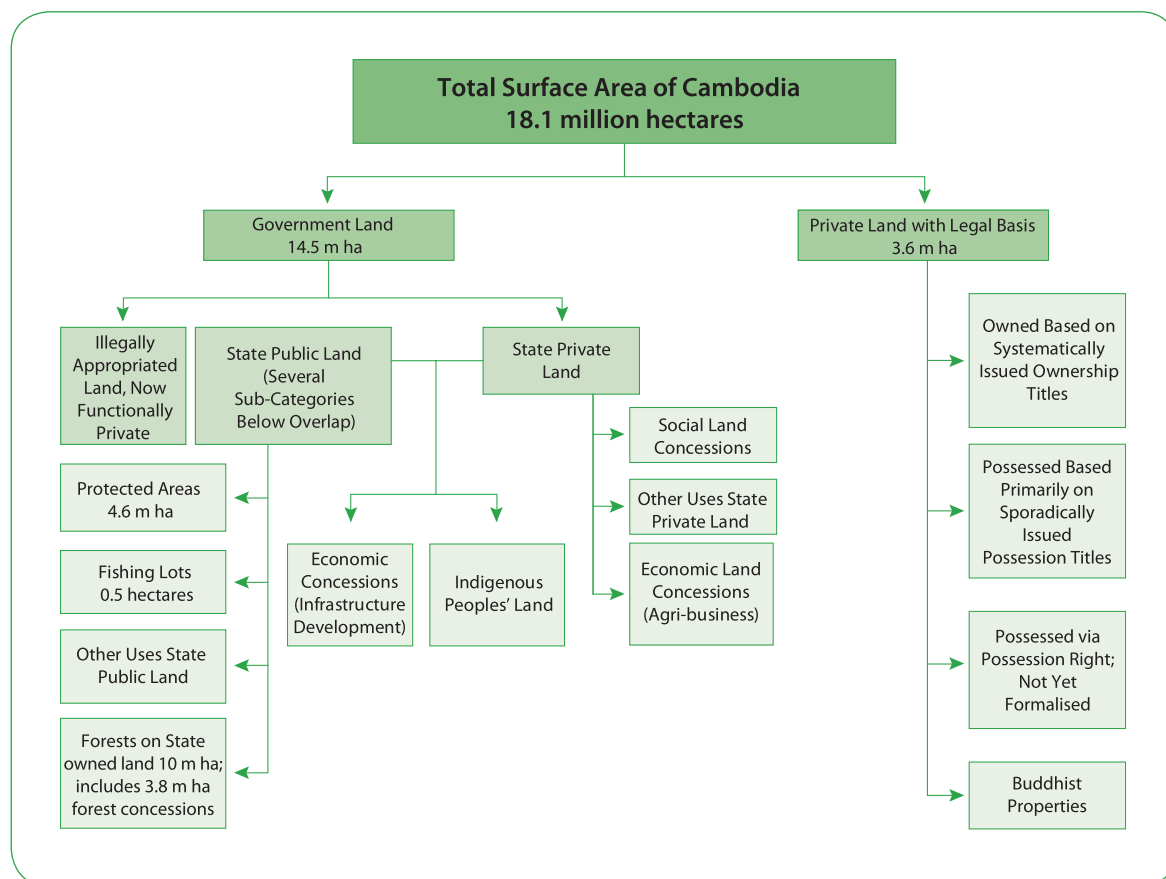
Private forests are those located on private property.

*The Fishing Law defines three scales of fishing:*

- a.** Large-scale fishing includes lots where concessionaires hold exclusive rights to commercial fishing for two years. They often use relatively large-scale gear and are spread on very productive fishing regions.
- b.** Medium-scale fisheries use smaller gear compared to large-scale operators. They earlier required licenses for their gear; this is relaxed now. Seasonal restrictions are placed on fishing as well.
- c.** Small-scale fishers use small (traditional family-type) gear. They are permitted open access to fishing anywhere except in lots given out in (a) and (b) above.



Figure 3.1: Overview of major legal categories of lands and waters in Cambodia



Source: GTZ (2006)

### Box 3.2: Agricultural land through the last century

Few if any, historical records of land exist in Cambodia. Nonetheless, it is widely believed that in the pre-colonial period (prior to 1840) all land belonged to the sovereign, but farmers could freely cultivate as much as they could, with perhaps a small obligation of paying a token tribute to the ruler.

Modest means of cultivation and limited needs – Cambodia was an agrarian society where needs were defined more by subsistence than profit – kept individual land-holdings to no more than one to two hectares. There was no shortage of agricultural land experienced as the population was small (less than one million) in the 1840s; for this reason, there were no markets for land either. Land was not a tradable entity.

Through the late-19<sup>th</sup> century to the 1930s the (French) colonial administration attempted to introduce the system of private property and formal land ownership [Land Act 1884] but they were not entirely successful. Some limited progress was made in the rice-growing plains of the Mekong Delta and the Tonle Sap Lake, but vast areas outside the plains (the west, north and northeast) were left untouched. In the immediate post-colonial period (i.e. 1953-1975), the government continued with the same land system left behind by the French. Success in land codification, privatisation and commercialisation again remained limited during this period. Productivity was not high, yet the country exported rice procured at low prices as the surpluses came from 'area expansion' rather than 'yield expansion'. Reports suggest that farmers became heavily indebted and many lost their (small-sized) holdings owing to the tight control of traders over the agricultural commerce.



Change occurred radically when the Khmer Rouge (1975-79) collectivised all land, erased land records and institutional memories of land, and also shuffled populations across the country. All demarcations that identified land boundaries on agricultural lands were removed; instead, land was divided into larger plots more suited to receive waters from the newer irrigation structures being planned. This collectivisation is the basis of many current land problems.

During the 1980s, land was reorganised into small collectives—the *Krom Samakis* (25-30 families)—who were to share their resources for cultivation. Eventually, land began to get privatised by the mid-late 1980s. In 1989 the government formalised the privatisation process through Sub-decree 25. Any claims prior to 1979, however, were not recognised. Agricultural lands were, in principle, distributed to farmers almost equally, being guided by the number of persons in a household (larger households got more). Individual farmland plots were not to exceed five hectares; for larger plots meant for plantations, concessions were granted. There were problems, though: land was already fragmented into smaller pieces and many families got lands in fragments not necessarily located in each other's vicinity. Also, not all fragments allocated were free from contested claims. Absence of cadastral exercises and other arbitration mechanisms did not always permit settlement of these claims. *The then law further stated that in the event that land stays unused for more than three years, it should revert back to the state.* This, however, has not been strictly followed. The (subsequent) Land Law of 1992 recognised only possession rights, not land ownership, in rural areas. Following its promulgation, applications for certificates to confirm occupancy and use rights were invited. Some four to six million of them were submitted, but only about 15 percent received land-possession certificates until about 2001 owing to limited capacities for processing the cases. Issuing of land titles in 2006 was no more than 20-25 percent of the total number of applications; 0.57 million through the systematic route (i.e., on government prerogative) and 0.58 million through the sporadic route (i.e., on client request), as of December 2006.

Put succinctly, evolution of land markets and agricultural commercialisation were slow and patchy through the last century. In some parts (e.g., the major rice fields in the Mekong delta and around the Tonle Sap) sedentary farming took firm root much earlier – records suggest that even during the colonial era, there was a levy on rice. In other areas (e.g., the northwest, northeast) the old custom of claiming land by felling trees prevailed for much longer and still prevails in small parts today. In the past and even today, land is claimed first, and then the authorities are requested to legitimise the claim, if at all. There has been (and to an extent, still is) prevalence of shifting cultivation in the northeast. In such areas, the notion of land ownership is common rather than individual. These attitudes are now gradually changing.

There is great hope that full implementation of the new land policy and other rural development packages will bring about a much awaited change.

Sources: Boserup (1965); Thion (1993); Chandler (1993); Chandler (2006); Box 1.1 in this report

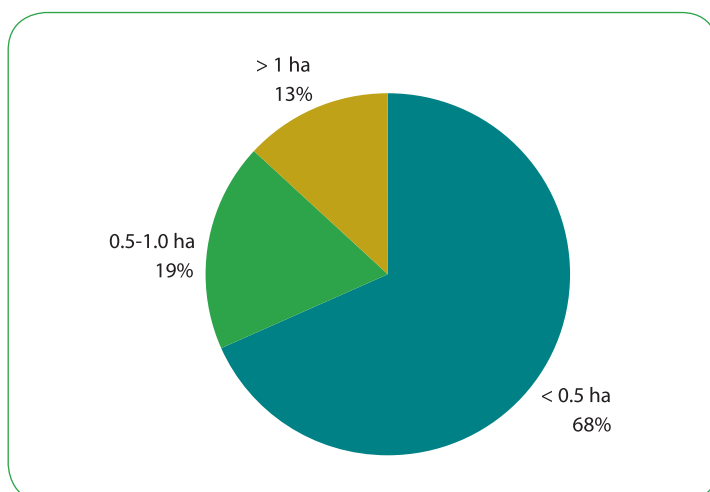
### Agricultural land sizes and land fragmentation

Land under small farmer cultivation, measuring about 2.46 million hectares, consisted of 3.59 million land parcels according to the SES-04. The mean parcel area is 0.69 hectares and does not vary significantly with population density. Even in Mondolkiri, with a low population density, land parcels remain small. That land fragmentation is high also can be seen from the fact that about 68 percent of agricultural plots are 0.5 hectares or less, while only about 13 percent are larger than a hectare (Figure 3.2). Various estimates of the size of ownership holdings per household are obtained from different sources (Figure 3.3). Irrespective of the data source, the average household landholding is in the range of 1 to 1.4 hectares; female-headed households typically own smaller holdings compared to those headed by males.<sup>(15)</sup> The aggregate agricultural land-to-worker ratio works out at 0.465 hectares.

<sup>(15)</sup> A single household can own multiple parcels of land.



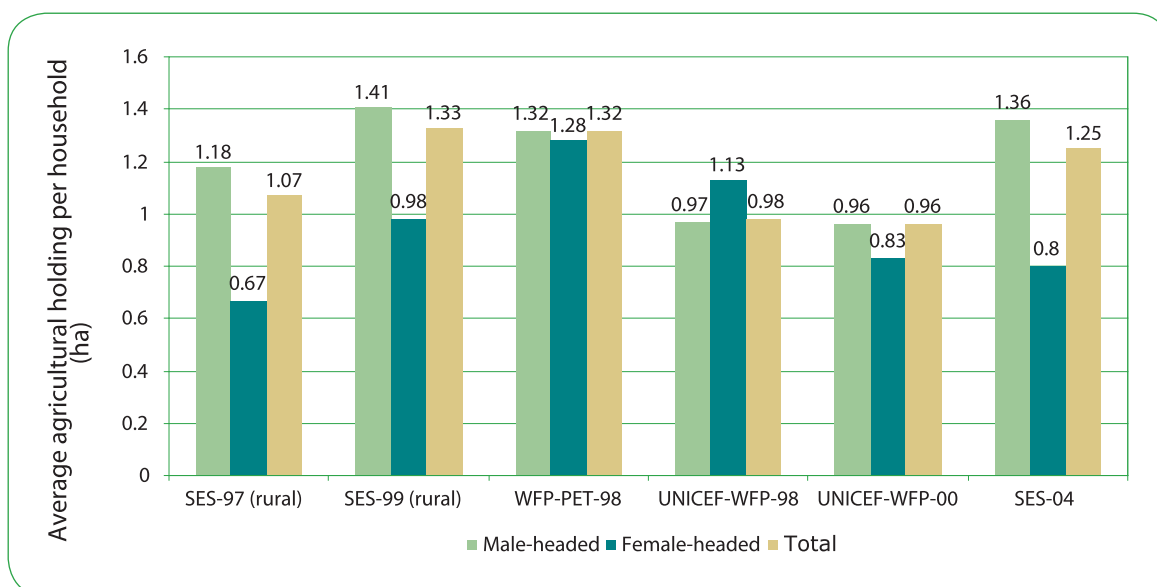
Figure 3.2: Agricultural land parcel distribution (%) 2003-04



Source: SES 2003-04

If the component of GDP derived from crops is divided by workers engaged in agriculture, the earning from crop activity is US\$128 per worker in a year (for 2004, at constant 2000 prices); if livestock are included, the total is US\$171 per worker, which contrasts with a per-capita GDP of US\$340 in that year. All these numbers speak to the issues of small landholdings (parcels and ownership holdings), adverse land-worker ratio and inadequate incomes earned.

Figure 3.3: Average agricultural land per household (in ha), different surveys <sup>(16)</sup>



## Economic Land Concessions

At the other end of the spectrum, the Government has granted ELCs since the 1990s, with concessions often several thousands of hectares in area. These continue to be given, and at an increasing rate; three times more concessions were granted in 2006 than in 2005. The rationale behind this policy is that ELCs would boost commercial production of mainly non-paddy crops and plantations (teak, eucalyptus, palm oil, corn, sugarcane, cassava, rubber, cashew, castor, corn and beans, among others). They also are expected to raise tax revenues and rental income for the State. In February 2007, land under ELCs consisted of 943,069 hectares (signed agreements with 57 companies) and 64,208 ha (unsigned agreements with nine companies).<sup>(17)</sup> Legally, a single concession should not exceed 10,000 hectares, but many are much larger (Figure 3.4); the largest is 315,028 hectares, consisting of two contiguous concessions in Pursat and Kampong Chhnang provinces given to the same company. In several cases, concession lands

<sup>(16)</sup> Baseline-98 and Follow-up-00 were large surveys (though not country-representative) conducted by UNICEF-WFP, while the PET survey (Protracted Emergency Targeting, again not representative) was conducted by WFP alone. SES-97 is the Socio-economic Survey conducted in 1997.

<sup>(17)</sup> Source: Ministry of Agriculture, Forests and Fisheries (MAFF).

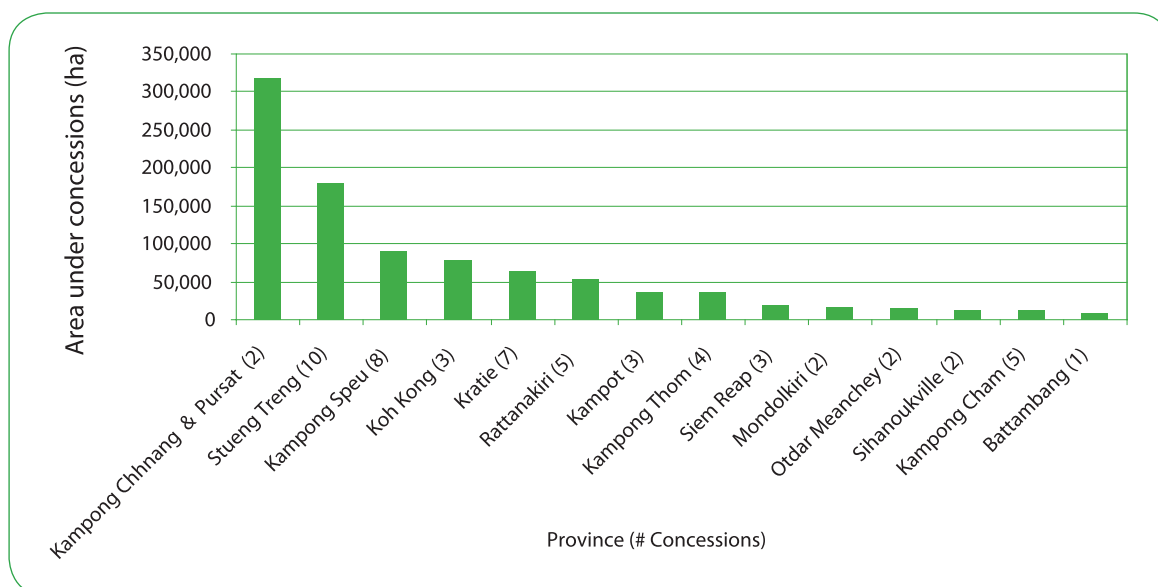
*Concessions often are given out without following the due legal process and with little transparency... the area cultivated by them represented just 1.8 percent of the total concession area*

are leased out with standing trees, which concessionaires have felled or are in the process of felling.<sup>(18)</sup> Concessions often are given out without following the due legal process and with little transparency. At the end of 2005, as few as eight out of 32 companies holding concessions were actively cultivating land, and the area cultivated by them represented just 1.8 percent of the total concession area. Among the reasons for the low level of cultivation of concession land are:

- a. Large-scale assignment of land to concessionaires without cadastral exercises has resulted in disputes with local farmers.
- b. Land has been set aside for speculation. The Government has cancelled 30 concessions over time (265,230 ha) because of inactivity, but much land still remains unused.
- c. Some lands reportedly are being used for timber harvesting.

Despite low levels of cultivation of concession land in general, negative impacts still are being experienced in some concessions as a result of civil or agricultural works. Some adversely affect the local ecology and greatly harm small farmers' interests outside the concessions (e.g., through changing the course of streams or cutting trees). Further emphasising the lack of benefit to the country, the State has yet to receive any significant revenue from these works.

Figure 3.4: Size of land under signed Economic Land Concessions, by province, February 2007



Note: Figures in brackets are the number of concessions in a province. Concessionaires total 57 in all. Source: MAFF (<http://maff.gov.kh/elc/overview.html>)

Economic Land Concessions that are not used at all or not used to their full potential can be seen as handicapping agriculture's contribution to GDP as well as opportunities for numerous poor households to engage in agricultural activities on a more profitable, sustainable basis.

### Speculative land purchases

Some prime land (often peri-urban or on roadsides) is being purchased for speculation. The land is then cordoned off and left largely uncultivated, a loss to both society and the economy. Prosperous interests, knowing the commercial potential of these land plots, purchase these from farmers who have little knowledge about possible future increases in land prices. This asymmetry of information thus works against the interests of the land sellers, who are often farmers. The law pertaining to taxation or confiscation of unused land has not been enforced.

<sup>(18)</sup> Sources: UNHCHR (2004); EFCT (2005); Thanh (2005).

Between 1999 and 2003-04, the share of land held by the poorest two-fifths of the population reduced from 8.4 percent to 5.4 percent, while that of the richest one-fifth rose from 59 to 70 percent

## Agricultural land inequality and landlessness

Cambodia has a particularly unusual history of land tenure, with land being near-equally distributed in 1989. Each household received up to five hectares, the amounts being related to the size of the household, but not necessarily in one consolidated land parcel. Because of varied agro-climatic conditions, diverse household types, differing and changing market conditions, disparate demographic situations and even conflict over land, many farmers could not – or did not wish to – retain all or part of their land plots. Land has thus been split, sold and re-sold. It has been seen from successive field surveys that, over time, land acquisition is more by purchase than otherwise.

Land inequality has risen, which can be assessed from the fact that between 1999 and 2003-04, the share of land held by the poorest two-fifths of the population reduced from 8.4 percent to 5.4 percent, while that of the richest one-fifth rose from 59 to 70 percent.<sup>(19)</sup> Rural landlessness was estimated at 20 percent in 2003-04 (SES-04, Figure 3.5); this is higher among female-headed than male-headed households. Based on trends in landlessness in the late 1990s and early 2000s, it was believed that agricultural landlessness could be rising by about two percentage points each year; SES-04 confirms much of that belief. These statistics, however, may not accurately reflect landlessness, since not all households and workers are necessarily agriculturalists: they fish part-time and engage in other income-generating or socially useful activities otherwise. Moreover, not all persons without land are necessarily poor.<sup>(20)</sup>

Figure 3.5: Agricultural landlessness estimates

Data source	Estimated landless household rate (%)
LADIT 2004	11.9%
LADIT 2000	12.0%
SES 2003-04 (rural households)	20.0%
SES 1999 (rural households)	15.8%
SES 1997 (rural households)	13.0%

The LADIT data (two surveys, 2000 and 2004), though not representative of the country, come conceptually closer to explaining landlessness because these surveys interviewed agriculture-dependent households. These suggest that landlessness could be in the range of 11 to 12 percent. Among the landless, 80 percent in 2004 had never had land (up from 54 percent in 2000).

Reasons for this include new family formation, in-/out-migration, and the fact that many lands on which the landless dwell are inundated. Among those who lost land, distress land sales to pay for urgent medical expenses were the main reason cited. The landless identified in the LADIT surveys should be of greater concern because these farmers have been predominantly agriculture-dependent. Finally, the data identify many who own very small areas of land, not sufficient for earning livelihoods; 'land poverty' thus also is a concern.<sup>(21)</sup>

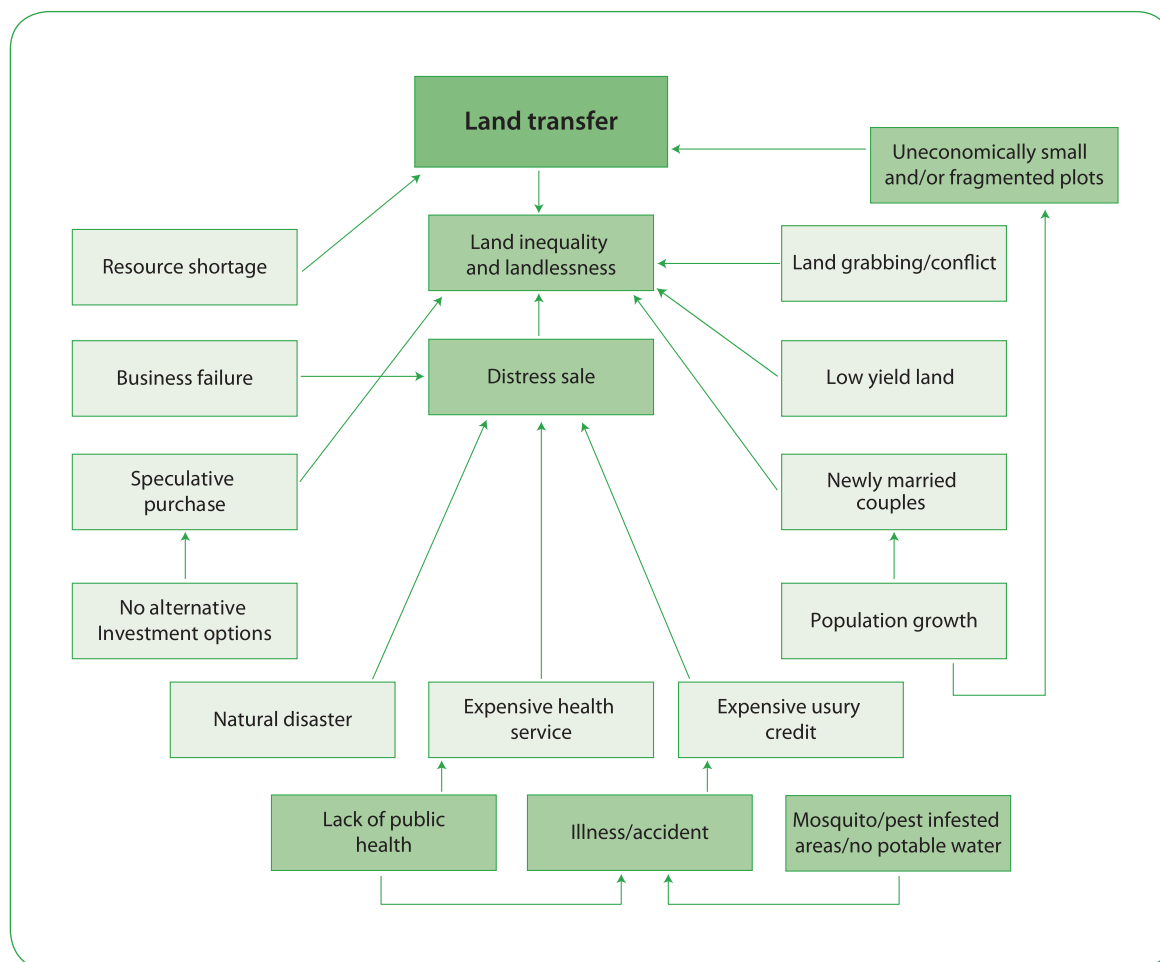
The emerging agricultural land inequality and landlessness is an undeniable and growing problem. It impoverishes farming communities and increases inequality and conflict in the country. An overview of the causes of land inequality and landlessness is provided in Figure 3.6.

<sup>(19)</sup> See SNEC-Harvard University (2006), p. 16.

<sup>(20)</sup> Anders and Kokko (2006); Ballard and So (2004); ACI (2005).

<sup>(21)</sup> See Biddulph (2000); Biddulph (2004). An ongoing Oxfam study of 300 villages suggests that excessive land fragmentation and land poverty are reaching alarming proportions.

Figure 3.6: Reasons for land changing hands and the consequent inequality and landlessness



Source: Various CDRI and Oxfam studies

### Optimum farm/plot size

In much of Asia, a longstanding debate has existed over whether to promote small-farm agriculture or consolidate land. The debate often has occurred in the context of land reform in the post-colonial period (Box 3.3).

To examine this issue in Cambodia, data from SES-04 on agricultural plot-size groups was plotted against paddy yield rates (Figure 3.7). This figure suggests that there is an inverse relationship between plot size and productivity. It is more prominent in the wet season paddy rather than dry season paddy. Wet season paddy is usually grown using traditional technologies and few modern inputs. The yield ranges between 1-1.8 tonnes/hectare depending upon the region (reference year: 2003-04). In comparison, dry season paddy is grown under relatively more controlled conditions with application of some modern technologies and inputs. The yield often exceeds two tonnes a hectare. The inverse relationship thus holds more prominently for operations under the more traditional farming methods. Common sense too suggests that farmers with few means and knowledge (draught power, working capital, etc.) will not be able to effectively till and harvest large plots.

### Box 3.3: Small farms and productivity – essence of the debate

The deliberation on small farms versus large ones goes back to the 1960s and 1970s, when from all over Asia evidence showed that small farms yielded more in terms of tonnage of grain per hectare. Small farms are usually subdivisions of fertile lands due to inheritance, since all heirs want fertile land plots, while a higher labour-land ratio – particularly family labour – permits better crop care even though the marginal productivity of labour might be close to zero.

This result held true for subsistence farms, which mainly used traditional means to till land and substituted a lot of own (non-priced) labour for other factors of production. With the advent of the Green Revolution technologies and a transition to market economy (away from subsistence), it was found that while chemical-biological technologies were quite size-neutral, mechanical technologies were not; they performed better on relatively larger farms.

Other than productivity, land-use and equity aspects too have been discussed. Smaller farms in Asia were found to be more intensely used compared to larger ones, which at times were left completely or partially fallow. In addition, small farms permitted a broader distribution of gains compared to larger ones. Again, with a transition from a subsistence to a market economy, the equity-generating advantages of small farms also eventually diminish as rural people find higher-value-added livelihoods in non-farm sectors.

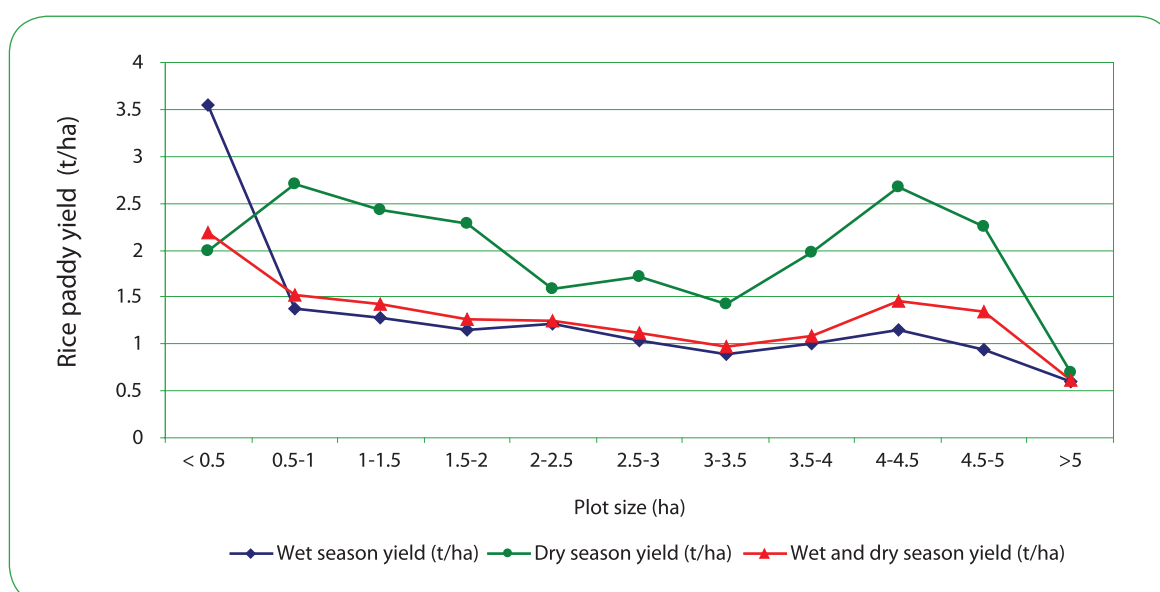
#### Origins of the debate:

This debate was generated to assess whether the earlier European experience of large-scale land consolidation would apply to Asia as well. The debate, begun in the 1960s for East, Southeast and South Asia, concluded that small farmers are more efficient under traditional technological and land-use patterns, but efficiency neutrality sets in with modern High-Yielding Varieties (HYV) technology application and production for the market.

In Cambodia, lands have been given out on concessions for promoting commercial farming. However, the literature has never advocated consolidating lands to the current sizes of present Cambodian Economic Land Concessions. In terms of welfare, when there is a large proportion of workers dependent on land and the arable land-to-labour ratio is what it stands at here, such large concessions appear out of place.

Sources: Bardhan (1973); Bhardwaj (1974); Barret (1993)

Figure 3.7: Paddy yield rate (t/ha) by plot size in wet and dry seasons and combined, 2003-04



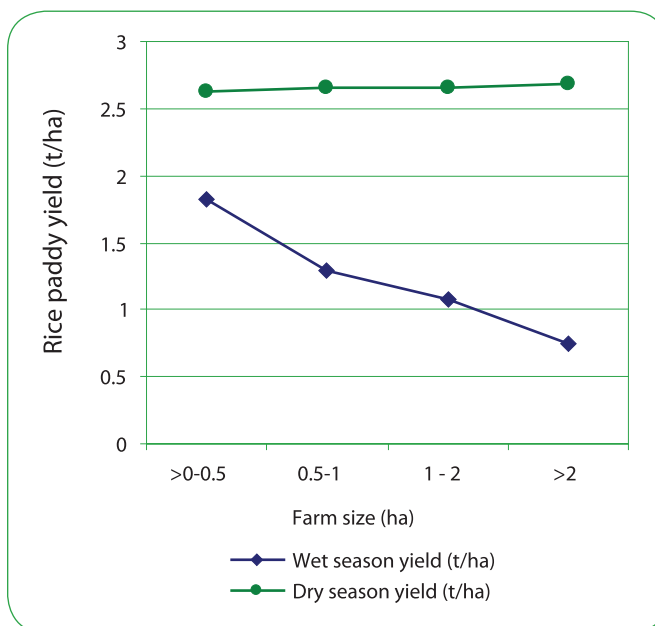
Source: Calculated from SES-04

Drawn from a study of nine villages spread across agro-climatic zones, data on *farm size* (Figure 3.8, as against *plot size*, as presented in Figure 3.7) suggest a similar result, with the difference that the yield rate of dry-season paddy is not affected by farm size.<sup>(22)</sup>

Seen from a productivity perspective, both data sets suggest that smaller farms and plots are desirable under the present conditions; e.g., with crop operations mainly restricted to the wet season (85 percent of area), and low modern input application. It appeals to the equity argument as well: Since many farmers possess few means of cultivation and arable land is limited, smaller plots/farms will result in more widely dispersed incomes. A clear inverse relationship exists between farm/plot size and productivity for the wet-season paddy (traditional cultivation methods), but this pattern is less evident when it comes to dry-season rice cultivation (more modern cultivation methods). This relationship suggests that a small farm is desirable, *but there is a need for a definition of how small is 'small.'* This requires an examination of not just the productivity, but also the overall *incomes derived from land.* From a livelihoods perspective, however, what matters to farmers is household income. Figure 3.9 shows that in Cambodia, profitability from the paddy crop (profit per household) is higher in larger farms in both growing seasons, with this pattern being stronger in the dry season. Field studies suggest that plots or combined ownership of less than 0.6 hectares are

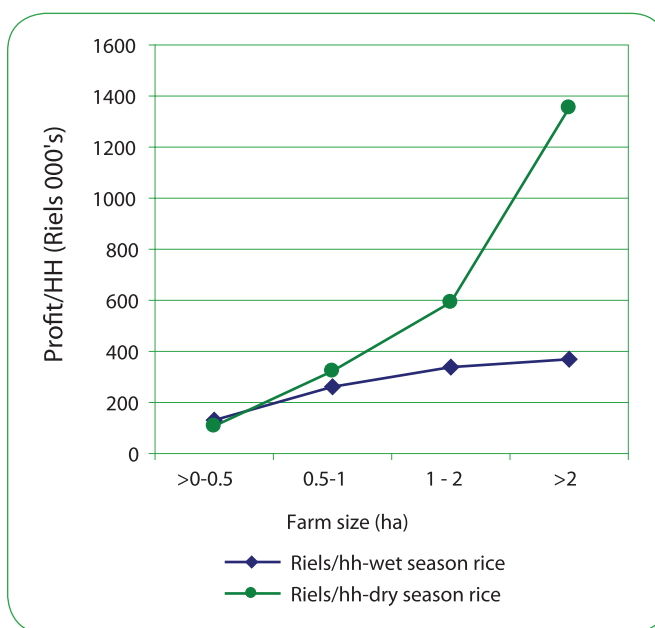
unlikely to fetch enough income even for the household's basic food needs.<sup>(23)</sup> For maintaining a minimum acceptable standard of living primarily from land, households must have a minimum landholding, irrespective of what the farm size and productivity argument suggests. Smaller farms are less likely to have sufficient resources to invest in improving productivity, e.g., through irrigation. Often this leaves smallholders more vulnerable to the market and climatic shocks of flood and drought.<sup>(24)</sup> Because of these

Figure 3.8: Farm size and yield rates (t/ha) from nine villages



Source: Chan and Acharya (2002)

Figure 3.9: Farm size and profitability ('000 Riels/household), results from nine villages



Source: Chan and Acharya (2002)

Seen from a productivity perspective, both data sets suggest that smaller farms and plots are desirable under the present conditions

<sup>(22)</sup> World Bank (2006) and Anders and Kokko (2006) have statistically estimated the relationship between the value of produce and farm size in a multivariate framework to find a strong inverse association. ACI (2005) had analysed the farm size and productivity (dollars of value added) relationships by plot size-specific data to find that plot sizes of three to ten hectares are most optimal in the country.

<sup>(23)</sup> EIC (2006), p. 8

<sup>(24)</sup> Drawing upon savings is the most common option for overcoming flood and drought losses. But very small operators could be poorer than even the landless, implying that they have no savings (CDRI 2006, Auffret 2003).



problems, they rent out or sell their plots, engage in wage labour, migrate out, fish or forage.<sup>(25)</sup> Therefore, policies to prevent further fragmentation of land and provide mechanisms for land consolidation can build a platform to both stabilise livelihoods of small farming families and improve productivity.

Many other countries have proactive policies to consolidate geographically scattered, uneconomically small land fragments (Box 3.4). These experiences are worthy of review to determine their appropriateness for adoption in Cambodia.<sup>(26)</sup>

### Box 3.4: Land consolidation and reorganisation – international experience

Land consolidation needed to justify large investments (e.g., irrigation) and productivity, as well as making livelihoods of farmers more viable, has been recognised for more than 150 years. The first official policies date back to 1847, enacted by the British colonial administration in Bombay Province, India. Through the 1950s and 1960s, Belgium, Chile, Egypt, India, Iraq, Japan, Lebanon, Mexico and Syria, among others, formally adopted land consolidation laws.

*Each country has had a different history and agro-ecology of land; hence, the rational minimum landholdings, methods of land consolidation and extent of success of these policies have varied.* The following examples illustrate:

1. One approach followed has been a refusal by cadastral authorities to register agricultural land plots if they are smaller than minimum permit size. Thus, if a land plot is subdivided into two or more (due to inheritance or otherwise), the legal records will enter only those plots of at least a minimum size, while smaller fragments would be a part of recognised contiguous plots (India).
2. In some cases, very small plots are merged with unused State-owned lands, which are then reorganised and redistributed to the concerned very small plot owners and other landless (India).
3. In the event that some farmers' land plots become too small because of land acquisition for non-agricultural or other development purposes, affected farmers are compensated with land elsewhere. In the event of non-availability of land, cash compensation has been offered. Over time, it was found that farmers could not easily switch to other livelihood options; thus, in select cases it was decided that they would be provided employment (unskilled work) on development projects (e.g., long-term job contracts in the event that land is acquired for railway lines, roads or urbanisation), in addition to the cash compensation. In the event that farmers take up off-farm activities, they are trained in certain skills and provided easy loans/grants to set up shop (South Asia, China).
4. Sometimes land consolidation has been more in the spirit of land reorganisation, so that irrigation water could reach those lands. Land is acquired and redistributed after its reorganisation (not necessarily in the same sizes as earlier), so that all lands can benefit from canal waters and surface flows (Republic of Korea).

In each case, the extent of success has depended upon political will and judiciousness in carrying out the exercise. For example, land consolidation in the Indian state of Punjab has been more successful, while in the state of West Bengal it has been less successful. In the Republic of Korea, the success level has been rated high. Cambodia will have to study each case to identify which policies and instruments could be most suitable to its environment.

*Sources: GOI (1976), pg. 187-236; Wade (1982); World Bank documents on rehabilitation and resettlement*

<sup>(25)</sup> On tenancy of small plots, see Kim, Chan and Acharya (2002). ACI (2005) also finds farm size-productivity results similar to those in Figures 3.8 and 3.9, using 2005 data from all agro-climatic zones of Cambodia.

<sup>(26)</sup> In South Korea, agricultural lands were consolidated and redistributed in the 1960s and 1970s to ensure more optimal land utilisation. Indian land policy permits consolidation of uneconomically small land fragments.

Many small farming households, including women farmers, may possess plots measuring as little as a quarter of a hectare or less. They also may be engaged part-time in fishing, foraging or work for a wage. How can policies enhance their livelihoods? Because such farmers are unable to effectively till their lands in the absence of working capital, draught power and so forth, maintaining these livelihoods under current conditions will only ensure that many of these households continue to live in poverty. Some countries have developed innovative options, including markets for hiring in/out draught power, sharing irrigation equipment, purchasing water for irrigation or collectively purchasing fertilisers and seeds to save on costs. Cambodian initiatives and policies can be developed to initiate such community practices that provide the benefits of economies of scale not normally available to small individual landowners, and can test these on a pilot basis to check their Cambodian appropriateness.

Certain crops like commercial plantations can reap economies of scale if cultivated on a large scale – hundreds, if not thousands, of hectares. Cambodia is a suitable agro-ecological zone for some of these commercial plantation crops with developed world markets. As already seen (Figure 3.4), the current legal limit on ELCs is not observed in all cases. Therefore, any policies to develop commercial plantations must be associated with clear guidelines on upper limits of ELCs and transparency in their allocation, thus preventing misuse of land under the pretext of economies of scale.

### Box 3.5: Small farmers' cooperation – Sri Lanka

The average size of a farm in the Mahaweli Restructuring and Rehabilitation Project (MRRP), Sri Lanka, is about one hectare. Water users' associations (WUA) were formed, which began to decide what to grow and when. With private initiative, water was considerably saved and productivity increased. The WUAs then organised bulk purchases of fertilisers, HYV seeds and other inputs at competitive prices. Agro-industries dealing with soybean, chilli, chicken meat and fresh vegetables found that they could persuade groups of farmers to grow soybeans on contract. The industries then supplied high-quality seeds and provided a ready market for the output. This arrangement began with a modest 70 farmers but rapidly spread to cover thousands.

Source: World Bank (2005a)

### Key message:

- a. *There is urgent need for a proactive policy to check excessive land fragmentation and landlessness, resulting from an inter-play of rapid population growth, expensive health care, poor governance, diseconomies of small-scale cultivation and unregulated land markets. Community initiatives in collective cultivation of numerous very small plots should be developed and encouraged.*
- b. *Land reform needs to take into account optimal agricultural land plot size so as to promote both per unit area productivity and adequate incomes for farming families.*
- c. *Women, who contribute to agricultural output, must have a say in local and national policies and projects that are adopted regarding land reform, agricultural practices, livelihoods enhancement and infrastructure.*
- d. *There are strong economic efficiency and equity arguments for releasing and/or taxing unused lands locked up in concessions.*

## 3.2 Indigenous minorities' lands<sup>(27)</sup>

Rights of indigenous peoples are now recognised as central to achieving universal human rights and self-determination of all. Indigenous minorities constitute about 0.9 percent of the Cambodian population, comprising 17 groups spread across Kratie, Mondolkiri, Rattanakiri, Stung Treng, Kampong Thom, Koh Kong, Pursat, Kampong Speu and Sihanoukville, according to the 1998 census. The Land Law of 2001 recognises the collective land rights of indigenous minorities, and the Interim Strategy of Land Policy Framework of 2002 stipulates that indigenous minorities shall be granted collective ownership rights to their land. The framework also is cognisant of the practice of shifting cultivation as a traditional land management system of indigenous minorities. However, not a single collective ownership title has yet been awarded.

Lack of enforcement of the law has left Cambodia's indigenous minorities vulnerable to external interests, who are increasingly attracted to exploiting the economic potential of the forests and fertile upland areas. Large-scale ELCs also have been allocated in areas traditionally occupied by these minorities. Indigenous minorities often have been severely affected by forest logging concessions, which, despite the moratorium on logging, continue uncontrolled. This often gives rise to land alienation in violation of the Land Law, a result that is destroying both the social fabric and livelihoods of indigenous minorities. The problem has reached a stage where some communities have begun to disintegrate.

The Forestry Law of 2002 contains a provision for community forestry to be officially recognised; legal procedures and guidelines required for this are now complete. They offer indigenous and non-indigenous communities opportunities to obtain user and management rights to forest (15-year renewable agreements). According to the provisions of the law, certain forest areas are included in the collective immovable property of indigenous minorities. Some progress on the issue of land rights for indigenous people thus has been made, but a great deal remains to be done in implementing the law.

### Box 3.6: Voices of the indigenous peoples

#### *Voice 1*

Indigenous peoples' livelihood depends on forest produce. It is not destructive to the forest because we think that the land and forest, preserved by our ancestors, are our lives. We speak different languages, depending on each particular indigenous people. The indigenous people are determined to retain this knowledge.

We would like to request to the Government that land security is ensured, forest and natural resources are protected, some social services are provided such as health, language education is offered, and the rights of indigenous people are more broadly promoted in Cambodia.

#### *Voice 2*

The indigenous people face problems of land loss due to illegal logging, land sale and purchase, and land grabbing for private ownership. Our culture and tradition face loss due to encroachment of foreign culture, and the indigenous people become marginalised from the society. We the northeastern indigenous people would, therefore, like to request that communal land registration for indigenous people is accelerated, law enforcement related to indigenous people as provided in the Land Law from Articles 23 to 28 and Article 265 is enhanced, and the culture and tradition of indigenous people are further promoted and strengthened.

#### *Voice 3*

We wish that the rights of indigenous people to land and natural resources in our traditional manner are recognised. The State should protect and recognise the legal rights to the available land and natural resources. ILO's Convention 169 requests governments to respect indigenous peoples' identity in owning the land in a traditional manner so that the effectiveness of our land ownership is ensured. We are waiting for the communal land registration and protection of indigenous peoples' land.



Source: NGO Forum, Cambodia

<sup>(27)</sup> This section (including Box 3.6) is based on communications with, and documents obtained from, the NGO Forum of Cambodia in Phnom Penh.

## Key message:

*Indigenous minorities' access to their lands urgently needs to be restored. The laws that ensure their rights to land and forest need to be enforced. A moratorium on logging must also be enforced.*

## 3.3 Social land concessions <sup>(28)</sup>

The Government enacted a social land concession clause in the Land Law of 2001 to alleviate rural landlessness and poverty. Its aim is to provide land to the poor, displaced or otherwise affected, for their rehabilitation and resettlement. Land given out to former soldiers facilitated their disarmament and helped establish their farming-base livelihoods. Land distribution thus also can promote peace.

Seen in terms of land use and land-population ratio, surplus land exists in the country, and its distribution can help to alleviate livelihood problems of the landless/near-landless poor, especially women farmers, who have fewer lands and other resources. The law provides for:

- a. Local Social Land Concession Programmes (the onus to find land for redistribution in the vicinity is at the local level)
- b. National Social Land Concession Programmes (the onus lies with the national authorities to find and distribute lands anywhere in the country)

Currently the main challenge is to identify surplus lands, first within communes and then beyond. As of October 2006, only 2,303 hectares of land had been given out to 17,086 households under this social land concession clause, in the provinces of Banteay Meanchey, Otdar Meanchey and Battambang. Mainly this land was given to former soldiers for homesteads.<sup>(29)</sup>

Six issues, found to be of importance in other countries as well, are:

1. Identifying lands for distribution to poor households is challenging in densely populated areas. Even where lands have been identified, at times claims are contested by other Government agencies or private parties. In some places, so-called surplus lands also are used for grazing animals.
2. Surplus lands – usually degraded forest lands after timber trees have been cut – often are located where the landless are, or even near existing settlements.
3. The quality of surplus land after clearing of forest cover is often acidic, with little organic matter, and consequently unproductive for annual cropping.
4. At the national level, most surplus lands have been identified in the northeast, northwest and coastal areas. The degree is not known to which landless households would be willing to sacrifice local networks and support systems in order to relocate long distances and gain access to land that may be of dubious quality.
5. Land market dynamics in the new locations are currently unknown, but there is no reason to believe these would be different from those seen in other parts of the country. Rattanakiri has demonstrated examples of a number of land transfers despite the province being among the least commercialised.
6. Costs are associated with developing newer lands, especially if these are far from existing infrastructure. To make these new locations accessible and sustainable, rural roads, schools and health systems and other services need to be in place.

<sup>(28)</sup> See Dinravy and Groetschel (2004) and Halabi (2005) for issues relating to social concessions. The sub-decree can be seen at <http://www.gocombodia.com/laws/pdf/ANK-19-03-social%20concessions-E.pdf>

<sup>(29)</sup> This number does not seem to include a component of the social concessions programme that is supported by the World Bank, under which another few hundred families are covered.

Simulation exercises carried out on data from SES-04 suggest that even if all farmers are provided land up to five hectares, their incomes will not rise sufficiently to safely place all above the poverty line; in fact, poverty would effectively be reduced only if sufficient investments are made in rural electrification and other complementary social and economic infrastructure. It is not unrealistic to anticipate that *if complementary reforms are not implemented*, lands given out under social concessions will again begin to exchange hands and some farmers once more can become landless. There is a strong case for a 'land-plus' policy, rather than just land distribution. This would entail a social land distribution exercise, combined with a more substantial rehabilitation and resettlement package than is currently in place.

### Key message:

*The process of identifying land and settling the poor needs to be accelerated, broadened and followed up by a comprehensive rehabilitation and resettlement policy, including investments in health, education and economic infrastructure.*

## 3.4 Governance of land and conflicts<sup>(31)</sup>

No more than 20 percent of land plots were titled by December 2006. While the Government plans to issue as many as one million titles by the end of 2007 under systematic titling (i.e., Government initiative), in December 2006 only 0.57 million titles had been issued under systematic titling, and 0.58 million under sporadic titling (i.e., client initiative). These numbers are small compared to some six to seven million claims.<sup>(32)</sup> The poorest one-fifth of the population has only half the number of titles compared to the richest one-fifth. The rich get titles through the sporadic route; they are able to *buy* them, as this is a paid route. In contrast, the poor have to rely on the systematic route, which picked up pace only in 2006. In addition, systematic titling is largely being undertaken in provinces that do not necessarily face problems of conflict or contested claims, i.e., Phnom Penh, urban areas in southern provinces, the Mekong plains and Tonle Sap plains.<sup>(33)</sup> Governance of land in the absence of firm titles is uncertain, leading to unfair decisions in the case of conflict.

A total of 28,219 land conflicts were reported in 2005, compared to 26,353 in 2004, 25,442 in 2003 and 26,510 in 2002, according to the Ministry of Planning's Commune Council Database.<sup>(34)</sup> Conflicts emerge and persist because authorities are neither fully geared for land registration and titling, nor for quick, fair and inexpensive arbitration of land disputes.

More conflicts occur in the western and northeastern regions than elsewhere, in terms of the number of conflicts per 1,000 population (Figure 3.10). Patterns of rural land conflict at provincial level show that the highest conflict rates are in provinces far from major irrigated areas.

Relatively high conflict rates are reported in the northwestern provinces, where land (i.e., former Khmer Rouge strongholds) has been opened up for agriculture following the conclusion of the peace process; northeast forested areas, where indigenous peoples' lands have been appropriated; and southwestern areas, likely associated with the construction of National Road No.4. The southeast, Tonle Sap east, and central areas record lower levels of land conflict.<sup>(35)</sup>

Commercialisation of land, particularly on roadsides, has been brisk in recent years, which has brought into the fray many more interests than just the farmers. In fact, everyone but the farmers – e.g., concession

<sup>(31)</sup> The matter here draws upon a large number of field and other studies. Typical ones include Kato (2000); Williams (2000); Biddulph (2000); So, et al. (2001); EFCT (2005); UNHCHR (2004); World Bank (2005).

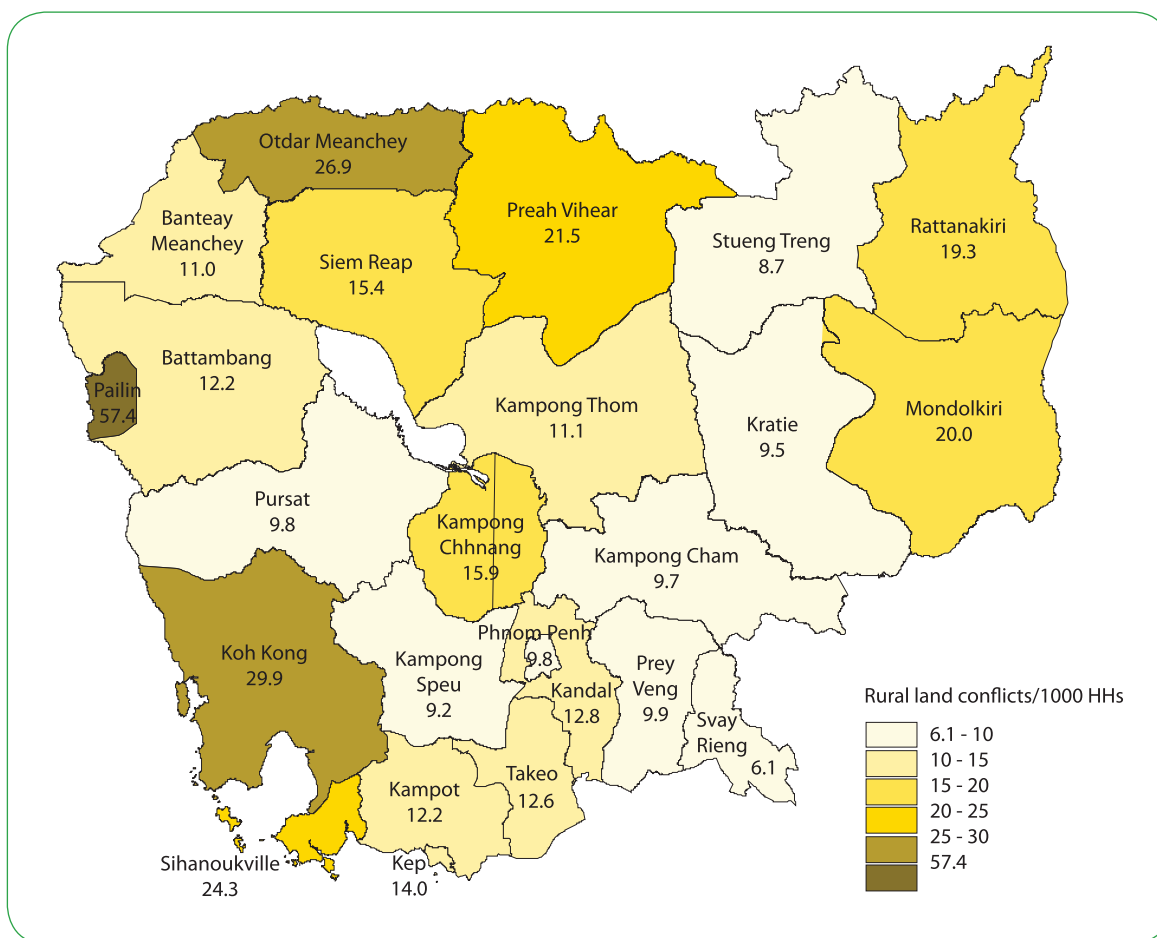
<sup>(32)</sup> Source: NSDP; see RGC (2006a), p. 20.

<sup>(33)</sup> Source: World Bank (2002).

<sup>(34)</sup> A recent presentation made on an ongoing study by Oxfam places conflicts on land to be as high as 1 in every 15 families (2006 data).

<sup>(35)</sup> These data are different from those obtained from adjudication authorities, as the latter have figures only on those cases that have reached courts or other authorities.

Figure 3.10: Rural land conflicts (per 1000 households, 2005), by province



Rapid urban development has created purchasing power for businesspersons and others, but since there are few options to invest, they put the money in land

Source: MOP Commune Council Database, <http://www.seila.gov.kh>

companies and speculators – is more influential, and hence, likely to put farmers into an unequal bargaining position. Rapid urban development has created purchasing power for businesspersons and others, but since there are few options to invest, they put the money in land. In turn, this fuels the demand for land.<sup>(36)</sup> Asymmetry in information also gives speculators undue advantage: they know which lands are likely to be developed, where roads will be constructed, where commercial centres will come up and so forth, while farmers and sellers do not. In addition, instances of land grabbing with the involvement of powerful agents have been reported.<sup>(37)</sup> In short, as the demand for land increases, in the absence of detailed cadastral mapping and strong law enforcement, conflicts over land tenure increase.

Along with speeding up the cadastral process, the land conflict resolution system must be decentralised at the local (commune or district) level. There also should be a one-time policy of establishing fast-track tribunals for about one year at local levels to clear the existing backlog. Information on development plans should be widely publicised for a fairer deal for all.

### Key message:

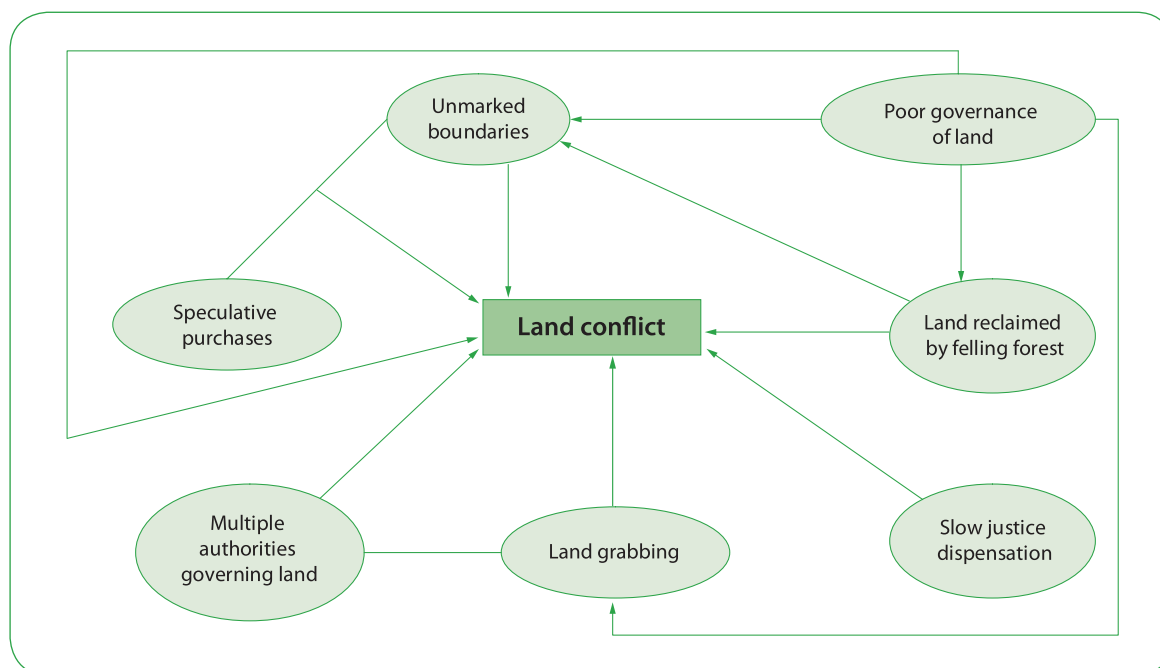
*Land titling must be speeded up. In addition, a decentralised system of quick dispensation of justice for land disputes will strongly benefit the entire process.*

<sup>(36)</sup> No stock exchanges or money markets exist, and term deposits fetch no significant returns.

<sup>(37)</sup> Instances of state agencies' involvement are not uncommon; documents of the NGO Forum of Cambodia regularly bring this out. See also Cambodia Daily, 13 October 2006.



Figure 3.11: Some attributes of land conflict



Source: Oxfam and CDRI studies

## 3.5 Fisheries and livelihoods

### The status

A very large number of people's livelihoods in Cambodia depend upon fishing. The Tonle Sap and Mekong basins, along with other rivers and lakes, are the main sources of inland fish. Tonle Sap Lake, fed by freshwaters from the Mekong each year, expands to four times its size in the rainy season, filling up a large number of lakes, water catchments and floodplains. It then reverses directions and drains into the Mekong for the rest of the year. This unique feature makes it among the richest inland ecosystems in the world. Great scope also exists for aquaculture because most people reside by the waterside. Cambodia also has a 435 km coastline that runs along four provinces.<sup>(38)</sup> Fish and fish products constitute about 75 percent of the total animal protein diet of Cambodians.

Government statistics place the contribution of fisheries to GDP at about 10 to 12 percent and employment in the sector at 4.8 percent of the total workforce.<sup>(39)</sup> These numbers, however, could be underestimates, as field studies suggest that up to 15 to 17 percent of household incomes stem from fishing and that up to one million households engage in fishing activities at least during the dry season (36 percent of households in Tonle Sap villages report fishing as their primary occupation).<sup>(40)</sup> In the event of droughts and floods, fishing provides real insurance. The total inland fish catch in the country is estimated at 0.35 to 0.40 million tonnes annually, valued at US\$300 million-\$400 million. In addition, shrimps, crabs, frogs, insects, snakes and so on provide another 60,000 tonnes. Another 55,000 tonnes of fish products are yielded from the sea (Figure 3.12).<sup>(41)</sup>

Fishing is predominantly of wild stocks, but recently some productivity-enhancing technologies have been adopted, e.g., raising fish in cages and fish/aquaculture. These developments are only possible for select fish varieties and at specific locales.

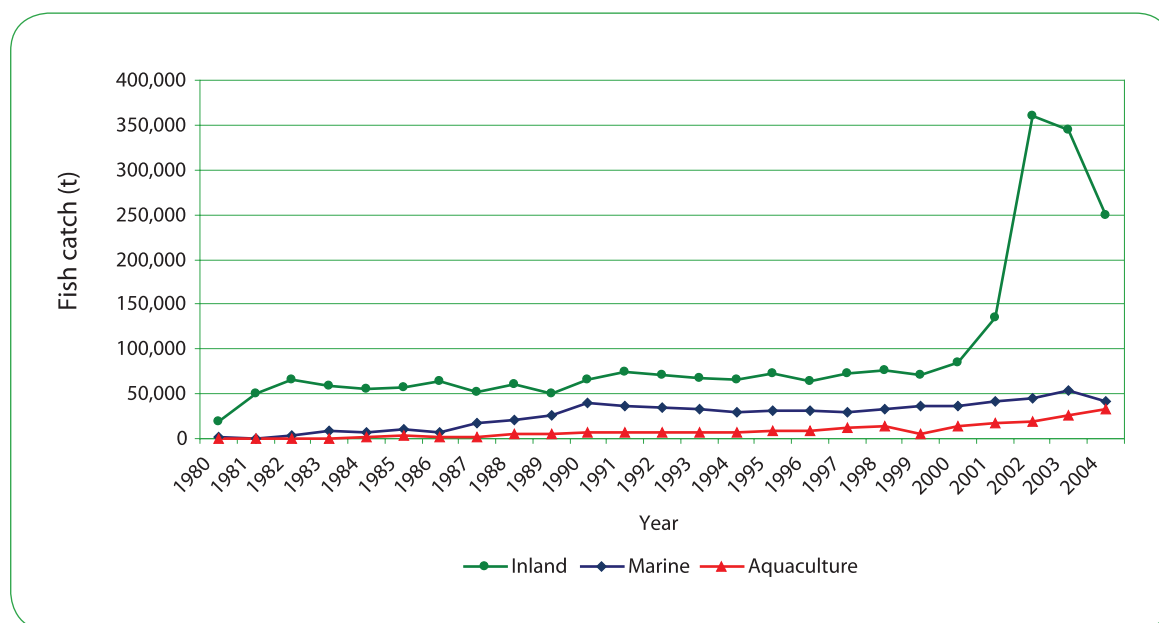
<sup>(38)</sup> Details on different river systems can be seen in SCW/Danida (2006).

<sup>(39)</sup> Data pertain to 2004, the last year for which data on workers are available. See <http://www.nis.gov.kh>

<sup>(40)</sup> McKenney and Prom (2002); Chan and Acharya (2002); CDRI (forthcoming).

<sup>(41)</sup> Source: RGC (2006c).

Figure 3.12: Fish catch in Cambodia, 1980-2004



*In the last few years increased migration into fishing areas and damage to ecosystems have negatively affected fish availability... people's livelihoods... have also suffered*

Note: A sharp increase is seen in 2001-2002 because family fishing began to be included in the total. Source: MAFF, <http://www.maff.gov.kh>

In the last few years increased migration into fishing areas and damage to ecosystems have negatively affected fish availability. Correspondingly, people's livelihoods for those dependent on fishing have also suffered. Perennial challenges in the management of the fish resource include the question of who owns and should have access to the fish, as well as how to govern the fish management system.

### Rising dependence on fishing

Demand for access to fish resources is rising as the population grows, since other employment avenues have been slow to expand.<sup>(42)</sup>

One million people currently earn a living out of fishing and this could rise further, owing to both population increase and in-migration of those who have lost access to agricultural land. If one million people share an average of US\$350 million worth of fish catch, the 'per-worker' share is US\$350 per year (gross). If costs are deducted, this reduces to about US\$200-\$225 annually per worker. Often individuals fishing with 'passive' fishing gear earn no more than 4,000-6,000 riels per day (US\$1 to \$1.50).<sup>(43)</sup> If there is a large influx of people fishing inland waters for a livelihood, this will result in increased competition for larger, more valuable fish, resulting in overfishing and loss of fish diversity. High-priced large fish, whose natural reproductive cycle is longer, will become scarcer and only smaller, low-value fish will remain, as in the so-called 'Bangladesh syndrome.' The argument also applies to the marine fisheries sector, with too many people pursuing solely a marine fishing livelihood, exhausting good-quality marine fish stocks and leaving stagnant low incomes.<sup>(44)</sup> With more fishing from the resource base, inequality in access to resources has worsened. Those with few resources, including single-woman-earner households, are the inevitable losers.

Fishing households' livelihoods have been found better among those with some land or another occupation alongside (e.g., aquaculture). This suggests that for many, occupational and income diversification will be an important strategy to improve livelihood outcomes.

<sup>(42)</sup> Hap, Chuenpagdee and Kurien (2006); ICTSD (2005).

<sup>(43)</sup> Data sources: Acharya, Kim, Chap and Meach (2003); field observations in 2006.

<sup>(44)</sup> IMM (2005); Kim (2005).

### Impact of deforestation and development projects

Large-scale deforestation in the catchment areas of rivers alters the flow and volume of waters downstream. This affects the fish stock. Agricultural development or infrastructure projects in the vicinity also affect fish breeding and the stock directly or indirectly by disturbing the breeding process and habitat. Some examples:

- a. Intensive logging or clearing of flooded/other forests has begun to silt the Tonle Sap and adversely affect fish stock.
- b. Development projects that change the course of waters or in some way affect the natural habitat, reducing the fish stock.<sup>(45)</sup>
- c. Modern methods of cultivation that release chemicals from fertilisers and pesticides into the waters and adversely affect stock.
- d. With demand for agricultural land increasing, many farmers sow rice on inundated lands. On occasion, they also have cut flooded forests and drained waters from ponds to reclaim lands for rice cultivation, adversely affecting aquatic life.

Agricultural development planning, and forest and water management must be coordinated in such a manner to strengthen each other rather than act at cross-purposes.

### Illegal fishing

Many small fisherpersons take up poaching and illegal fishing and engage in ecologically unsound practices, such as the use of explosives and electric shock devices to stun and kill fish. Fishing lot owners try to extend their boundaries into open-access lands and encroach upon small fishers' catchment areas. In short, everyone tries to get more than what can be sustained by such a limited resource. Field surveys in most places suggest that the fish stock accessible to small fishers has reduced now compared to a few years ago.<sup>(46)</sup> Community-based monitors should be put in place to regulate fishing.

### Fishing lots:

For most of the last century the principal approach to management of fishing has been, and to an extent still is, the granting of fishing lots; the Government allocates two-year fishing concessions to concessionaires. The story of fishing lots is that as long as there are large numbers of small fisherpersons whose primary occupation is fishing, there will be conflict between them and the lot owners. In fact, this will happen with anyone claiming exclusive rights to fish in inland waters (Box 3.7), yet it is deemed important for raising taxes and marketing produce.

### Key message:

1. *Earnings of fish-dependent populations can only improve through value-adding options.*
2. *Community empowerment is imperative for checking ecologically unsound practices.*
3. *Means of resolving conflict between lot owners and small fishers should be strengthened at a decentralised level.*

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<sup>(45)</sup> Mak (2005); IRN (2002).

<sup>(46)</sup> ECFT (2005); Kim, Chan and Acharya (2002); CDRI (forthcoming).

### Box 3.7: Fishing lots – some historical background

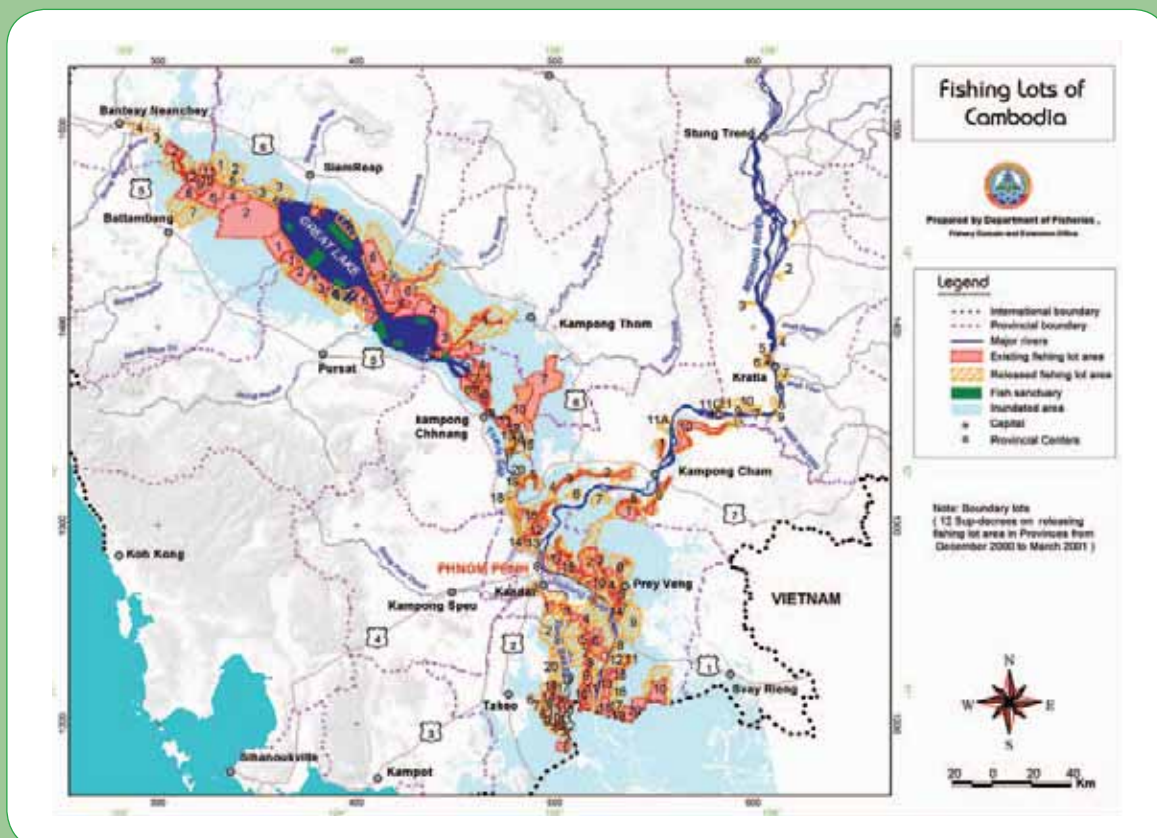
The fishing lot system was introduced in Cambodia in 1863 by the French but was given up 1884 following protests against the privatising of the commons. In 1908 new conservation measures were introduced, containing these five critical elements: defining the fishing season, creating fish sanctuaries, restricting certain types of fishing gear and equipment, permitting reasonable access rights for local villages (seven percent of total concession grounds), and establishing a fisheries research institute.

After independence, a new Fishery Law of 1956 was promulgated, which retained the system of fishing lots. Conflicts over the lot system resurfaced in the 1960s, and the Government managed to have some fishing lots disbanded to quell tensions. In 1973 Lon Nol disbanded all fishing lots and during the Khmer Rouge period of 1975-79, most fishing activity was abandoned.

In the 1980s, authorities attempted to restructure fishing activity similar to that of land collectives as the *Krom Samaki Nesat* (fishing collective). Groups of fishers could fish, and a tax was to be paid to the State in the form of fresh or salted fish. Many fishers settled on the Tonle Sap and even established floating villages. In 1987, the fishing lots system was reintroduced with a view to instil better efficiency as well as raise revenues. The Government promulgated Fisheries Management and Administration Law No. 33, modelled on the Fishery Law of 1956, wherein inland fishing areas were divided into three categories: large-scale fishing (industrial-scale fishing); middle-scale fishing (use of fishing gear such as dip net and seine net that are licensed – enterprise fishing), and small-scale fishing (passive gear like single long lines, cast nets and small gill nets – family fishing).

Until 2001 almost one million hectares of land were let out to concessionaires on an average of two-year contracts. This changed in 2001, however, when 56 percent of this area was released. A Sub-Decree on Community Fisheries Management, proclaimed in 2005, aims to strengthen the community fishing system in areas released from the lots.

Figure 3.13: Fishing lots: existing and those released in 2001



Source: Adapted from Kurien, So and Mao (2006)

### 3.6 Forests and livelihoods

Cambodia's forests officially cover about 58 percent of its area (60 percent in some records). However, recent satellite imagery suggests that large portions are not really dense forests; on the contrary, more than three-fourths are now termed as 'disturbed evergreen,' 'mixed' or 'mosaic' (as against 'evergreen'). Large-scale, and at times illegal, logging was predominant during the 1990s. The State responded by first cancelling a number of concession contracts and then suspending logging altogether in 2002 for three to four years (Box 3.8).

Rural people's livelihoods in many provinces have traditionally been closely associated with the forest, for firewood, building material, timber, twigs, resins, gum, medicinal herbs, leaves, rattan, small animals, insects, reptiles and similar products. Populations in the northeast, parts of the west and mountain areas perennially depend on the forest for their livelihoods. In addition, those rural households with few other income alternatives, households dependent on single female workers, as well as older workers and children are regularly used to collect forest products to minimise labour costs. Like fishing, gathering of forest products provides activities that can buffer the effects of crop damage arising from droughts or floods. In some areas, these workers market forest products as well, and selling minor forest produce fetched them 1,500 to 2,000 riels per day (data for early 2000s). It is estimated that about a third of total households in forest villages (mainly in provinces in the northeast and northwest) gather and forage at some time during the year.

In the early 1990s, when forest concessions came about, village communities in several locales initially benefited monetarily through engaging in wage labour, at 3,000-4,000 riels a day, for extensive logging operations after the timber demand suddenly increased and forests were under no real control. Since 1998 much of this activity has subsided, though some continues covertly. With the introduction of forest

#### Box 3.8: Forest management – a historical review

Harvesting of forest produce, mainly timber, has existed since colonial times. 'Collection permits' were issued for defined periods to commercial companies for designated volumes of timber, in exchange for a flat fee. This system continued until almost the 1970s, when the Khmer Rouge stopped logging contracts but cleared many flooded forests to reclaim land for rice cultivation.

In the 1980s, the Forestry Department directly undertook logging operations in several provinces, particularly in the east. Logging also was carried out by *Krom Samaki* (farmers collective) groups, which sold their produce to the Government, at prices lower than the market. At the same time, the system of collection contracts was gradually coming back; this was finally discontinued in 1998.

A multi-stakeholder exploitation of forests began in the late 1980s and early 1990s when political parties, the military, provincial governors and private interests vied for resources. Forest concessions – totalling 6.9 million hectares (38 percent of total land area) – were granted to 29 companies between 1994 and 2000. However, after large-scale illegal tree felling and non-compliance with rules, the Government cancelled the concessions of 17 companies, encompassing about 3.5 million hectares. In 2005 there were 12 concessionaires holding some 3.4 million hectares at 24 locations (about 18 percent of total land).<sup>(48)</sup>

By this time, (a) a large proportion of forest was degraded, (b) large parts also were privatised, and (c) access of small farmers to the forests to avail themselves of natural bounties was reduced. Forest logging has been suspended altogether since 2002, yet the practice continues illegally. A new Forest Law was passed in 2003 and guidelines were approved in early 2006, paving the way to expand community forestry activities.



Source: UNHCHR (2004); EFCT (2005); McKenny and Prom (2002); SCW/Danida (2006); Le Billion (2006)

<sup>(47)</sup> USAID (2005).

<sup>(48)</sup> Figures here are obtained from GTZ (2006). The area given out for forest concessions is highly contested. A fuller statement on the history of concessions can be seen in McKenny and Prom (2002).



concessions, however, the community's access to forests has reduced. Other than the economic component, people's geographic mobility is also restricted. Communities report loss of incomes and products from the forest over time, both because of privatisation and natural degradation. In poorly endowed villages, excessive degradation has resulted in a decline of firewood, which is now purchased. In the words of villagers, concessions are not job-creating but ecologically harmful and exclusionary.<sup>(47)</sup>

Residents of forest villages claim to have possessed resin trees for generations, from which they have traditionally collected solely resin and not timber. These claims were contested by concessionaires. Many villagers have 'sold off' their access to concessionaires, although a few still claim to 'own' these. Some trees could each fetch resins worth 20,000 riels (US\$5) annually. Many of these trees, now in the possession of concessionaires, have been harvested for timber. Community forestry (CF) as an alternative approach to forest management was initiated in 1994. Since then, a number of successful CF groups have been formed (Box 3.9). These could represent a possible future avenue for forestry in Cambodia.

In sum, during the pre-industrial period, for small rural populations with little market penetration, forests provided a modest though useful supplement to other subsistence activities. With rising populations and increased and unregulated market penetration, this is increasingly threatened.

### Box 3.9: Community forestry

Community forestry (CF) activities began in 1994 in Takeo Province. Since then, more than 100 CF groups have been formed, supported by NGOs and donors, including the United Nations' Food and Agriculture Organisation (FAO). Total coverage by these groups was estimated in 2005 to be 200,000 hectares.

CF entails local people protecting the forest; communities are authorised to manage and use forest resources sustainably. This has been promoted under the expectation that if local people have secure harvesting and user rights over forests, they will have the incentive to protect them. Proceeds from forest use are directly transferred to the local communities. The forests get regenerated (the primary goal of CF); at the same time, communities get incomes. Because the process is largely driven by NGOs, management models differ among CF groups.

Guidelines for community forestry were finalised in early 2006, following the passing of the Forestry Law in 2002. Non-timber forest produce (NTFP) benefits are higher than those from timber, including grazing rights, food from forest-based vegetation, fruits and tubers, traditional medicinal plants, rattan for basket weaving, and firewood. CF groups have a 15-year time horizon.

Most community forests are located on degraded forest areas. If CF is expected to be a self-sustained activity, it will require covering the local costs of organisation. Given the current situation of insecure land rights and the degraded forest resources allocated to CF, it is not obvious that self-sustaining systems will be formed. Other problems include uncertain rights to sale of harvested products, high transaction costs of harvesting, a high level of rent capture in the market chain, and lack of clear mechanisms for control. Such constraints must be addressed at the local and national levels in order to improve local incentives.

In some areas with no concessions in the vicinity, CF has drawn inspiration from religion to take root. Buddhist monks have taken the lead in the mountainous areas around the Tonle Sap (e.g., Pou commune, Kampong Leng district); they have begun to have large areas planted and protected through patrols by villagers. The ancient wisdom that 'if our ancestors did not protect the forest, we would have no trees today' has found appeal among village communities.



Sources: Heov, Khlok, Hansen and Sloth (2006); Ty, Sokh and Lao (2006); Sokh and Ty (2005); field observation: Kampong Leng district, Kampong Chhnang.

### Key message:

*The traditional rights of indigenous forest-dependent people must be restored to avert a more serious livelihoods crisis. In the long run, a voluntary transition to higher-value-added sustainable livelihoods needs to be promoted.*

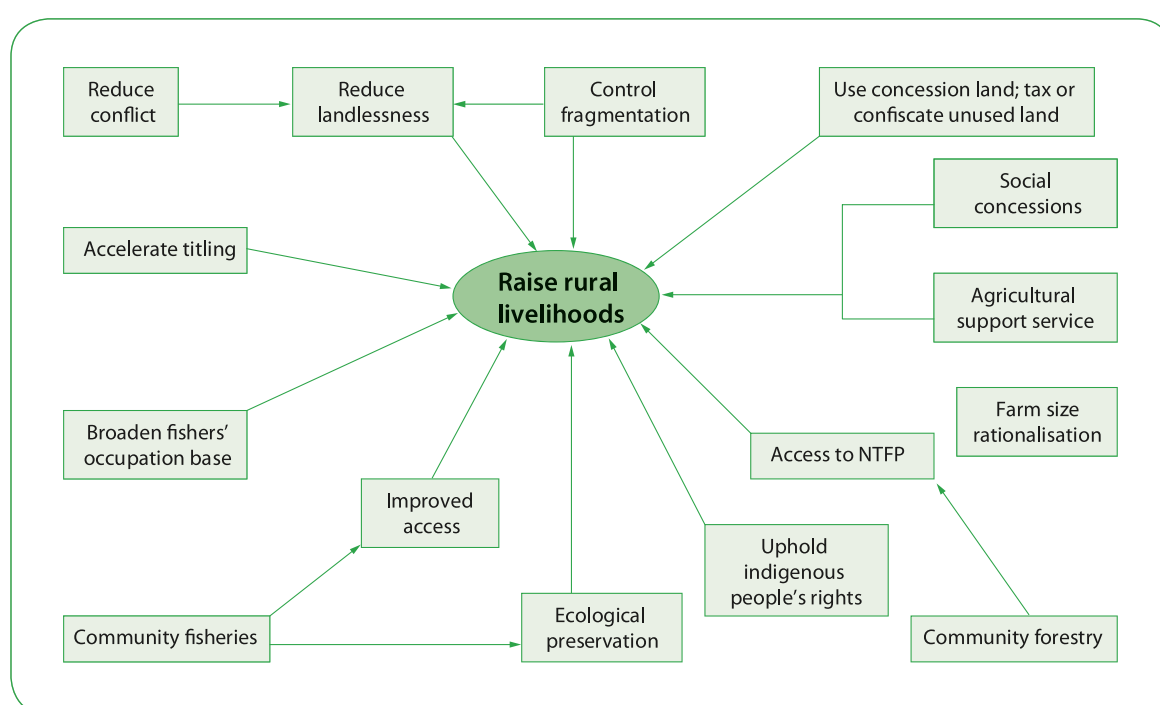


### 3.7 Summing up

A relatively small proportion of the country's land (22 percent) is under the plough. The rest is under forests, rivers, lakes and urban/non-urban dwellings.

- ❖ Much of the agricultural land, particularly on the riverside or lakes, is fertile, while some land in the interior may not be as good. Land plots are generally small. This has its origins partly in the farming systems that the country has inherited from early times, though currently an important reason arises from the excessive subdivision of land due to inter-generational transfers and sales. While small farms are desirable from the point of view of productivity and equity, too much fragmentation of holdings does not yield adequate livelihoods.
- ❖ With the emergence of a largely unregulated market economy, rapid population pressure, inadequate governance of land and nonexistent commercial institutions, many farmers – often the vulnerable ones – become indebted, landless or face a livelihood crisis. Many rural residents also face significant issues related to ill health. In the absence of affordable health care, they incur large expenses for which they are often forced to sell land. Thus, viable livelihood options for small farmers are still precarious, leaving them vulnerable to being trapped in a cycle of poverty.
- ❖ Large lands may be locked up and on the unused in economic concessions. This waste weighs heavily on the welfare of people and on the economy in many ways.
- ❖ Sub-clauses exist within the Land Law of 2001 and Forest Law of 2002 that recognise indigenous minorities' rights to community titling and access to forests. Community titling, however, has yet to begin. At the same time, many indigenous minorities' traditional domains are given out on concessions. Both actions violate their rights and impoverish them further.
- ❖ Inland fishing has been a contested domain between small fisherpersons and concession owners. The challenge lies in developing viable models of co-management of fishing. Diversification of occupations and better governance also will improve people's livelihoods.
- ❖ It is a big task to reduce people's dependence on forests for subsistence. For this, higher-value-added sectors must grow and absorb workers.
- ❖ Women contribute significantly to production yet are not adequately included in decision making.

Figure 3.14: Summary of land, natural resources and rural livelihoods



Source: Text, this chapter

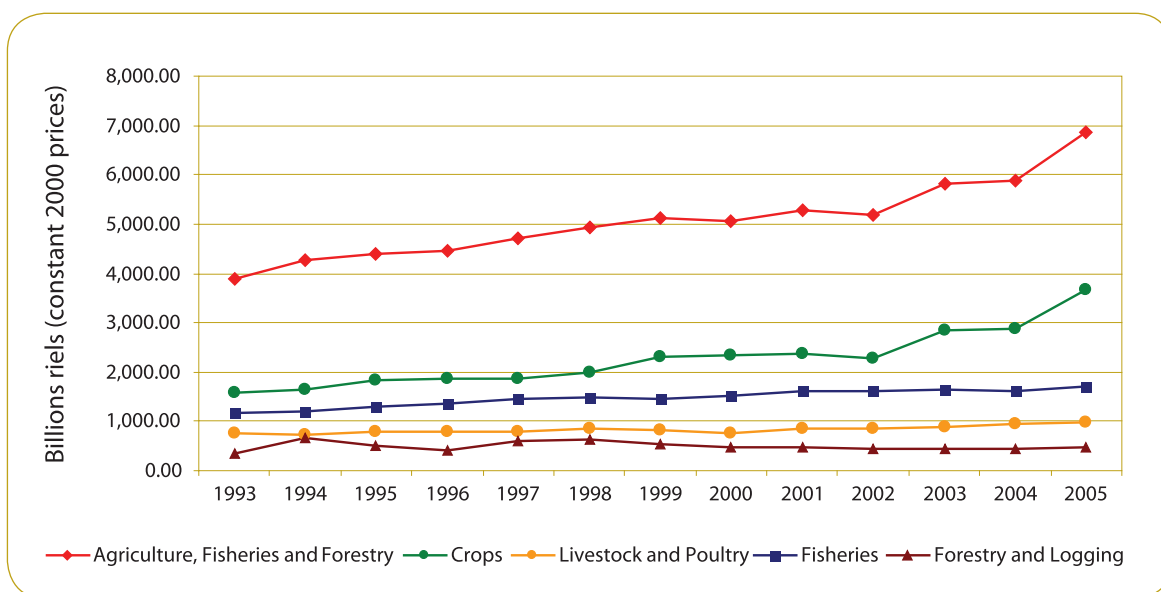
# CHAPTER 4





Cambodian agriculture and its off-farm/non-farm activities must grow for rural people's incomes to increase. As of now, much of agriculture and rural production systems are mainly subsistence in nature. It was observed (in Chapter 3) that in many situations farmers are unable to retain their landholdings due to low intensity cultivation of small landholdings and expensive credit. There is, therefore, a need for interventions to promote the application of modern agricultural technologies and reform markets.

Figure 4.1: Sectoral growth rates – agriculture and allied activities (2000 prices), 1993-2005



Source: <http://www.nis.gov.kh>

The growth rate in the primary sector (crop, forestry, fisheries, and livestock) was 3.76 percent per annum during 1993-2005 (Figure 4.1). During the same period, the national income grew at seven to eight percent. While the crop sector has grown considerably – 5.95 percent average annual growth, with the main boost in 2005, when paddy production soared 44 percent in a single year – other sectors have expanded relatively slower (livestock, 1.96 percent; fisheries, 2.99 percent; forestry, -0.09 percent average annual growth). Because more than 70 percent of the workforce continues to be engaged in the slower-growing primary sectors, mainly in rural areas, the benefits from high national economic growth rates have been less in rural than in urban areas.<sup>(49)</sup>

Raising agricultural incomes is a priority of both the Rectangular Strategy and NSDP. To achieve this, public policies need to address both supply and demand constraints, as examined in this chapter. Typical approaches to scaling up the crop sector as discussed in the following sections are (1) promoting better land use and productivity with application of modern agricultural inputs; (2) harnessing more available water for irrigation; (3) making credit affordable and accessible; (4) ensuring stable output prices.

In the off-/non-farm activities, (5) fishing and livestock and (6) processing and rural industries offer scope for raising rural incomes.

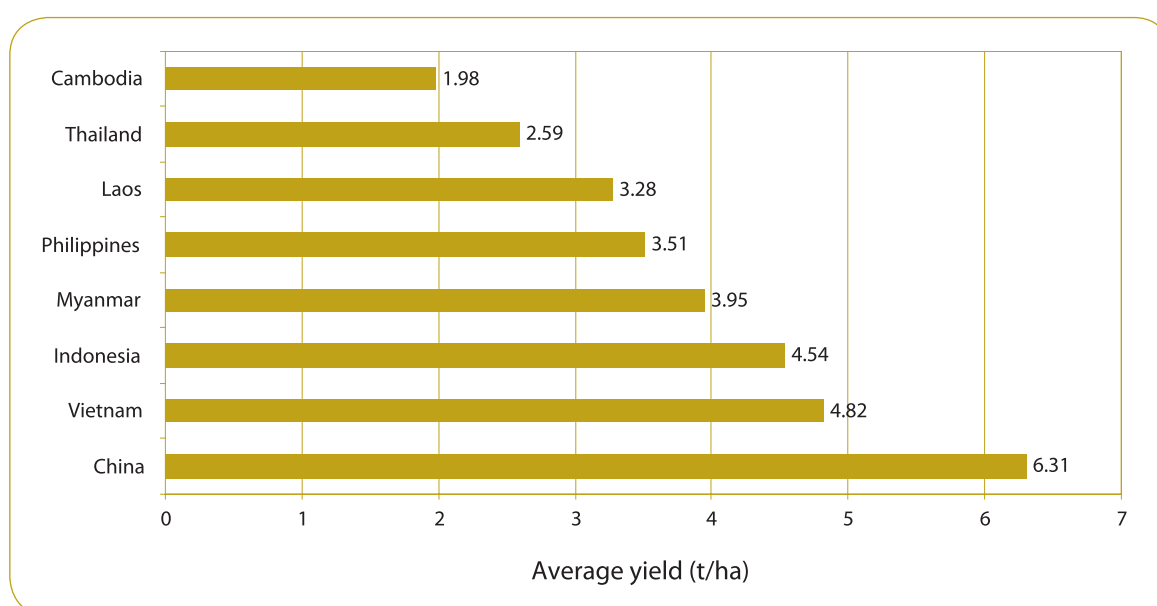
<sup>(49)</sup> Data series have changed more than once recently because of better coverage over time; hence, too much reliance on growth rate figures is not advisable.

*The rate of use of modern fertilisers and high-yield variety (HYV) seeds in Cambodia is the lowest in Southeast Asia*

## 4.1 Promoting better land use with application of modern agricultural inputs

Cambodian agriculture is gradually modernising through an increasing application of chemical fertilisers and HYV seeds in the Mekong plains and parts of the northwest. In Battambang province, agricultural mechanisation also has taken root. As a result, during the last decade marketable surpluses have been produced in the major rice-growing plains.

Figure 4.2: Paddy yield rates (t/ha) 2004, select rice producers/exporters



Source: FAOSTAT (<http://faostat.fao.org/default.aspx>)

There is, however, considerable further ground to cover in the use of modern agricultural inputs. The rate of use of modern fertilisers and high-yield variety (HYV) seeds in Cambodia is the lowest in Southeast Asia. Lao PDR and Thailand apply three times more fertiliser per hectare, while Vietnam applies six times more. In 2005, paddy yield was 2.35 t/ha, but the three-year average for 2003-05 was lower, at 2.18 t/ha. Yield rates achieved in other rice-producing and — exporting countries are considerably higher (Figure 4.2). A large portion of the production gains in the last two decades has come from area expansion rather than yield improvements. Cultivated area has been estimated to expand at about one percentage point each year since the early 1980s.<sup>(50)</sup>

### **Four points call for attention:**

#### Reducing the cost of production

Modern inputs are expensive in Cambodia. The prices of fertilisers and fuel have risen continuously at unprecedented rates in recent years, but the prices of farm produce have not kept pace (Figure 4.3). This deteriorating input-to-output price ratio for all crops, unless compensated by commensurate productivity increases, will squeeze farmers' profitability. Through the 1980s and 1990s the Government provided subsidised

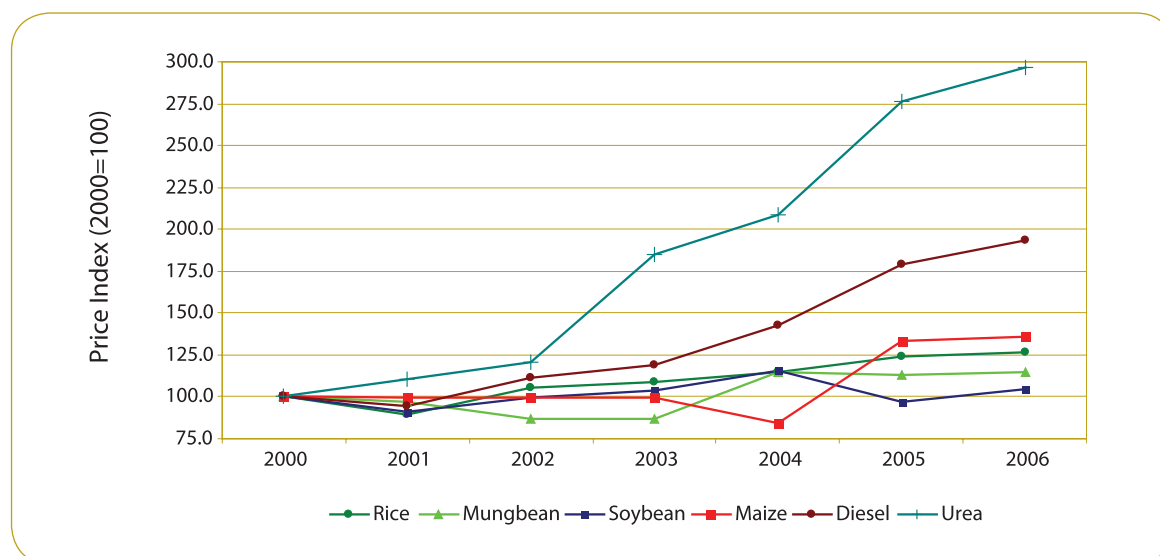
<sup>(50)</sup> World Bank (2006), pg. 60.

The yield rate in lands where SRI has been adopted in Cambodia... has exceeded 3.5 to 4 tonnes a hectare, substantially above the average 2.2 tonnes per hectare in the country, without any increase in costs

fertilisers. This ended in 1997, and private merchants took over. Removal of subsidies and privatisation can bring higher efficiency and in turn augment the society's welfare. On the other hand, a sudden deterioration in the terms of trade against farm products adversely affects farm incomes. Possibilities for addressing this problem of high input costs include:

- a. Bulk purchase of fertilisers from sources that offer lowest landed prices
- b. Select substitution of chemical fertilisers by farmyard manure
- c. Eliminating/minimising informal payments on goods movement
- d. Superior agricultural extension to optimise input application

Figure 4.3: Price movements of different farm products, diesel and urea fertiliser



Source: MAFF (raw data), EIC (2006)

### Addressing problems of low soil fertility

Lands are being claimed for cultivation by felling forests. The forest sustains itself through its established interdependence between wide varieties of flora and fauna and the water-retaining capacity of the ecosystem, but the ground underneath contains little inherent fertility because most nutrients are in the forest biomass aboveground, which is removed by the felling. These recently felled lands often are not fertile enough to sustain monocrop cultivation. Low yields and high risks of crop failure in these areas are major causes of poverty and indebtedness. Many of these lands require soil treatments, while others, at least in the short term, are better suited for perennial crops (e.g., palm, papaya, banana) rather than annual crops.

### Adapting newer innovations

Many innovations exist in rice cultivation, including the System of Rice Intensification (SRI).<sup>(51)</sup> SRI is a relatively simple and inexpensive method of rice planting that provides higher yields. Its principal approach is to appropriately space single rice plants rather than bunch them, in relatively dry ground rather than in standing water, and to practise extensive weeding. It also substitutes farmyard manure for chemical fertilisers, thus reducing cash outflow (Box 4.1). The yield rate in lands where SRI has been adopted in Cambodia – an estimated 80,000 hectares in 2005 – has exceeded 3.5 to 4 tonnes a hectare, substantially above the average 2.2 tonnes per hectare in the country, without any increase in costs. Extension agents using 'training and visit' (T&V) approaches can help to expand the area beyond the current level of three percent of rice area cultivated.

<sup>(51)</sup> SRI stands out, but there are other inventions as well: see Mak (2001).



### Box 4.1: System of Rice Intensification (SRI) in Cambodia

The Government has integrated SRI promotion into its NSDP, given the benefits from SRI demonstrated for the agricultural sector: yield intensification, diversification (facilitated by gains in land productivity), use of compost to improve soil fertility (SRI uses farmyard manure), and fish culture (SRI makes it possible to free up land area for fish ponds). The Ministers of Agriculture and Environment are personally promoting SRI. One farmer receiving an award for the highest SRI yield attained an average level of 14.6 t/ha, with one crop-cut of two kg/m<sup>2</sup> (20 t/ha). In the field, productivity under the SRI method is about 3.5-4 tonnes per hectare, compared to 1.5-2 otherwise, according to CEDAC, an NGO promoting SRI. Farmers are now making many modifications in their farming systems based on SRI, to diversify production for both better income and nutrition.

SRI promotes utilisation of less chemical fertilisers and more organic manure. This can reduce the cost of production as compost is readily available for most farmers, with farm animals being an integral part of their farming system.



Source: <http://ciifad.cornell.edu/sri/countries/cambodia/index.html>

### Diversify crops

More than 90 percent of farm land is allocated to rice, this despite the country having the environment to produce a number of crops like maize, soybean, cassava and some pulses, in addition to a range of horticultural and tree crops. At one time, the country even grew cotton (in Kampong Cham and Sihanoukville).

*Examples of losses emerging from monocropping:* The garment sector is not supplied by Cambodian cotton because Cambodia stopped growing cotton some five decades ago, nor does the tourism sector necessarily draw upon Cambodia-grown food products (fruits, vegetables, meat); instead, food produced in other countries, which could competitively be grown here, serves the tourist sector.<sup>(52)</sup>

Lack of crop diversification may be reinforced for fear of loss by switching to alternative crops. Among problems faced by individual farmers in growing other crops is that at most locations, the marketable supply is not large enough to attract other buyers for anything other than rice. Lack of a critical minimum supply volume of alternative crops also inhibits the agro-industry from establishing value chains of Cambodian food products. What is required is for a large number of farmers to simultaneously switch to other crops, an initiative that could come about through popularising a 'farming systems' approach and agricultural extension (Boxes 4.2, 4.3, 4.4).

### An integrated 'farming systems' approach

This is an approach wherein a combination of different perennial (including tree) and seasonal crops, along with livestock and even fisheries in farm ponds or flooded agricultural lands, are jointly planned at the farm/household level. This approach seems appealing in Cambodian conditions, even for small farmers; it yields more income, protects the ecology and shields farmers against natural disasters or price fluctuations.

A farming systems approach also works well in small farms. For example, with support from an NGO, farmers in the forest areas of Pursat have been practising SRI along with farm forestry and vegetables, as well as breeding pigs and chickens. Each farmer owns no more than one hectare of land.

<sup>(52)</sup> See EIC (2006), pg. 21.



## Box 4.2: Success from crop diversification on a Cambodian farm

Enterprising farmers are seeing potential for growing food crops other than the traditional rice. One farmer a few kilometres outside Phnom Penh began to crop diversify on only 0.5 hectare of land in 2000. In a year, he was able to sell 4.7 million riels worth of vegetables; this increased to seven million riels in three years, as more land was allocated.

One reason for success, the farmer maintains, is the identification of niche markets for non-rice food items in a period when urbanisation is on the rise and demand for non-rice as well as processed food products is rapidly growing. Many like him also used their social networks to make inroads into the larger markets in bigger cities, which becomes necessary in the absence of institutional mechanisms.

The farmer obtained his earlier training in horticulture from an NGO. He feels that for agro-technology (mainly fertilisers, seeds and pesticides) to speedily diffuse far and wide, the initiative must come from institutional sources within the country. Next, diffusion should be a continuous process. The farmer is aware of the modern advances in high-yielding technologies, but feels technically and financially constrained from accessing the whole package; he therefore uses them selectively.

All fixed capital requirements have been met from the farmer's own resources; there is no institutional borrowing. For working capital, he has occasionally resorted to borrowing from the kinship network on a mutually reciprocal basis, at relatively low interest rates. Seldom has a microcredit institution been approached; the reason cited was non-familiarity.

This commercial farmer sells his produce both through dealers and directly into the market. In the dry season he has faced price fluctuations; to overcome this problem he ferments and/or dries his vegetables (the local food processing techniques) and sells them later. Maintaining good relations with dealers as well as moto-drivers is critical to marketing his products. He reports, however, that payment of informal fees to get merchandise to the markets has been irksome.

Continuous innovation into diversification holds the key to success: This farmer recently has begun to grow mushrooms.

Source: Adapted from Acharya, Kim, Chap and Meach (2003)

### Key message:

1. *Sustained productivity gains must stay ahead of rising input costs for farmers to thrive. Purchasing bulk inputs at the best prices, selectively substituting farmyard manure for fertilisers, adopting a farming systems approach, diversifying crops and embracing alternative cropping regimes are important options. Strengthening agricultural extension will be necessary to achieve these gains. The promotion of small farmers associations/collectives, as well as the introduction of processing centres for alternative crops, can provide incentives for farmers to diversify.*
2. *Any decision-making regarding crop diversification or management systems must also take into account the voices and needs of women, who contribute substantially to farm labour, production and sale of agricultural goods.*
3. *Most countries in the world, developing and developed, provide some support to their agriculture – some provide outright subsidies, others input price support, and yet others modern technical services. It will be useful to explore what combinations of support instruments will work best in the Cambodian context.*

### Box 4.3: Need for extension and farming systems approach – learning from Thailand, Taiwan province of China, and Vietnam

A great deal of knowledge on rice growing already exists with the Cambodia Agricultural Research and Development Institute (CARDI), but it is not necessarily disseminated to farmers. In addition, CARDI has conducted only limited studies of non-rice upland farming systems.

Institutions such as the Farming Systems Group in Chiang Mai University (Thailand) may be able to contribute to upland farming systems knowledge quickly. Taiwan province of China has excellent technical knowledge of vegetables in its institutes. Vietnam has extensive packages for integrated highland farming, livestock and fish ponds. Adapting from these groups would be one way to overcome the shortfalls in upland farming systems in Cambodia. These knowledge transfers could be combined with funding for demonstration on trial plots in each province.

For rice, the knowledge is largely available at CARDI but needs to be better connected and extended through provincial institutions. Use of television, radio and printed material should be combined with the traditional method of direct farmer visits. Perhaps elementary schools can be induced to start demonstration plots with bulletin boards identifying the seeds used, type, timing and amount of fertilisers and other inputs applied. Comparing yields on the school plot with those of students' families might bring home the advantages of using improved techniques. This can be extended to simpler techniques that focus on how to plant rice in different ways for better yields, which involve little risk or cost. These efforts could be started up relatively quickly, at least on a pilot basis.

A special problem exists in reaching minority groups, who still practice shifting cultivation. 'Starter packs' giving small amounts of seed and fertiliser, with instructions, for a very small plot (0.1 hectare) will be one way to introduce improved techniques. However, with poor water control, improving upland (non-rice) and tree crop yields may be a higher priority. In any case, thought and effort need to be directed at helping minority groups to adjust from shifting to a more sedentary style of farming, as difficult as that is likely to be. A minimum rate of literacy will be required to succeed.

*Source: Dapice, Vallely and Wilkinson (2006)*

### Box 4.4: Soil stabilisation – a farming systems approach in China

The Red Soils II Area Project in China (1994-2000) addressed soil loss and degradation in more than 11 million hectares. Key features were:

1. All farms were required to incorporate livestock in the farming system for manure and early income until the higher-value horticultural tree crops bore fruit.
2. Each farm had a supply of irrigation water from handheld hose systems from hilltop tanks.
3. Contour planting and appropriate conservation were carried out according to actual slope, rather than universal terracing.
4. Emphasis was on diversification rather than specialisation at individual farm level and on the incorporation of a balance of lowland and upland areas for rice, other crops and horticulture.

A financial rate of return of 16 to 17 percent and an economic rate of return of 19 percent has been calculated for the project. In Cambodia, this approach can be useful for farming lands claimed from degraded forests.

*Source: Adapted from Acharya, Kim, Chap and Meach (2003)*

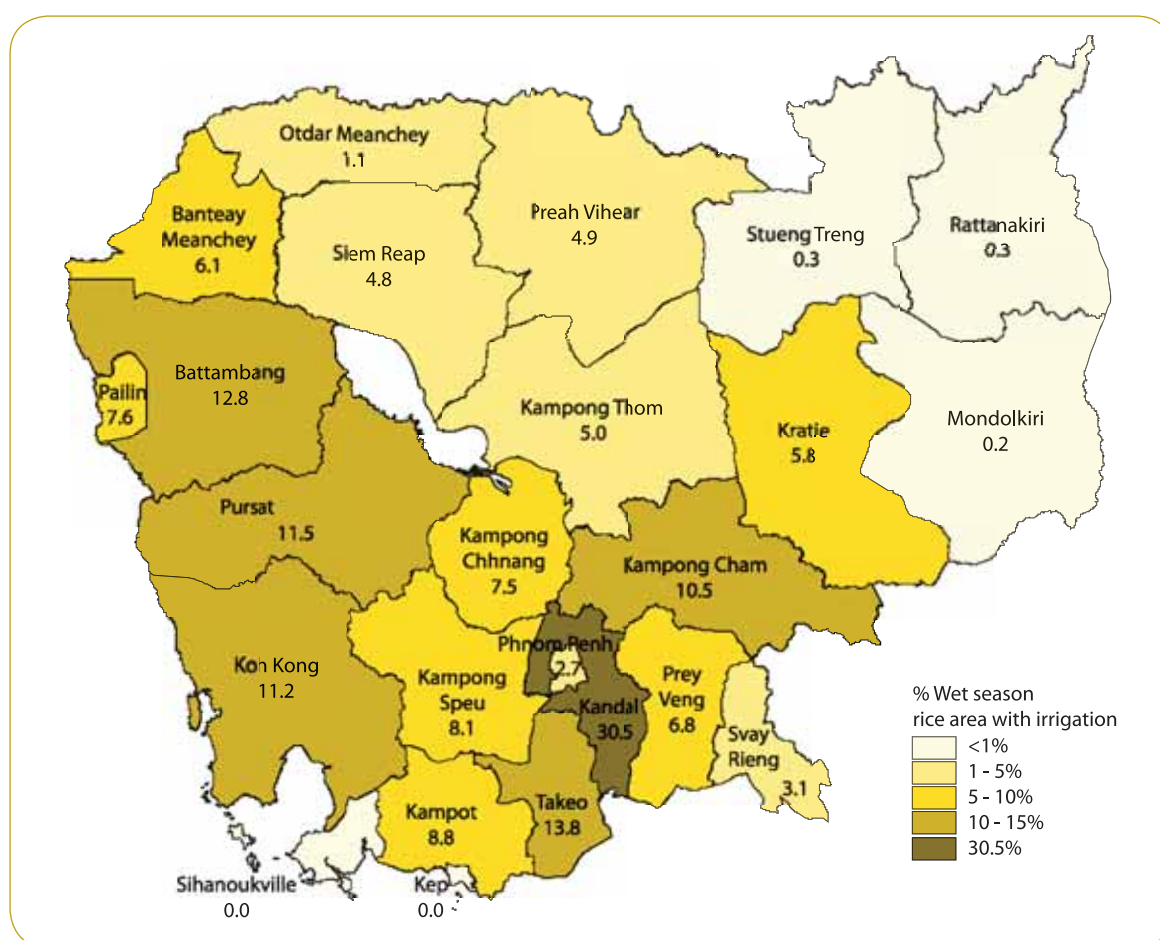
Only seven to eight percent of the sown area receives controlled irrigation

## 4.2 Harnessing water for irrigation

An important supply-side constraint in raising production is the lack of controlled irrigation in most areas. Only seven to eight percent of the sown area receives controlled irrigation (Figure 4.4).<sup>(53)</sup> Even here, there are large regional variations; some northeastern provinces have virtually no irrigated area.

Cambodia has more water surfaces than almost anywhere in the world where agriculture is the mainstay of people's livelihoods; about 90 percent of its land lies in the catchment area of a perennial river. Yet since the early 1970s, neither has the surface potential expanded nor is groundwater exploited significantly. Even after the establishment of a new Ministry to manage water resources, a major part of the work undertaken has been toward repairing old reservoirs rather than planning for large-scale, multiple-system irrigation schemes. Budgetary support to irrigation was only US\$13 million in 2005,<sup>(54)</sup> despite the emphasis on irrigation in the infrastructure section of the Rectangular Strategy.

Figure 4.4: Percent wet-season rice land that has supplemental irrigation, 2005



Source: MOP Commune Council Database, <http://www.seila.gov.kh>

<sup>(53)</sup> This number is calculated from the MOP Commune Council Database. EIC (2006) data also concur with this number. NSDP, however, places the number at 20 percent (RGC 2006a). TWG – Agriculture and Water (2006) states that irrigation in the wet season is about 20 percent, while it is seven percent in the dry season. The actual number is difficult to assess in the absence of an agricultural census; nevertheless, the fact remains that the proportion of area irrigated is small compared to the potential.

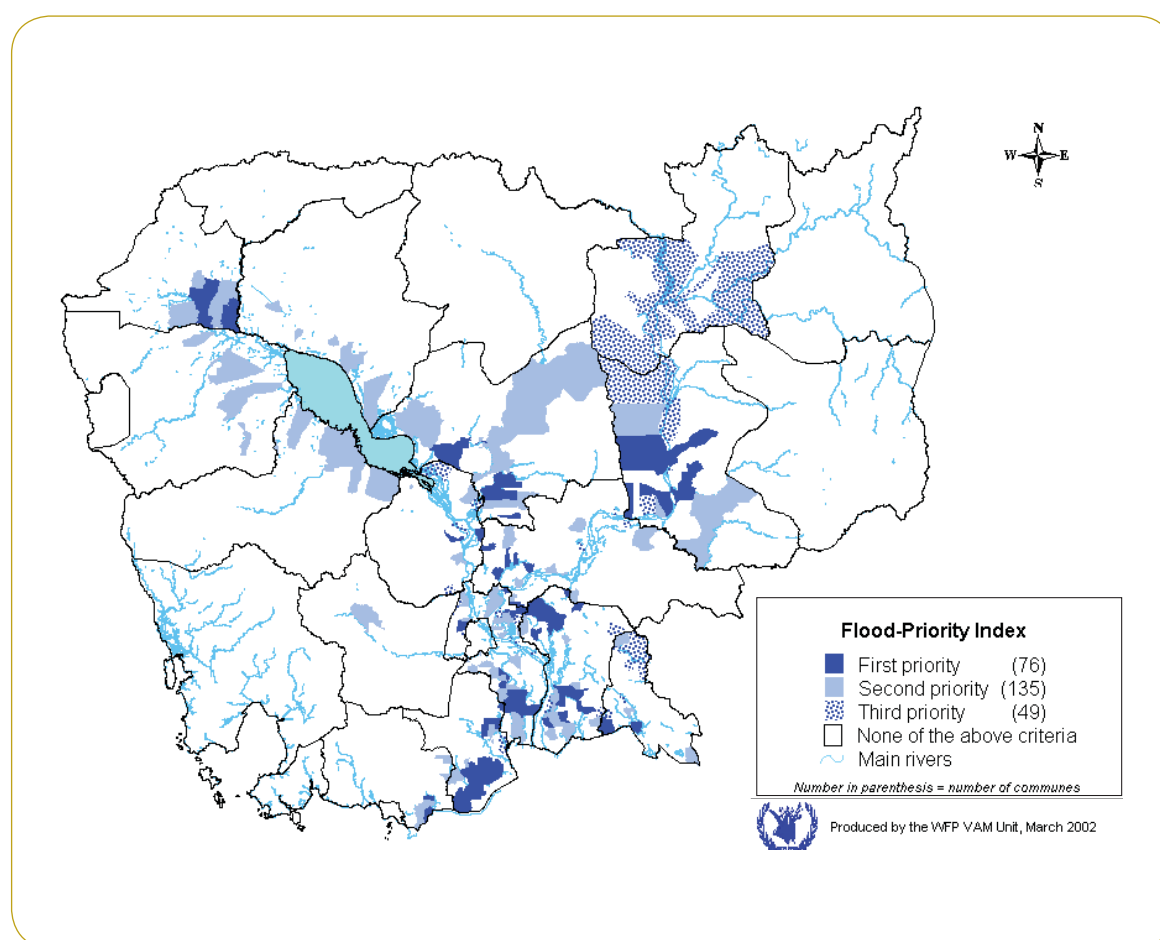
<sup>(54)</sup> This number is quoted from Chan Sopha's written presentation at the Cambodia Outlook Conference, 27 February 2007, organised in Phnom Penh by CDRI and ANZ-Royal

Lands are being continuously claimed for cultivation by felling forests. Because large parts of these flooded forests are on the Tonle Sap and Mekong, deforestation increases flooding and soil erosion. Conversely, when rains fail, drought adversely affects crops and livelihoods. Water catchments can help control both floods and droughts. In fact, significant overlap exists between areas that alternatively face floods and droughts (Figures 4.5 and 4.6).

Three approaches to water harvesting and irrigation are listed below:<sup>(55)</sup>

- Surface water: It is crucial to harness surface water by constructing reservoirs for protecting the wet-season crop and promoting dry-season cultivation. Water catchments also insure against droughts and floods and can selectively be used for breeding fish and aquaculture.
- Groundwater: Groundwater and rainwater harnessing are important in places where surface water is not available.
- Governance: Instilling better governance will help to better conserve and distribute water.

Figure 4.5: Flood-prone areas



Source: WFP, Cambodia

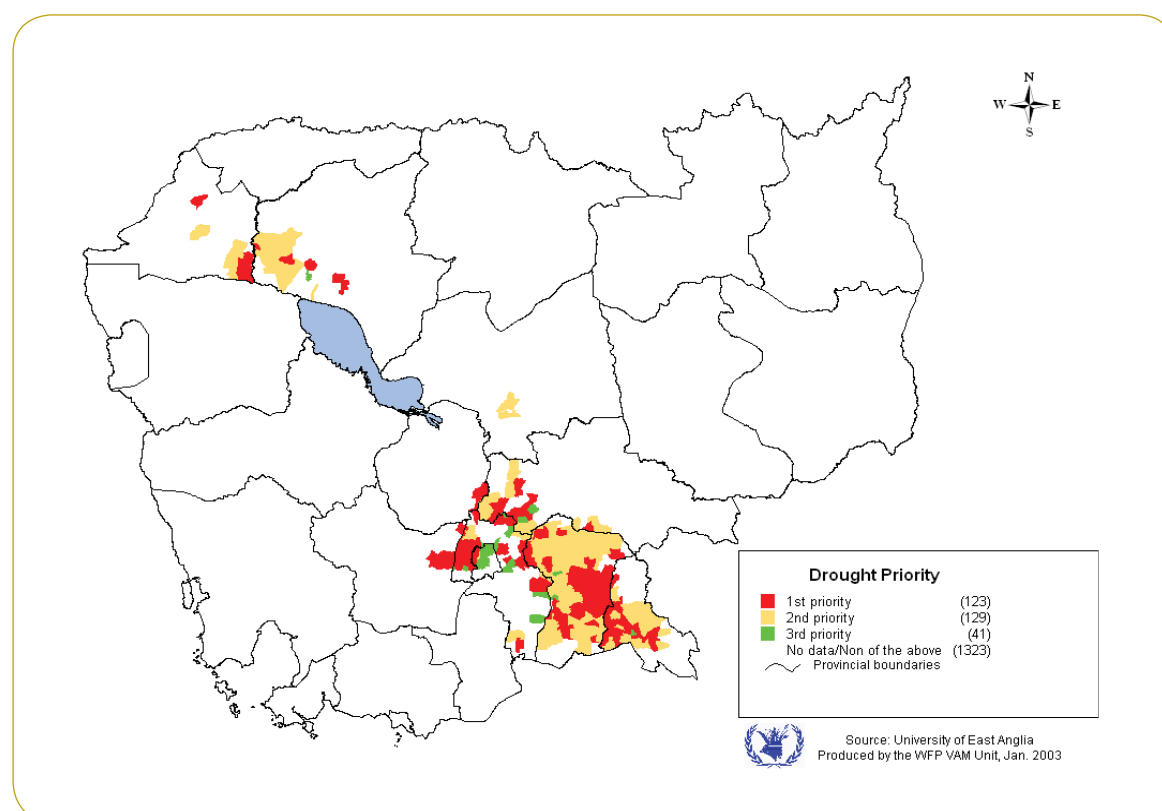
<sup>(55)</sup> Details can be seen in TWG – Agriculture and Water (2006).

Dams and water catchments can be large, medium or small and have varied shapes. At some locations, the size of a reservoir is dictated by the terrain and the water volume and flow, but in other cases, a choice of scale could be exercised. Smaller dams have simpler technologies, are easier to repair, can be managed at the decentralised level and are cheaper to construct.<sup>(56)</sup> Given Cambodia's unique ecology, dam construction will have to be designed carefully to minimise potential negative environmental impacts.

Irrigation solutions can be found beyond water catchment structures. In places where water is available in the vicinity (surface or underground), examples of small-scale water harnessing approaches abound in Asian countries. Even in Cambodia, in areas where rivers and water bodies are nearby, farmers have used simple innovations to channel waters into their fields using only gravity and little or no mechanical energy (Box 4.5).

Irrigation options other than gravity-based canal systems flowing out of reservoirs, e.g., harnessing groundwater, require inexpensive power. Diesel engines, presently in use in some locations, are expensive, and the crop becomes too costly to be profitable. Other Asian countries where a strong agricultural sector exists have invested in rural electrification. Grid-based rural electrification is the only real alternative; in the interim, however, animal-drawn or other manual devices can be put to use.

Figure 4.6: Drought-prone areas



Source: WFP, Cambodia

<sup>(56)</sup> A critical review of dams can be seen in the report and background papers of the World Commission on Dams. See <http://www.dams.org>

### Box 4.5: Inexpensive water harnessing in Cambodia

A farmer from Svay Kun has attempted to harness water for irrigation at very low cost. At one time, even though his family owned 2.5 hectares of land, the land was not producing enough and their living conditions were very poor. The family had only one bullock and had to look for outside help to till land. The farmer then came in contact with IDE, an NGO, and saw the Rabbit Treadle Pump, and he recognised the possible gains to his household if he could acquire such a pump for his farming. With his meagre savings he was able to buy a treadle pump for 110,000 riels (US\$30). Installation costs were kept low because he used branches of trees to fix the frame to support the pump head, and no apron was cast around the pump since it was installed in the middle of a rice field, so that all water could go directly to the land to be irrigated.

Before getting the pump, the farmer grew only one crop of wet rice a year and cash crops of mostly watermelons on ten ares of land (.01 ha). But once the pump was installed, he began growing rice during the dry season as well and increased the size of land under cash crop from 10 to 60 ares. Within a year he earned 500,000 riels (US\$142) through selling watermelons and 1,100,000 riels (US\$314) from the dry-season rice. The family decided to use this extra income to build a house with a tiled roof, and to buy a female cow to increase their bovine stock. The farmer is still concerned about the future of his children, but now is more confident. He is planning next year to buy a second pump to enlarge his agricultural production and also is renting two more hectares of land. The next task will be to dig a ten square metre pond where he can start raising fish.

Treadle pump technology can be a powerful tool for raising incomes of small farmers in Cambodia. Its benefit-cost ratio has been worked out at five to one, with an internal rate of return of 100 percent. Other, smaller devices are in operation in Cambodia as well, (e.g., the Rope Pump, *Snaup Tuk Rovai*), completely indigenously designed and available for US\$85.

#### Key message:

*Expanding irrigation is pivotal for raising farm productivity and farmers' incomes. Water can be harnessed through various methods, at different scales, with participation of stakeholders.*

### 4.3 Making affordable credit accessible

Commercial banks in Cambodia do not lend money for rural or farming operations. Instead, more than 100 microfinance institutions (MFIs), seven of which are licensed by the Central Bank, provide credit to farmers and other rural borrowers. Many MFIs provide short-term credit in small quantities to petty traders and farmers. In addition, they meet clients' household expense needs, largely through group loans. Interest rates usually range from two to four percent monthly. MFIs also help mobilise local savings.

Because the capital base of MFIs consists of common people's deposits and promoters' share capital, along with donor money in most cases, a critical underlying condition in any lending operation is on-time payback. If there is default on repayment, depositors lose confidence and the operation collapses.

Large numbers of subsistence farmers in Cambodia do not engage with the modern banking system, including MFIs, because they do not necessarily possess the capacity to meet repayment schedules. Some farmers may not even trade their products; hence, they are naturally outside the banking paradigm. Current statistics suggest that out of an estimated 5.29 million workers (1.32 million households) engaged in agriculture, 0.42 million – or less than one-third – have accessed institutional credit. The credit gap is presently bridged by local merchants, who may not be monopolists in the classical sense but have cash and access to market information, which farmers do not. The merchants lend inputs (or credit in lieu thereof) at monthly interest rates of seven to ten percent. These high interest rates place farmers, particularly small ones, in risk-disadvantageous positions.



Some countries resort to subsidising interest rates to small farmers or earmark monies for lending to agriculture from government-owned banks. This 'cross-subsidy,' however, may not be sustainable in Cambodia because the deposit base is small. It also can retard farmers' transitions out of subsistence. However, if subsidised loans available to Cambodia for rural/agricultural lending from international agencies (i.e., the Asian Development Bank) are transferred by the Central Bank to the Rural Development Bank and then to the farmers, *without a large markup by these intermediaries*, relatively cheaper loans will be available to rural borrowers. It also has been noted that at least one large commercial bank is willing to lend to farmers if they mortgage their land title papers for collateral, and that disputes, if any, are quickly settled.<sup>(57)</sup>

Thus, if titling is completed quickly, local governance is improved (to ensure recovery), markets are competitive enough for small-plot farming to be profitable, and farmers quickly become more profitable with the assistance of extension services, then larger quantities of affordable credit will begin to flow to the sector.

### Key message:

*The farming community needs support to become bankable. A comprehensive agricultural modernisation package, backed up by agricultural extension, becomes essential to achieve this.*

#### Box 4.6: A small loan that works

Theam Phally, 25, now can proudly look to the future and forget all her former suffering. When her husband left her some years ago, Phally, who was poor, had no means to support her two-month-old child. She was considered an unlucky woman in her village.

'My life was very difficult because my husband left me, and my child was still very small,' she said. But following advice from her fellow villagers, she borrowed 50,000 riel (US\$12.50) from a microfinance institution. No one suspected how much this small amount of money could change her life – but the results have been remarkable.

With that small amount of money, Theam Phally started a process of leaving home as early as 3:00 a.m., carrying 50 kilograms of rice on an old bicycle to sell at the market. For more than two years, she regularly travelled 16 kilometres on a muddy, slippery road to sell the rice. Eventually, Phally was able to save enough money to buy a motorbike, and she has opened a small shop at her home in Peam Reang commune, Loeuk Dek district in Kandal province.

'I was able to expand my business gradually until I was able to open a small stall in front of my house,' said Phally, now surrounded by shop shelves packed with rice, vegetables, fish and meat.

At a national summit on microfinance, UNDP Resident Representative Douglas Gardner reminded participants that 'microfinance impact lies in continued access to financial services, not just one-off loans. This broader and sustainable access is critical for the development of the microfinance client base.'

Phally herself is still a loyal client to her microfinance institution.



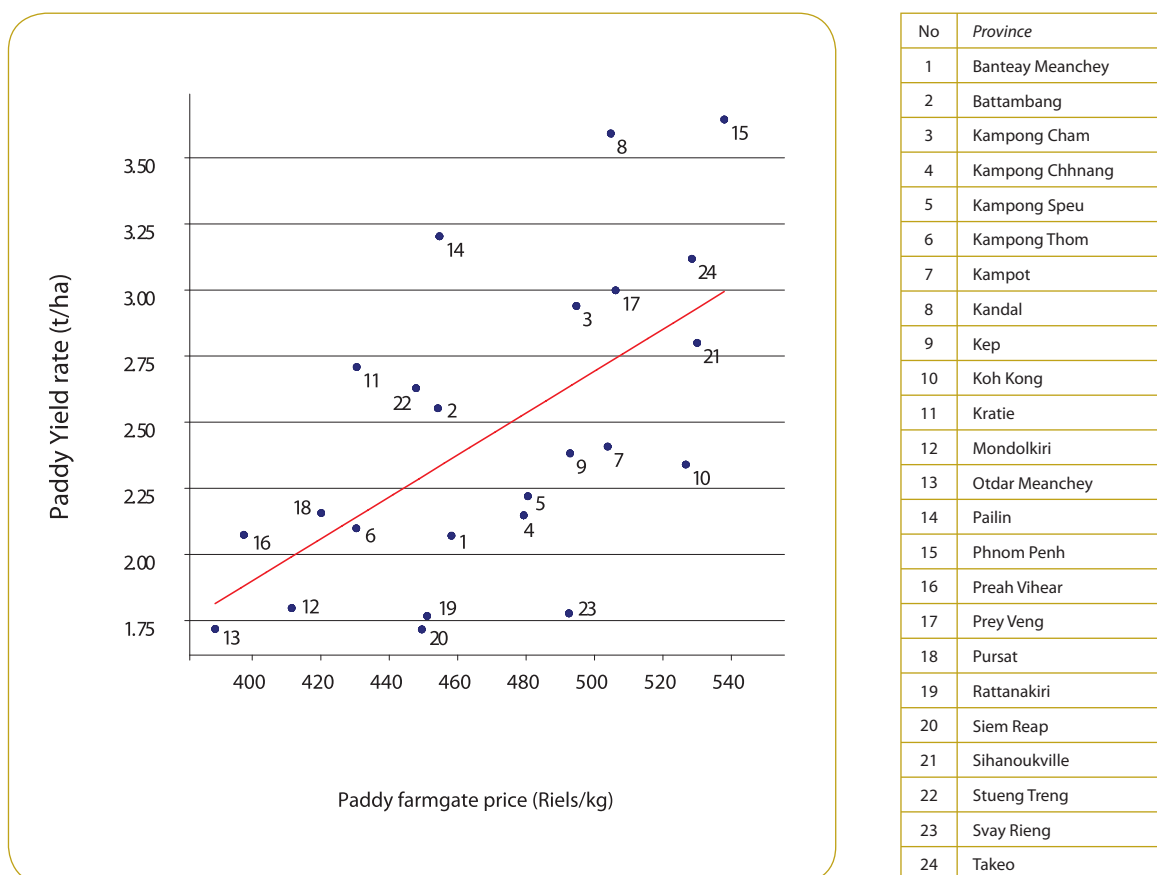
<sup>(57)</sup> Source: Acharya, Kim, Chap and Meach (2003).

## 4.4 Ensuring stable output prices

Like other businesspersons, farmers respond to higher profits by producing more: They allocate more area under the crop, try to raise the yield rate, or both. This result has been found to hold for different countries and crops. A simple scatter of the yield rates achieved and farm gate prices of paddy across provinces, suggests an output response to prices exists (Figure 4.7).<sup>(58)</sup> A better price, therefore, can help to obtain higher yield rates and incomes for farmers.

*Like other businesspersons, farmers respond to higher profits by producing more: They allocate more area under the crop, try to raise the yield rate, or both*

Figure 4.7: A scatter of paddy prices and yield rates, by province, 2005



Note: Correlation coefficient=0.597, accounting for 32.7 percent of variation.

Sources: for yield rate, MAFF; for price, aggregated from MOP Commune Council Database

<sup>(58)</sup> See, Sik (1998) for more discussion on this topic.

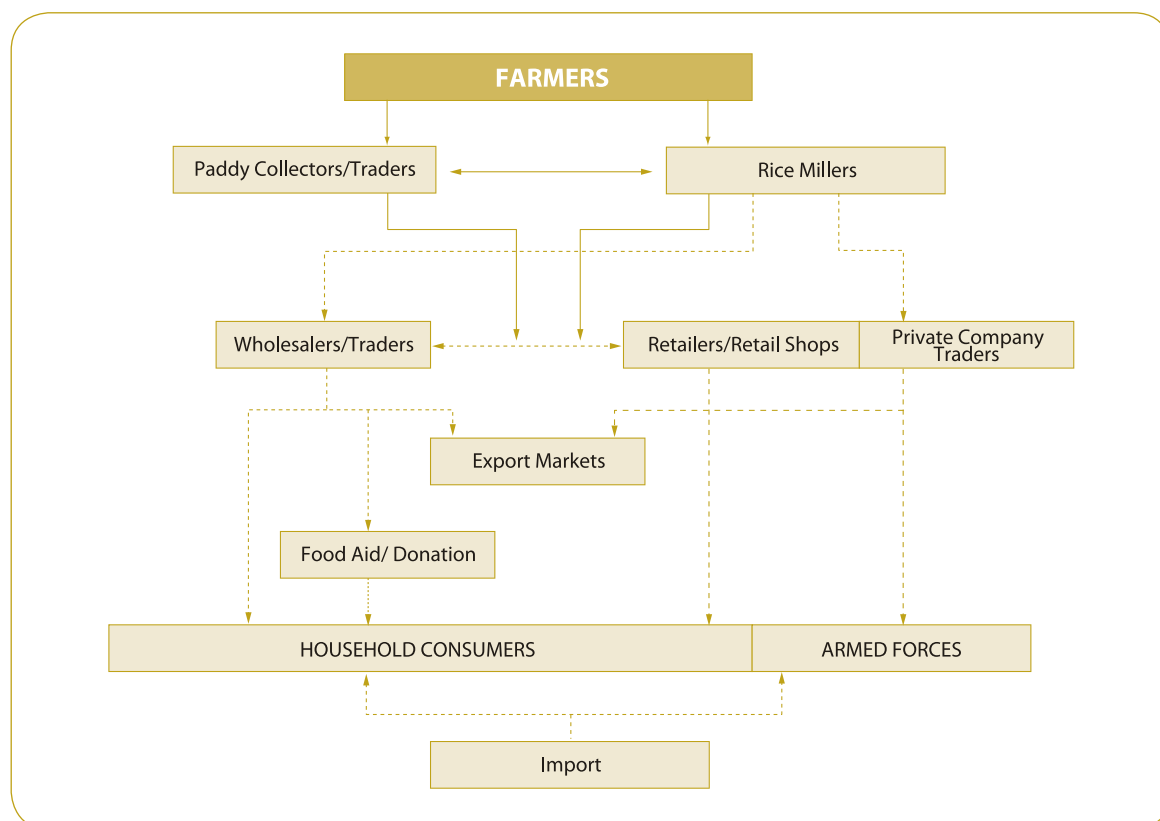
*The farmers' position is the weakest in the value chain. Part of the reason is lack of information, part is indebtedness, and part is their weak financial position*

Paddy price support to farmers existed by way of monopoly paddy procurement by the Government between 1981 and 1989. Thereafter, markets were fully privatised. Currently, the paddy/rice marketing system consists of many operators: small-scale merchants who collect the produce from farmers, wholesalers, millers, distributors, retailers and so forth (Figure 4.8). Markets for other crops (e.g., maize, soybean) also have many intermediaries, implying the existence of many commissions, costs and rents.

### Some observations on the present system:<sup>(59)</sup>

- The farmers' position is the weakest in the value chain. Part of the reason is lack of information, part is indebtedness, and part is their weak financial position, each of which forces farmers to dispose of their stock as quickly as possible and at whatever price is available. Acute asymmetry of information prevails for other crops too: ethnic minorities sell cashews at 400 riel/kg in Rattanakiri, while others get almost 1,000 riels for the same crop quality in the same market.<sup>(60)</sup>
- Wide margins are found (1:1.7) between what the farmer gets and what the consumer pays, as seen for paddy (Figure 4.9). Of course, milling accounts for part of the price gap, but the miller keeps the bran and chaff, whose cost is about the cost of milling plus a nominal profit.
- The worst situation is when a moneylender also acts as an input supplier and grain dealer, which forces the farmer completely under the control of the merchant-moneylender: s/he sells all the produce to the merchant at the harvest time at a predetermined (low) price. When the market is at its peak, it is the merchant, not the farmer, who gains (Figure 4.10).

Figure 4.8: Rice marketing in Cambodia

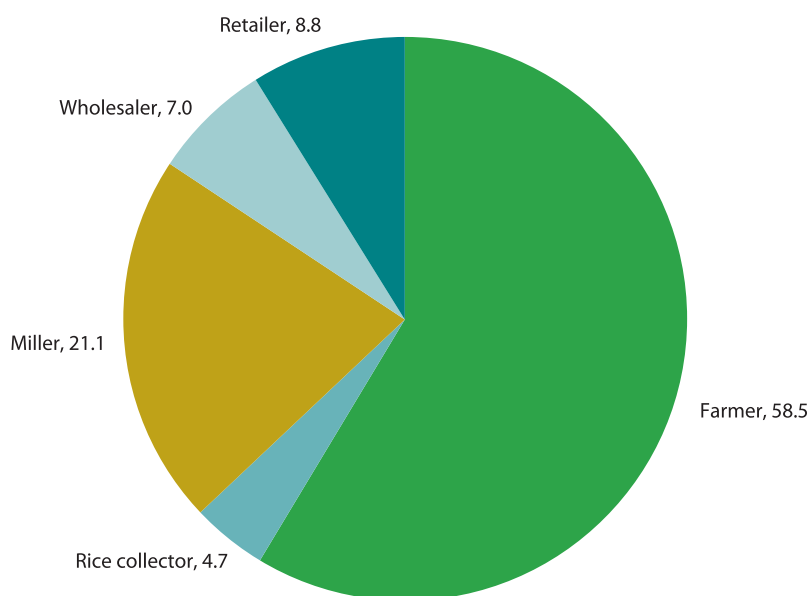


Source: Sok, Chea and Sik (2001)

<sup>(59)</sup> See Sok, Chea and Sik (2001); Nou (2005).

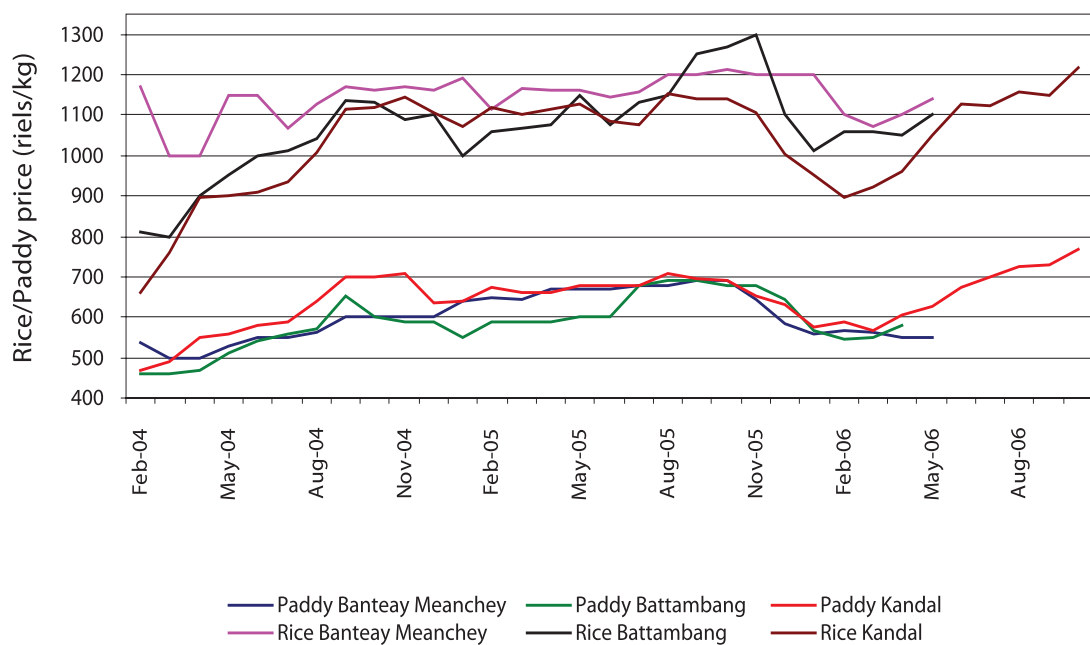
<sup>(60)</sup> Dapice, Vallely and Wilkinson (2006).

Figure 4.9: Price margins from paddy to rice and farmer to consumer (%), 2003



Source: Calculated from data obtained from MAFF and RGC (2003)

Figure 4.10: Price trends of paddy and rice (Phkar Knhey) in Cambodia



Data source: MAFF (raw data)

Paddy farmers obviously will benefit enormously from a more remunerative rice farm gate price. The following are options for consideration: <sup>(61)</sup>

#### Alternative 1:

Individual farmers have no control over prices, but act collectively to obtain better prices for themselves. Organisations of farmers, which might help in augmenting their bargaining power, are largely nonexistent in Cambodia. Some effort in this direction is now being made by NGOs.<sup>(62)</sup> A proposal to fetch better prices for farmers through farmers' organisations (the Open Paddy Market) has been experimented with on a pilot basis in Prey Veng and Kampot provinces. It provides for establishment of collective grain storage facilities so that farmers borrow against their grain rather than sell it in distress, and the grain is sold only when the prices are at their most remunerative. This experiment should be seriously examined for possible scaling up.

#### Alternative 2:

Farmers can make collective agreements with millers for a 'negotiated price,' at which the farmers would be obliged to sell to the millers at harvest. Contracts with *millers* rather than a miller, renewed each season, can be most beneficial to farmers. The major difference between this and Alternative 1 is that farmers will not have to provide rice storage. Success will depend upon how fast a domestic rice milling industry modernises and grows.

#### Alternative 3:

A more rigorous form of Alternative 2 is a formal contract arrangement between farmers and food processing companies. In Cambodia this has been very limited, but at least two successes have been recorded in the cases of fragrant rice and tobacco.<sup>(63)</sup>

#### Features of contract farming include: <sup>(64)</sup>

- a. A large agro-processing company contracts the produce from smaller growers for a predetermined price and quantity.
- b. Strict quality and input-supply control is exercised over the produce and process.
- c. A critical minimum volume of the produce must come in, or else the company may not find it meaningful to get into the contract. For this, farmers must possess facilities like controlled irrigation, mechanised implements and so forth.
- d. Farmers either enter into a contract with a company or set up large cooperatives and the cooperatives enter into contract with the companies. In some cases the cooperatives themselves set up processing facilities, but this may be too ambitious at present.

<sup>(61)</sup> A case for better terms of trade for primary sector producers also has been made by UNDP elsewhere. See <http://www.undp-povertycentre.org/pub/IPCOnePager24.pdf>.

<sup>(62)</sup> E.g., CEDAC is forming rice farmer associations in Takeo and Kampot.

<sup>(63)</sup> ACI (2005); <http://www.angkorrice.com>.

<sup>(64)</sup> Golletti (2004).

## Can Cambodian farmers gain from contract farming or any collective bargaining system?

*The aim is to hedge against an excessive downward pressure on rice prices during harvest time, benefiting farmers, and to cut into the 'rent seeking' of local traders*

- a. Those areas with easy accessibility by roads/rail can gain.
- b. Farmers who can *judiciously allocate all or a part of their land* for generating marketable surplus, including small farmers, can benefit. The poorest farmers may not immediately gain from such an approach, since they may not be able to meet quality and supply conditions. But small farmers who can grow more than just for their subsistence can successfully participate.
- c. Organising farmers is a big challenge, though not impossible – successful cases exist. Members of successful organisations can certainly benefit.
- d. Farmers will gain if the product price is stable and mutually negotiated with linkages between cost and inflation.
- e. Farmers likewise can gain if technologies and the wherewithal to use them are transferred to them.
- f. The larger the value retained in a localised region, the larger the gains in rural areas.

### *Alternative 4:*

In many countries (mainly South Asia, East Asia and most of Europe), agricultural produce is at least partly guaranteed a minimum return through a Minimum Support Price (MSP). The MSP regime need not be a Government purchase, unlike in the 1980s, when all produce had to be sold to the Government at a predetermined price. MSP only sets a floor price to hedge farmers against a seasonal price dip. It is operated through private merchants, with the Government compensating for the gap between the prevailing market prices and MSP only when the former falls below the latter. Conversely, if prices increase much beyond this level, taxes can be imposed. It is foreseen that the price support and tax will compensate for each other over time.

An MSP-type system, however, has a down side: It can be a disincentive to infusing higher efficiency and promoting crop diversification. It also has run up unaffordably high budget deficits in some countries. Thus, it may not be suitable in the Cambodian context.

These represent four approaches, but there can be others. The aim is to hedge against an excessive downward pressure on rice prices during harvest time, benefiting farmers, and to *cut into the 'rent seeking' of local traders*. *It should not create rents for farmers.*

## 4.5 Fish and livestock marketing

### The fish sector

A large part of aquatic produce in Cambodia is consumed within the country, a substantial portion within the sub-national region where the fish is harvested. Fish is mostly consumed fresh, although about ten percent is dried, salted, smoked, made into paste or made into fish sauce. Much of the processing, however, does not use modern mechanised methods, though a large private company now does so in Phnom Penh. In addition, three plants in Sihanoukville specialise in processing and exporting shrimp, squid and marine finfish, all HACCP<sup>(65)</sup>-qualified. Some produce is marketed overseas, mainly in Thailand and Vietnam. International trade is partly controlled by a Government-promoted company, which in turn appoints private agents to procure the produce for a fixed tax. A substantial quantity of produce is exported outside official channels to circumvent the bureaucracy.

<sup>(65)</sup> Hazard Analysis and Critical Control Point for seafood, administered by the Centre for Food Security and Applied Nutrition of the US Food and Drug Administration.

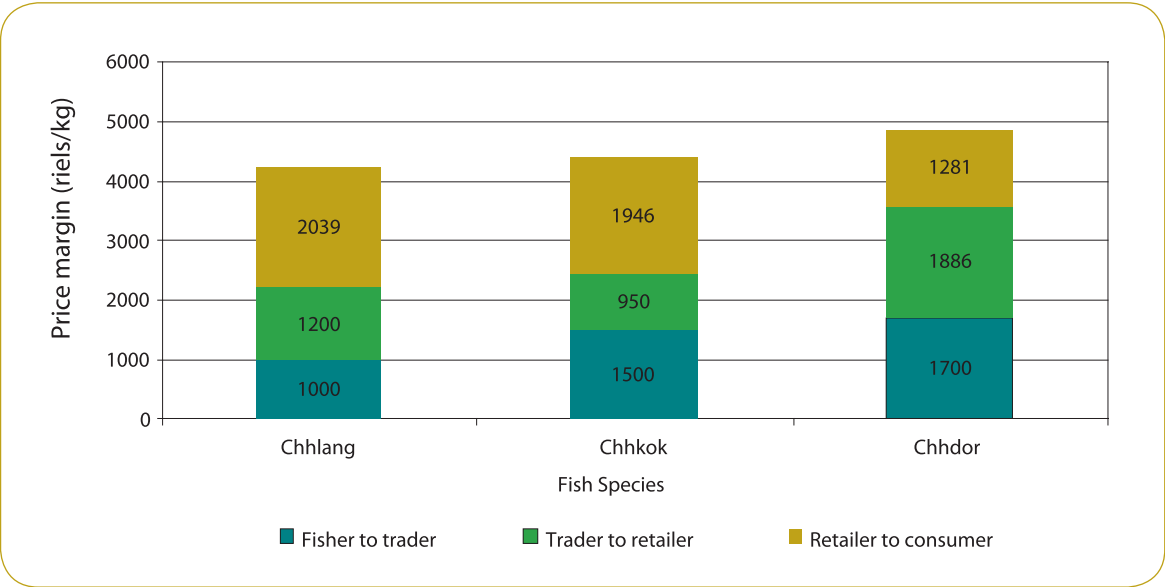


The impact of high costs is finally felt by small merchants and producers alike, but the most affected are the small fisherpersons

Until 2001, a significant proportion of the marketable surplus emerged from fishing lot owners, which was collected by merchants from defined landing and marketing spots. A reduction in the area under fishing lots has opened up options for smaller fisherpersons to access more fish. In the process, however, the number of landing spots has increased, with many new spots having a relatively small volume for sale. This poses a marketing problem, since it is not always commercially viable to collect small volumes from a large number of geographically scattered landing spots.

The fisherpersons receive a price that local marketing agents offer at various landing and marketing points, which may not be the best price. Traders get 65 to 75 percent of the share, while producers receive only 35 or 25 percent (Figure 4.11). Social and commercial contracts, operated through expensive credit, bind the producers with traders. The latter lend money to the former in exchange for the former supplying fish during the following season(s) at predetermined prices. Traders thus control the whole business, and the fisherpersons can do little because they lack access to markets or finance.<sup>(66)</sup>

Figure 4.11: Fish price margins: Tonle Sap to Phnom Penh



Source: Yim and McKenny (2003)

High transport expenses (slow vehicles and bad roads), coupled with poor refrigeration facilities, result in high levels of wastage of this perishable product and hence increase the unit cost. Informal payments also raise the cost. Part of the produce is marketed in Thailand, where another uncertainty arises from the fact that the Thai merchants quote prices in bahts, while costs incurred by Cambodians are in US dollars. Baht/dollar exchange rate fluctuations can adversely affect producers in Cambodia. Finally, inflation in diesel/petrol prices, in contrast to fish prices, adversely affects the fisherpersons in the same way as they do crop farmers. The impact of high costs is finally felt by small merchants and producers alike, but the most affected are the small fisherpersons at the end of the chain.

<sup>(66)</sup> Yim and McKenny (2003); Rab, Hap, Seng, Ahmed and Viner (2005); Sok (2005).

## Box 4.7: Trade in fish – some field observations from the early 2000s

### *Observation 1: Export payments are high*

Exporters to Thailand paid fees 28 times (including three payments on the Thai side), of which eight were to economic police, three times to provincial fisheries and twice to military police and other stakeholders, with or without legal basis. Among these, payment to Thai customs (no legal basis) was the highest, more than double the official tax paid to Cambodian customs. Other major fee payments went to KAMFIMEX as road fees and to authorities of the Department of Fisheries and the Provincial Fisheries Office at Poipet. All these fee payments took 33 percent of the exporters' gross margin, while 52 percent was for expenses on transport, labour and other management aspects; the remaining 15 percent was credited to their net profit.

### *Observation 2: Transportation is expensive*

Fresh fish also is marketed in Thailand. Middlepersons pay five baht per kg to transport the merchandise (a 30-tonne lorry) from Tonle Sap to the Poipet border to cover the freight cost (diesel and other operating expenses), road fees and checkpoint payments. They additionally pay a licence fee of 100,000 riels per trip and labour costs of 400,000 riels monthly. At the border, warehouses cost about 30,000-40,000 riels (per truck, one voyage), although only the larger operators use this facility; it is otherwise not economical. Ice totalling another 50,000 riels for storage is required at the warehouse. Adding to the costs are a border fee of 100,000 riels, Thai customs (500 baht per tonne), and additional bribes to cross the border. The smaller traders just cross the border and dispose of their product at whatever price they get. Expenses when the merchandise are shipped to Phnom Penh are lower because the distances are less, checkpoints fewer and informal payments somewhat less. But then, the final output prices also are lower in Phnom Penh than Poipet.

Sources: Observation 1: Acharya, Kim, Chap and Meach (2003); Observation 2: Rab, Hap, Seng, Ahmed and Viner (2005).

## Box 4.8: High transport cost experienced by villages on the Tonle Sap

A large number of villages are dispersed on the Tonle Sap, mainly inhabited by fisherpersons who may own very small land plots that become inundated during the rainy season; these are reachable only by boats in any season. The main livelihood comes from fishing, for which the gear, inexpensive transport and price information are all vital prerequisites.

Field visits in Kampong Chhnang suggest that diesel prices in these villages are about 20 to 25 percent higher than what they are only a few kilometres away at market centres. Similarly, the fish and fish products they sell to traders who visit the villages to pick up stock are priced 10 to 20 percent lower compared to prevailing prices at nearby market centres. Ice for storing fish is expensive in the villages compared to the marketplace.

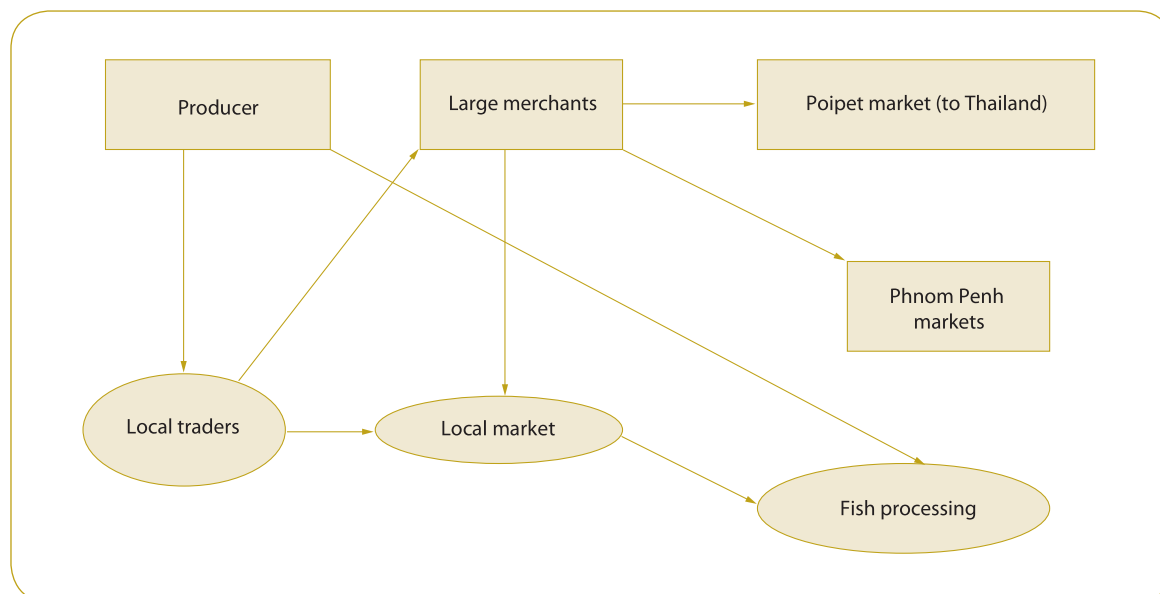
A small mass of marketable surplus at each locale exists, because of which unit cost of transport by the prevailing boat system is high. Traders fully control credit and prices; they enter into advance deals for the supply of fish in return for credit offered, at four to six percent monthly interest rates. While many fishing communities have formed savings groups, the amounts collected presently are too small to meet the working capital expenses – these monies are mainly used for consumption expenses in the lean seasons. Inexpensive transport and communications systems can help overcome some of the problems stated here.

The community fishing initiative presently addresses only the management of the resources: ecological issues, gear, patrolling against illegal fishing, and so on. Marketing, credit or costs are not on the agenda.

Source: Field visits in Kampong Chhnang, September-December 2006

It will be useful to draw lessons from other countries where community marketing of perishable products has worked

Figure 4.12: Linkages of marketing operations – freshwater fish



Sources: Evolved from Sok (2005), Rab, Hap, Seng, Ahmed and Viner (2005), and Acharya, Kim, Chap and Meach (2003)

How can the productivity and market access of particularly the small producers, including women fishers and processors, be raised?

- With the introduction of modern technologies, the differential access to catch between the concession holders and individual fishers has widened. Women fishers and ethnic minorities are the worst affected.<sup>(67)</sup> It is important to provide some minimum modern gear (e.g., gillnets, fibreglass boats) to small producers, along with efforts to impart skills to beneficiaries, including women. Strengthening the gear supply also will help create backward-link employment. These provisions can occur under various anti-poverty and promotion packages.
- The landed price, which presently the traders control, must be fairer. A collective bargaining approach can help get a better price for producers (Box 4.9). The community fishery initiative should be able to create mechanisms for such bargaining.<sup>(68), (69)</sup>
- Landing sites are presently ill-equipped. A fish producers' marketing cooperative must have its own resources to set up minimum facilities like arrangements for ice, shared refrigeration systems, some transport, phones and minimum working capital to free producers from exploitive agents.
- Options for adding value must be explored, other than household-level drying, salting, smoking and other operations wherein the producers gain. Women producers, who also have a major role in fish processing, will particularly gain from this.
- The Government should facilitate the process by reducing informal payments en route, lowering fees at market entries and increasing market entry points; e.g., presently there are only three to Phnom Penh.

It will be useful to draw lessons from other countries where community marketing of perishable products has worked. SIFFS, a fish marketing and promotional society, and the AMUL milk cooperative provide such examples (Box 4.10).

<sup>(67)</sup> That women have a major role in fish processing and marketing is well established. See Kusakabe, Prak, Ubolratana, Napaporn (2005).

<sup>(68)</sup> Oxfam (2005) evaluates the current state of the cooperatives and finds that information has not disseminated to the fishers, nor has the organisation of fishers taken root; this requires strengthening.

<sup>(69)</sup> Norway too has a negotiated price for the catch. Both the Republic of Korea and Japan (the Zengoren) have fisherperson's marketing cooperatives. Sok (2005), Bush and Minh (2005) and Kurien, So and Mao (2006) have proposed such approaches for Cambodia under the community fisheries initiative.

## Box 4.9: Possible responsibilities of a community fish marketing system in Cambodia

### Basic function:

- (a) To form cooperatives of fisherpersons, who would bring their produce – say, once a day – to a common point or have the catch auctioned to buyers by a representative of the producers acting as their ‘agent.’
- (b) To set up information systems and arrange for working capital at reasonable interest rates.
- (c) To establish chilling units (or ice – private entrepreneurs could be asked to set up ice plants in return for a guaranteed purchase of ice by the cooperatives) as well as quality control facilities at landing points.
- (d) To bargain for minimising informal fees and checkpoints.

### At a higher level:

- (a) To transport the produce from the landing points to larger markets if private traders are unwilling or their terms unsatisfactory. For this, functional boats and/or trucks with refrigerated/preserving facilities will be required.
- (b) To evolve a vertically integrated decentralised (participative) governance structure for marketing.
- (c) To help set up local value-adding packing/other facilities for the produce not marketed immediately.

Because women are often the smaller producers and traders, they will tend to lose out unless special efforts are made to secure a place for them.

## *Livestock*<sup>(70)</sup>

Livestock contributes about 16 percent to the agricultural economy. It is largely a household activity and provides useful income supplements. Raising cattle, pigs, ruminants and poultry holds high promise for growth. In addition, livestock often integrates well into the overall agricultural farming systems framework. Export of livestock has significant potential, with 80,000 to 150,000 head of cattle unofficially exported in 2004. Official export numbers, however, are much lower – only 10,600 head of cattle, or only two percent of the total livestock exports of ASEAN. Livestock issues include:

- a. Livestock in Cambodia are not stall-fed or tended to, as in many other livestock-exporting countries. If livestock activities are more intensively managed, they can yield better returns to the rural economy.
- b. Trade in livestock is marred by corruption in transport and at border posts. This raises the cost and extends the transit time, thus adding to wastage. Each of these cuts into farmers’ incomes, as well as encourages smuggling. Controlling corruption can prove beneficial here.
- c. Cambodia has to effectively and credibly be able to create a Foot and Mouth Disease (FMD) - free zone within the country, considering the significant cross-border trade in cattle with Thailand, Vietnam and Lao PDR, countries that have not yet succeeded in creating their own disease-free zones.
- d. The need to fully control avian flu cannot be underscored enough, although it is believed that some success already has been achieved.

Vétérinaires Sans Frontières (VSF) introduced a cadre of village animal health workers (VAHW) in 1996. Five years later, and with assistance from VSF, World Bank and IFAD, the Council of Ministers recognised these VAHWs. In 2004 MAFF reported that 4,449 VAHWs, or 75 percent of a foreseen requirement of 5,906, were in place – about four per commune. That two million smallholders have interacted with VAHWs in eight years (1996-2004) is an impressive achievement. A concern, however, is that 80 percent of poultry breeders had not used VAHW services as of 2004. Consolidating the gains made through VAHWs is essential to improve the productivity of Cambodia’s livestock herds.

Cambodia can gain from trade liberalisation in ASEAN (and ASEAN+4) and promote higher exports of livestock within ASEAN and to China. For this, stock improvement may be essential. Value-added exports in terms of meat and milk processing also may be explored.

<sup>(70)</sup> This section draws from Ear (2005).

## Box 4.10: Alternatives in marketing perishable products – examples from India

### *A fisherpersons' marketing cooperative*

The South Indian Federation of Fishermen Societies (SIFFS) is a non-governmental organisation (NGO) working in the marine fisheries sector. SIFFS is the apex body of organisations of small-scale artisanal fish workers, with a three-tier organisational structure.

With more than 6,000 member fisherpersons, organised through 100 primary societies in eight districts of southern India, SIFFS over the last two decades has kept its focus on strengthening the artisanal fisheries. Turnover was US\$5 million in 2004. Established essentially as a fish marketing organisation, SIFFS now provides a range of services to member and non-member fish workers. Fish marketing, however, continues to be a major area of intervention.

Control over first point of sale of fresh fish (beach) has been achieved by village-level primary societies, but marketing beyond the beach level is entirely in the hands of merchants, agents and private companies. While private trade is generally efficient, there are seasons, species and markets where monopolistic practices are detrimental to fisherpersons. SIFFS has been exploring new areas for marketing of both fresh and processed fish through trials and experiments in the export market.

New opportunities and threats have emerged as a result of globalisation. SIFFS believes that unless the quality of the landed fish is improved through proper handling and preservation on board and on shore, fishers are likely to lose out in the international market. A quality improvement programme is an area of priority for SIFFS now. SIFFS also has initiated marketing of fish in the domestic market through a retail shop in Trivandrum. The shop aims to serve as a channel to sell the surplus fish procured for export.

### *AMUL milk marketing cooperative*

Formed in 1946, the AMUL cooperative initiated the dairy cooperative movement in western India and formed an apex cooperative organisation, Gujarat Co-operative Milk Marketing Federation Ltd (GCMMF), which today is jointly owned by some 2.2 million milk producers in Gujarat, India. This began as a marketing cooperative but started participating in processing over time. Its products include milk powder, flavoured milk beverages, condensed milk, butter, cheese, chocolate, ice cream, cream, and a range of other milk products, in addition to plain pasteurised milk. Annual turnover was Rs. 38 billion (US\$850 million) in 2005.

The primary goal of the organisation has been to build a cooperative network for providing quality services and products to end-consumers and good returns to farmer members. Information Technology (IT) has played a significant role in developing the AMUL brand. Each village has one e-information kiosk, which is the single point of contact for Internet and other e-governance activities, including prices, sale, transport and quality. The logistics involves coordinating the collection of some 10 million litres of milk per day from 10,000 Village Cooperative Societies throughout Gujarat and then storing, processing and producing milk products at 12 district dairy unions. The installation of 4,000 automatic milk collection system units at the village societies helps to collect information on members, milk fat content, the volume collected and amounts payable to each member. This has proved invaluable in ensuring fairness and transparency throughout the AMUL organisation. A fleet of refrigerated trucks owned or contracted by the cooperative facilitates transportation of milk.

Sources: <http://www.siffs.org> and <http://www.amul.com>

### Key message:

1. *Community initiatives for marketing fish must be strengthened to help producers receive a remunerative price. These initiatives can acquire cold storages/vans and warehousing facilities at fish production points to prevent distress sales.*
2. *Trade routes must improve and trade regulations simplify, to help market fish and livestock products more efficiently and raise producers' incomes.*

## 4.6 Off-farm and non-farm activities

Any subsistence agricultural society needs to diversify into non-farm and off-farm ventures to add value to its produce and diversify employment. Two options exist:

- a. Adding value to existing agricultural produce: rice, fruits, fish and other agro-products. Abundant potential exists to process raw agro-products (e.g., seasonal fruits and vegetables) in the countryside.
- b. Expanding activities outside the agricultural sector: handicrafts/pottery, cotton processing, silk, building material, engine repairs and other services.<sup>(71)</sup>

Small and medium industries (including in rural areas) fall within the framework of one of the pillars of the Rectangular Strategy, namely, private sector development. There is, therefore, an explicit recognition of the importance of this sector.

### Box 4.11: Case studies of value addition in food

#### *A poultry farmer: Quality translates to success*

Through quality assurance and creating niche markets, a poultry farmer about 50 km from Phnom Penh has multiplied his capital tenfold, from US\$10,000 to US\$100,000, between 1994 and 2001. He gets his technological knowledge via a tie-up with a Thai company also having a presence in Phnom Penh. When the farm owner worked in a poultry enterprise in Thailand, he learned technical and business details. Afterward, to maintain quality, he has always obtained his stock of poultry from the Thai company, as he finds these birds more scientifically reared (eggs are larger and standard-sized, higher yield rate per bird). Birdfeed too is sourced from the Thai company, and the farm owner has acquired skills to create optimal mixes of bird and animal feed. All requirements for both fixed and working capital have been obtained from his own resources or through arrangements with the Thai company, with no bank support.



More than 80 percent of the farmer's chickens and eggs are supplied to large restaurants, hotels and supermarkets in Phnom Penh. One reason why his product fetches a better price than many others is the larger size of the eggs. Still, stiff competition exists from local as well as cheap foreign products. While fair competition is welcome, illegal dumping/smuggling of eggs and other poultry products from across the border has been reported. This is harmful to emerging Cambodian businesses. Attempts by the Government to crack down on smuggling has been welcomed, but poor implementation has reduced effectiveness. Wholesalers accept imports, driving farm gate prices down and making profitability for a Cambodian producer challenging.

One attempt has been made to form an association of poultry farmers to stabilise prices, but lack of knowledge and experience thwarted the move.

#### *Quality guarantees success to a bakery*

Founded in 1979, a Cambodian bakery initially marketed its products in local neighbourhoods. Only after 1995 did it climb onto a high-growth trajectory. Today, however, the bakery exports cakes and pastries to neighbouring countries, even as it faces numerous challenges.

The owner had the advantage of being among the first to set up shop. The firm has deployed a semi-automatic machine and other equipment to mix and bake the flour. Machinery comes from China and packaging material from Thailand, a cause of regular delay and high cost owing to slow transport and extra payments. Even so, efforts at contracting local firms to supply packaging material have not been successful due to both lack of quality and high cost.

The bakery is paid after the merchandise is delivered. For working capital, therefore, the owner frequently borrows money from a bank at 22 percent annual interest. Cheap foreign products compete with his products. Smuggling also cuts into profits, as do expensive electricity, high transport costs and informal payments. Sales fluctuate by as much as 30 to 50 percent because of market shocks. The owner's cushion is the bakery's international customers, most of whom are overseas Khmer visiting Cambodia.

Source: Sok and Acharya (2003)

<sup>(71)</sup> Case studies of off-farm and non-farm activities can be seen in Acharya, Kim, Chap and Meach (2003); Sok and Acharya (2003); and Seng, Dongelmans and Horst (2006).



## The food processing sector

A food processing sector exists in Cambodia both in the traditional and modern modes, a fact not adequately captured by large-survey data. Rice processing activity has huge potential but lacks startup capital. Technologies are rudimentary and the high cost of energy only makes establishment of the sector more challenging. In many cases, paddy is sent to Thailand or Vietnam and imported back in the form of milled rice. As a result, Cambodia loses both employment and value addition. Food packing (vegetables, fruit and meat) has begun in a small way, and fish/shrimp processing has been initiated as well. Currently these activities are few and concentrated near large urban areas. Job creation for rural workers has, therefore, been low.<sup>(72)</sup>

### Fundamental to achieving success in food processing are:

- a. An unbroken, quality raw-food supply chain
- b. Efficient transport (a cold chain, in the case of perishable products)
- c. A large packaging and marketing system

All require agricultural and industrial technologies, business organisation and capital, in addition to infrastructure, especially rural electrification. Even so, foreign capital is shy to set up business in the food procurement sector because of uncertainty in product quality and supply. Many local businesses too share these concerns. What can be done? Options include:

- a. Raising farm productivity and diversifying produce. Food processing industries in general are established when and where there are marketable surpluses.
- b. Establishing technological backup in the form of agricultural extension.
- c. Ensuring ready infrastructure, implying affordable rural electrification, and predictability in costs, implying transparent governance, as preconditions for local investment in agro-processing.
- d. Facilitating affordable credit.
- e. Developing SME for part or full processing and/or packing and local transport systems.

While this list may appear sizable, all the effort need not be shouldered by Government. To begin with, if cheap and assured energy is provided, many other pieces will fall in place.

## The non-food sector<sup>(73)</sup>

Some non-food rural industries and services have shown prowess in the market despite being away from the mainstream of modern activities. Typical ones include:

- a. Silk weaving and cotton weaving
- b. Brick making
- c. Wood processing and furniture making
- d. Weaving mats from rattan and other natural fibres
- e. Stone quarrying
- f. Handicrafts and pottery
- g. Rural water and road transport (operation and repair)
- h. Hides and leather
- i. Rural electrification – power from diesel engines for local distribution, charging batteries, etc.
- j. Retail trade and transport

<sup>(72)</sup> About 70 percent of fruits and vegetables are imported, but large potential exists for import substitution, according to the TWG – Agriculture and Water (2006).

<sup>(73)</sup> MPDF (2005) provides a fairly comprehensive list of industries that can develop in Cambodia. Studies are few, however, on supply constraints that hold back upscaling production.

Most of these activities are currently characterised by outdated technologies, relatively high unit costs and low productivity – and hence are threatened by imports. Wages stand at 3,000 to 6,000 riels a day per worker, often on a part-time/seasonal basis, and business is controlled by key traders who work within their clans to gain market access (Box 4.12). Yet these activities provide critical services in rural areas and create much-needed jobs. They also hold an important key to reducing excessive dependence on agriculture and fishing. Development agencies have made efforts to infuse modern technology, train personnel and provide marketing in the non-food sector (Artisans D'Angkor has promoted technology and marketing, ACLEDA lends money, and others are detailed in Box 4.13). All this has made an impact.

### Box 4.12: Silk weaving in Cambodia

The silk industry in Cambodia is located mainly in four provinces: Kandal, Takeo, Prey Veng and Kampong Cham. The former two account for more than 85 percent of total production. Yarn is imported from Vietnam, and weaving is done here.

The industry is organised in such a manner that all production takes place within households. This keeps the costs low, because there is no overhead and workers live and eat at their homes. Middlepersons and traders mainly control the markets, in the sense that they provide the yarn to the weavers and collect the silk to be marketed outside. In this way, the middlepersons unify the country's thousands of individual workers into a large invisible production unit. In turn, the middlepersons are controlled by wholesalers, who set the prices. Controls at all levels are exercised through social relations and networks rather than institutional means.

But this method also has the disadvantage of being removed from innovation or change within the industry or market. Neither are the workers exposed to learning, nor are the industry's doors open to outsiders joining the production process. Workers do what they know rather than be flexible to market demand; there are, therefore, no new products launched. It is not surprising that Khmer silk is not an export commodity, nor is it much of a tourist attraction. More than 95 percent of the production is consumed locally.

The industry mainly employs women; the total number of workers was estimated at 20,000 in 2003, up from 10,000 in 2000. Average monthly earnings are in the range of US\$40-\$50, depending upon the location and product.

If this industry is to grow in such a manner that it creates more value and provides a better livelihood to workers, it will require major reorganisation and technological scaling-up. For one, the middlepersons will have to be exposed to alternative markets and demand patterns. Next, the product has to be made demand-reflexive; patterns and products must change to meet customers' expectations, for which technological infusion will be necessary. Labour standards will have to be established, a move already attempted by a few NGOs and promotional agencies. The major hurdle faced is that if the industry is predicated on social networks and relationships, little place exists for such interventions unless they are large enough to break into the current networks



Source: Seng, Dongelmans and ter Horst (2006); Acharya, Kim Chap and Meach (2003)

A big push is still required to scale up activities in the sector: upgrading technologies and human skills, establishing and promoting marketing channels, and extending credit facilities. In addition, infrastructure is essential for some of these activities to grow.

### Key message:

*Agro-based activities must vertically integrate for facilitating a transition from subsistence orientation towards more value addition. Farmers must organise to provide a critical minimum marketable surplus. Likewise, the non-food sector requires a stimulus in the form of technology, finance and marketing.*

### Box 4.13: Retailers in Mondolkiri gain from ACLEDA's lending

#### *Customer 1:*

Ty Sokleap, a grocery retailer from Kandal village, Mondolkiri province, had earlier borrowed money from a private moneylender at a ten percent monthly rate of interest. The business, however, was not profitable at this interest rate. She then secured 6,000,000 riels (US\$1,500) from the ACLEDA Bank at a lower interest rate, which provided her adequate capital to buy her grocery products at affordable prices. Her business now runs very well, and she currently buys groceries brought by taxis from Phnom Penh every two weeks. Before she took her loan from ACLEDA Bank, her daily gross sales ranged from 150,000 to 200,000 riels (US\$37.50 - 50.00), but after the loan they rose to 400,000 riels (US\$100) per day. Her family now lives better, and she can afford to meet the future requirements of her children.

#### *Customer 2:*

Heng Chhayly, a construction material seller, lives in Chambak village, Mondolkiri province. She purchased a pickup truck with a loan of US\$15,000 secured from the ACLEDA Bank. Earlier, she had to rent a car to transport the construction material – sand, brick, iron, gas and cement – from Phnom Penh. At times she lost business because she could not supply the material due to erratic transport. Now that she owns a vehicle, she can supply the materials to customers regularly and on time. Earlier, her gross sales were US\$400 to US\$500, which have now risen to US\$1,000 to US\$1,500.

ACLEDA bank has discovered that even in remote rural areas, banks not only lend but also are institutions where people deposit their savings. In Mondolkiri, many of the loans given out are in the form of recycling local money rather than bringing in fresh flows.

*Source: ACLEDA Bank, private communication*

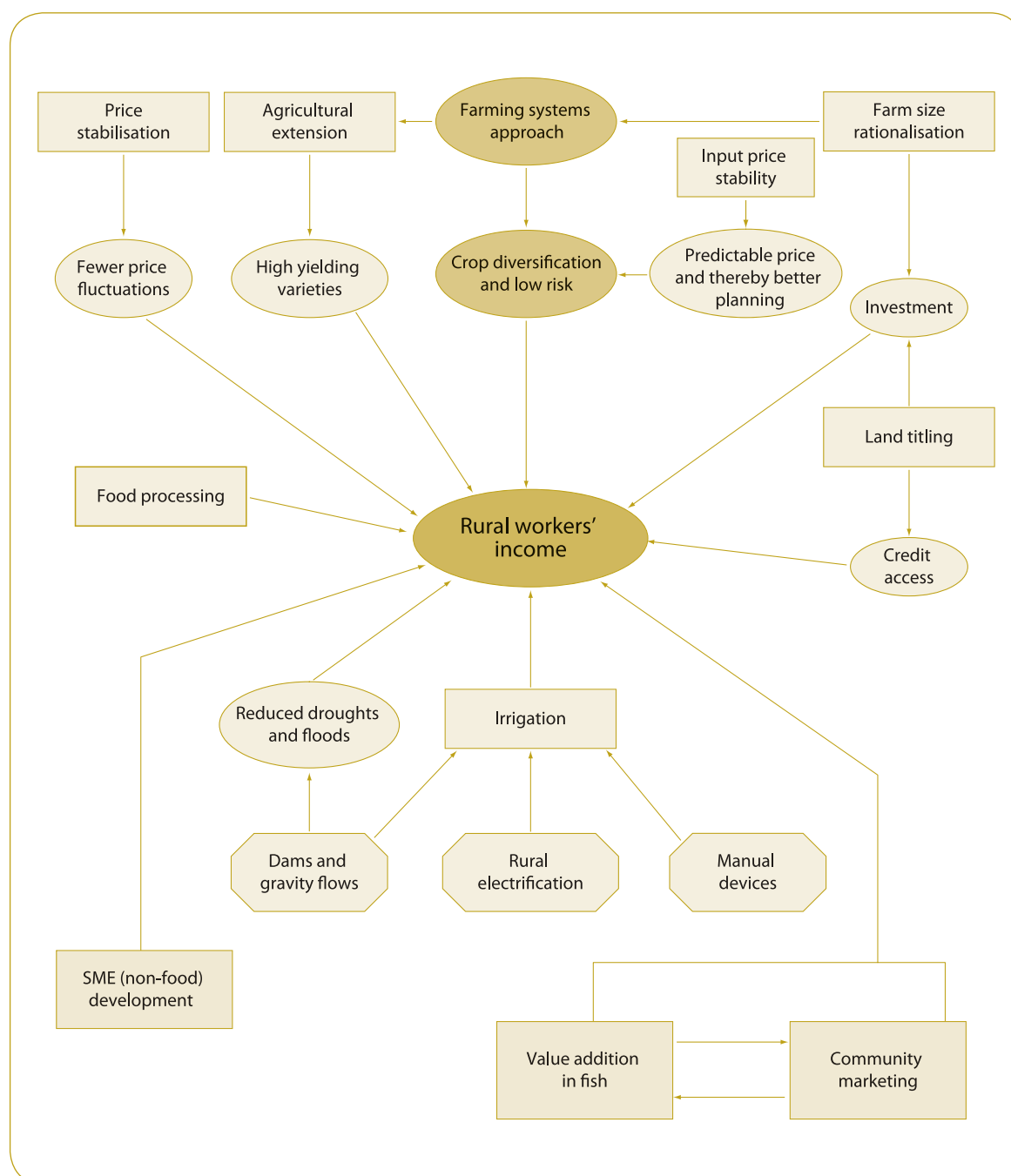
## 4.7 Summing up

An improved technological environment and competitive functioning of markets are required to promote the development of broader-based economic activities in rural areas.

- ❖ More intensive use of modern agricultural inputs can be promoted by ensuring availability of inputs and credit at predetermined prices under competitive market conditions. Productivity gains must be able to compensate for the deteriorating terms of trade when input prices increase faster than those of outputs.
- ❖ All biotechnologies perform better in the presence of controlled irrigation. Irrigation must therefore expand rapidly if crop production and the associated incomes are to rise. Cambodian plains carry more water than most other countries; hence, the potential to expand surface irrigation is large.
- ❖ Stabilisation of output prices will provide primary producers a more predictable economic environment, which is particularly important because most farmers have potential to store their products and sell when prices favour them. Several methods are practised in different parts of the world for price stabilisation: setting up grain banks, contracting with rice millers (for paddy), contract farming (mainly for non-paddy crops), or setting a minimum support price. A possibility exists to choose one or more methods.

- ❖ Fish and livestock marketing is presently riddled with corruption and bureaucratic problems, as well as burdened with an inefficient market network. All this results in small producers receiving barely subsistence incomes. The need to set up community-based marketing networks and technological modernisation is paramount. Successful examples from other countries may be replicated in Cambodia.
- ❖ Off-farm and non-farm activities in the form of food processing have large potential here. In food processing, supply chain management and cheaper infrastructure can provide the necessary conditions to scale up activities.

Figure 4.13: Raising farmers' and rural incomes – a summary



Source: Text of this chapter and part in Chapter 3





# CHAPTER 5







Raising rural incomes requires more than just the sector-specific strategies and options presented earlier. Macro-level initiatives are necessary, a few of which are presented in this chapter. These include (1) rural electrification, improved transport and regionally balanced urbanisation; (2) infrastructure creation through public works programmes that create productive assets and services for the poor; (3) social development, especially through vocational education and expanded health services; (4) affirmative action for indigenous minorities; and (5) a strong system of monitoring and evaluation for tracking NSDP targets

## 5.1 Infrastructure development and regionally balanced urbanisation

### Rural electrification

Currently, 7.9 percent of rural Cambodian households are connected to an electricity grid; 1.3 percent get power from generators and 17.4 percent from batteries recharged by diesel-run generators.<sup>(74)</sup> Power from the grid is limited both by lack of generation and inadequate transmission lines. Most generators at the provincial/local level are old and inefficient, prone to repeated breakdowns. They are also in poor financial shape. A small proportion of the electric power in the border provinces is sourced from neighbouring countries.

The average price of electricity ranges from 1,200 to 2,000 riel (US\$0.30–0.50) per kWh, rather high compared to a price of US\$0.10–0.12 in other countries. The high cost makes the revenue base weak, which then becomes a reason for not replacing the older equipment, at least for independent providers. Service is meant mainly for domestic lighting purposes; fewer than ten percent of the service providers offer more than just domestic lighting. Generation is simply not sufficient for industrial application,<sup>(75)</sup> and at current prices, most industrial applications would not be cost effective.

However, rural electrification is vital to modernisation, for irrigation, SMEs, commerce and household consumption. Recognising this, the Electricity Law of 2001 places the responsibility of supply and regulation on the Government, which plans to selectively develop partnerships with the private sector in the transmission and distribution process, in addition to purchasing power from neighbouring countries.

Grid-based generation and transmission is being planned for the southern region (Takeo, Kampot and Sihanoukville) through development of major hydroelectric plants in Kampot and Koh Kong and a coal-fired plant in Sihanoukville. These are expected to be operational by 2010. Purchase of power from Vietnam for the Kampong Cham-Kratie regions also is planned. For the northwest region, power purchase agreements with Thailand will come into force when transmission lines up to Battambang and Siem Reap are drawn up, expected by 2008. A transmission line to connect Battambang with Phnom Penh is expected by 2010.

In the event that gas is available soon enough from the new finds offshore, gas-fired plants can turn out to be cheaper in the production of electricity, although hydroelectricity is more benign from an environmental perspective.

<sup>(74)</sup> Source: Cambodia Inter-Census Population Survey 2004.

<sup>(75)</sup> Source: Dapice, Valley and Wilkinson (2006); personal communication with EDC.

Given the urgency for increasing the electricity supply, the process of installing newer power production facilities and upgrading older ones ought to be taken together. Investments can be sequenced according to maximal utility gained (i.e., multiple usages, namely, irrigation, rural industrialisation, chilling plants for cold chains and household use). Some considerations are:

- a. To extend power to villages, secondary transmission lines are essential; in some settings, it has been observed that rural electrification is held up for want of secondary transmission lines.
- b. In more remote areas unlikely to be covered by power gridlines, the possibility of generating solar power can be an alternative, for which customs duties on imported solar power sets must be reduced. Yet another alternative is that of micro-hydroelectricity, which is a tried and tested technology in other countries. Finally, gasification of biomass for power generation at small and medium scales is also now technologically proven and economically viable.
- c. Efforts to selectively modernise the presently installed smaller generators can help provide a steady supply of power.
- d. Making power less expensive is essential. Rates will need to be in the neighbourhood of 300-500 riel per kWh to be competitive.
- e. Industry/agro-industry/agro- and fish cooperatives can be encouraged to develop their own captive electricity production units in cases where there is high potential to reap value.

### Box 5.1: Case study: Rural electricity creates jobs for the poor

For more than a year, Dung Ly had worked as community leader at a local power house in Battambang's Anlong Tamey village. His small community generator was operating eight hours a day and supplying power to only 81 families. With a current supply of ten kilo volt-ampere (KVA), consumers were allowed to use a television and two fluorescent lamps and paid 1,500 riel (US\$0.37) per kilowatt. This was relatively cheap compared to prices in other areas, where users paid up to 4,000 riel (US\$1) per kilowatt. However, some users tried to enjoy more of the supply by also playing a DVD or cassette player, causing electricity disruptions. Attempting to meet the power needs of his community, Dung Ly hoped that someday the sole generator would work properly and he would be able to cool frustrations.



In the response to this need, UNDP in January 2006 began supporting an initiative through its Small Grants project, funded by the Global Environment Facility. The project, which ran until June 2007, has benefited an additional 180 households in two village clusters by equipping the community with a 20 KVA generator to replace Dung Ly's old one. "The project aims to electrify a rural village using 100 percent renewable energy sources, and only locally farmed trees are used," says Ngin Navirak, the project manager.

Like Dung Ly's generator, the new generator is powered by locally grown *Leuceana* trees, a fast-growing, tropical legume that thrives on less fertile non-irrigated land. Tree branches can be harvested several times per year through "coppicing" to yield a continuous supply of biomass. Villagers can then sell the wood for \$12 a ton; since they started the business, supplies have been sufficient. For villagers who do not yet receive electricity, the power house employs four people working to charge batteries, at 1,000 riel per battery.

So far, a reliable electricity supply has created extra business and more jobs for villagers who used to travel far to seek employment. "Villagers are able to run coffee shops, be hair dressers, fix tape recorders and charge batteries, and children are now spending their evenings in English classes," says Dung Ly. Once the electricity supply becomes enough, he says, people can use it for other purposes like pumping water to irrigate their farms.

"That is exactly the expected outcome of this project," says Lay Khim, UNDP Assistant Resident Representative in charge of environment. "We hope to increase employment and income generation through commercially productive activities utilising lower-cost electricity while also helping to promote local environmental tree planting."

## Transport

It is imperative that rural Cambodia is connected by rapid transport systems for modernisation, industrialisation and mobility of people. In addition, cheap and rapid transport can help cut the costs of production as well as living. While a number of rural roads and highways have been constructed and rehabilitated,<sup>(76)</sup> more are required; even now, some areas are better accessed from neighbouring countries than from within Cambodia.

Rapid transport of bulk, heavy material or large numbers of people requires a railway network to connect key urban and peri-urban centres. Even successful rural electrification requires a rapid movement of large quantities of coal and heavy machinery, which is best carried by railways because trucks are three times more expensive to operate. Cambodia's railway system of about 750 km connects Phnom Penh to Battambang (and Sereysophon) via Pursat, and Phnom Penh to Sihanoukville via Kampot. The Sereysophon route soon is to be extended to Poipet on the Thai border, another 46 km. Presently, railways only carry goods, and those sparingly. The rolling stock is dilapidated and largely unusable and the signalling system primitive.

A trans-Asia rail route is planned to connect Singapore with Kunming in southern China; in the process, cities and countries en route will be connected. The route is expected to enter Cambodia at Poipet and then pass via Phnom Penh to Kampong Cham and the Vietnam border. This multi-country project would help strengthen surface connectivity in the ASEAN region. Transport issues include:

- a. To an extent, this railway would create an east-west corridor, but to rehabilitate the southern track to the key port of Sihanoukville is equally urgent.
- b. A north-south link also is necessary to help connect markets and people within the country.
- c. Converting single-track rails to double track will increase traffic speed enormously.
- d. If the railway links a set of towns expected to be future growth centres, their economic and social growth potential will be high. For this to happen, however, complementary investment is required.
- e. Making freight and passenger travel less expensive is paramount. Inexpensive transport, with a large multiplier effect, can provide a boost to other activities. A railway therefore should not be considered an enterprise in isolation.
- f. Many countries are converting their track from metre gauge to broad gauge, so the metre gauge rolling stock in those countries, which is otherwise in good condition, is becoming redundant. Cambodia can negotiate to obtain that stock at very reasonable prices.

## Urbanisation and markets

Much of the development process so far has centred in and around Phnom Penh, with some spillover at Sihanoukville as a port. Siem Reap, meanwhile, attracts tourists for its ancient temples. It is not surprising that the distribution of gains of urbanisation has been so regionally skewed and that there is large inter-regional migration of people in search of jobs.<sup>(77)</sup>

Efforts to promote value-added agriculture and agro-based rural industrialisation will more likely succeed if population centres – implying a range of infrastructural facilities in addition to markets – are in the vicinity. A more regionally balanced urbanisation also can be helpful in promoting local political and social institutions, and hence can deepen democracy. Development of transport routes is one means to promote the

<sup>(76)</sup> See Ngy (2006) for an update of progress on road development.

<sup>(77)</sup> ILO (2006).

Many people do not receive adequate livelihoods from land, at least for part of the year. Landlessness also is on the rise

growth of smaller satellite towns, since there is synergy between the two. Cambodia has an advantage here: Most of the population lives near major roadways, rail tracks or waterways; hence, pursuing this approach would not be new or expensive.

A starting point for developing decentralised urban nodes can again be the southern belt (Sihanoukville, Kampot and Kep), since a rail link already exists and rural electrification is expected there first. These areas also are near the sea and will provide links to maritime transport. Sihanoukville also will soon be connected by air. Each of these centres has the potential to generate an agricultural marketable surplus, and because this corridor is fairly densely populated, it could industrialise as well as become a tourist destination at a relatively low cost.<sup>(78)</sup>

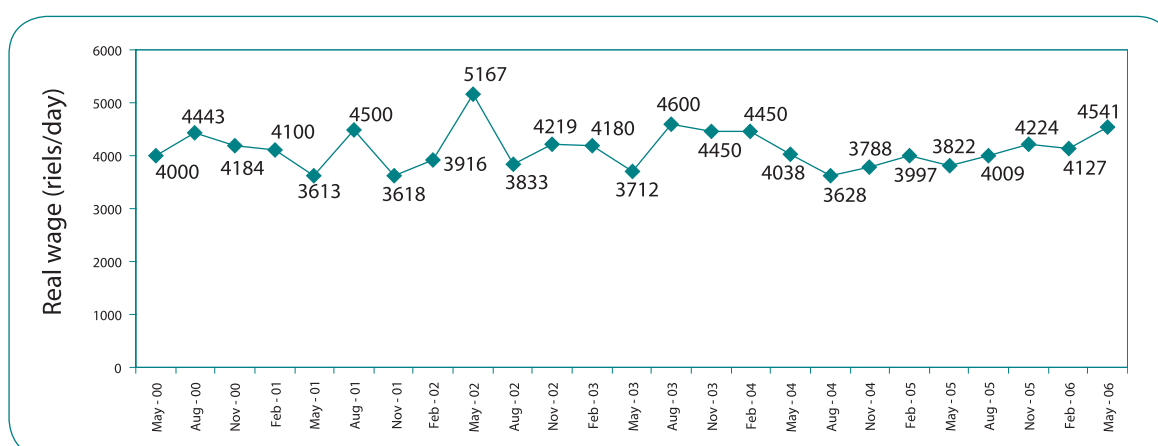
### Key message:

*Inexpensive rural electrification, rail transport and multi-nodal industrialisation will help foster rural economic development and provide better livelihoods to people in the countryside.*

## 5.2 Infrastructure creation with labour-intensive technologies<sup>(79)</sup>

Many people do not receive adequate livelihoods from land, at least for part of the year. Landlessness also is on the rise. While the economy has been growing at a rapid pace over the last several years, wages of rural unskilled workers, who are among the poorest workers, are in the range 4,000 riels a day (2000 prices) and have not shown any recent upward trend (Figure 5.1).

Figure 5.1: Trends in the real daily wages of paddy workers, 2000-06 (2000 prices)



Source: Cambodia Development Review (various issues, series on vulnerable workers 'Economy Watch' – Indicators)

The poor in Cambodia can benefit greatly from a public works programme to serve a dual purpose of:

- Helping to alleviate seasonal poverty and unemployment/underemployment in rural areas
- Creating productive assets and services for the economy

Implicit in the arguments are the notions of empowerment of the poor (through provision of work) and economic decentralisation, both prerequisites for achieving human development.

<sup>(78)</sup> Commercial corridors have been planned in the country, but they appear more to serve as trade routes to neighbouring countries than as magnets that would create mass jobs for the rural youth.

<sup>(79)</sup> Most countries, fast- or slow-growing, have adopted direct anti-poverty programmes; some also have associated asset creation, while others do not. See Moreno-Dodson (2005).

Schemes such as the Social Fund and Food for Work programmes of the World Food Programme (WFP) have been successful in the country. Public works programmes have been initiated for small asset creation (culverts, local roads, restoration of water tanks) by the Commune Councils and Pagoda Groups, using village-based workers. The proposal here is similar, although it is proposed to have job creation as its central feature. In addition, it is suggested that the programme should have built-in components of capacity building. Private-sector participation and co-financing at some stage also are proposed.

## Box 5.2: Assets created under employment programmes help in net value added

### Question:

Is the net value added by taking up projects under labour-intensive works programmes reasonably large – more specifically, is there sufficient benefit from the projects so as to help the agricultural and rural sector?

Answer: In general, if project schedules are timed in such manner that they exclude seasons when demand for labour for agricultural operations is high, this problem can be alleviated. The Mekong plains and the Tonle Sap region, which have dense populations, have surplus labour to complete rural infrastructure projects. As seen from data in Bangladesh, also very densely populated, agriculture has actually benefited because small farmers engage in public works programmes and plough back their wage earnings into their lands to raise productivity.

The most striking example where assets were created on a large scale was in China in the late 1980s/early 1990s. Under the Yigong-Daizhen programme, 130,000 kilometres of rural roads and 8,000 bridges were constructed, connecting 10,000 villages, while 21 million rural people were supplied with clean drinking water.

Sources: ILO-Bappenas (2005); Ling and Zhongyi (1995)

Many models of such programmes exist, from which lessons can be drawn.<sup>(80)</sup> Five preconditions for the success of such a programme are:

- a. The programme must have flexibility at the local level to effectively match the demand for work with supply.
- b. The programme should self-target the poor; work should largely be manual and wages be in the range of 4,000 riels per day, to attract those really in need.
- c. There must be a blue print of economically and socially meaningful projects that can be invoked at relatively short intervals.
- d. A strong monitoring and evaluation system is essential.
- e. Some on-job capacity building can form a part of the package.

### Key message:

*Cambodia should initiate labour-intensive public works schemes to provide jobs to the really needy during slack periods, and help create useful rural assets like auxiliary roads, culverts and watersheds.*

<sup>(80)</sup> See, for example, Devereux S and C Solomon (2005); ILO-Bappenas (2005).

## 5.3 Social development

### Human capital formation

Human capital formation is one pillar of the NSDP. Since modern rural development, like any other sector, requires innovation, it would be greatly disadvantaged without adequate human capital. An educated and technically qualified populace has the ability to apply modern technology and earns better incomes.

#### Primary education

Universal primary education is enshrined in the CMDGs, to which the NSDP is wedded. The present trend of a large number of rural children dropping out of the educational stream after completing one to three years is of concern to the future stock of rural human capital. Completion of primary education can largely be achieved if:

- a. Education is made totally cost-free. Currently, disincentives exist such as the cost of school uniforms and informal fees paid to teachers – about 54,000 riels per rural student annually, according to SES-04.
- b. Remedial classes are provided for students who are unable to cope because of lack of parental support (parents could be illiterate), part-time participation in the workforce (e.g., fishing or fish processing), or other causes.
- c. Food supplements are provided to schoolchildren to address malnutrition among the poor. Midday meals provided by the school facilitate in maintaining higher attendance and help students to concentrate better in studies.
- d. Teachers are paid a living salary. Schools also can co-opt local educated youth as volunteer teacher assistants.

Special attention needs to be paid to girl children on all counts, since they have been found to drop out of schools faster than boys.

#### Vocational education

The Cambodian labour market is fraught with shortages of skilled workers at the middle skill level: mechanics, forepersons, electricians, motor winders, machine repairers, skilled masons, and the like. Expatriates fill up these positions, legally and illegally.

The demand for work is equally pressing. In the years to come, more than 200,000 young persons in rural communities are likely to become literate or educated annually, and most will look for employment options outside agriculture. Being literate or having a primary school certificate, however, may not qualify them for remunerative non-farm jobs; some technical training is required.

Cambodia is not new to vocational education. At the formal level, it has programmes for formal Technical and Vocational Education Training (TVET) in classrooms as well as within larger enterprises. Exclusive training programmes exist for women. For school dropouts, 30 provincial training centres (PTCs, in all provinces) offer courses ranging from one week to six months. However, the size of enrolment in these is small; only 1,200 passed out from all PTCs in 2005, fewer than in the past.<sup>(81)</sup>

Vocational training must be invigorated and scaled up to fill skills gaps, with a larger regional focus such that learners even among the rural poor can attend. Training must be demand-led, in which Area Skills Surveys can help identify the demand for skilled workers by category of skill and location. A special drive to train girls can bridge the gender gap.<sup>(82)</sup>

<sup>(81)</sup> ILO (2006).

<sup>(82)</sup> There are several models for doing this (Box 5.3).



### Box 5.3: Models of low-cost vocational skill impartation

- a. Mini-training centres at strategic locations can serve not only for initial needs but also provide service in subsequent periods. They can be staffed by a trainer and have a few training facilities, in addition to service facilities for small industries and microenterprises. Beneficiaries can regularly be brought to these facilities and exposed to the activities.
- b. Mobile training is an option in places where beneficiaries are not easily able to travel owing to financial or time constraints. Mobile training options can be truck-mounted facilities and can be taken from one village cluster to another on specific dates. Mobile training facilities also have the advantage of improving skills on the job; they can help in improving the capacities of tailors, mechanics, electricians, and similar workers. An added advantage of mobile training is that trainers can discover actual problems faced by beneficiaries and act as troubleshooters.

Certain courses and training modules, which last from a few weeks to a few months, equip high school dropouts or those who may not even have completed primary education with some vocational skills and practices. Some of these modules are available on the Internet.

*Source: Acharya, Iyer and Basak (2005)*

#### Specific proposals include:

- a. Large-scale training of boys and girls aged 14-17, who might have completed anywhere from three to eight or nine years of education and dropped out: These youth are literate, young and ready to enter the labour market, and practical training lasting 6-15 weeks in a range of skills in diverse occupations will help them find suitable jobs. Training centres should be geographically dispersed to facilitate wide access by students. If an on-campus self-employment or wage employment service accompanies the training or links it to a credit scheme for self-employment, it will directly plug trainees into the job market. Hostel arrangements for girl students are necessary, lest they lose out.
- b. Training in middle-level skills: A cadre of workers exists which falls between a skilled worker and an engineer/graduate professional; one who would be a foreperson, draftsman or a shop floor worker. After 10 to 12 years of school, one year of training in a polytechnic in engineering and other skills relevant to the service sectors can be undertaken. A job link such as a placement agency and/or credit link for self-employment will enhance employment options for trainees.
- c. Training and support services are part of continuing education, be it for workers or entrepreneurs. In most developing countries embarking toward industrialisation, some technical and market support for business development is essential. If it cannot come through the market, it must be provided by the government or donors, at least for a while.

#### Higher education

Cambodia presently has a large number of schools of higher learning, supported by the Government and the private sector. There is some donor assistance as well as international collaboration. The range of courses offered, however, is limited. A huge imbalance therefore exists between the demand and supply of skilled personnel: too few quality engineers, architects, designers, software/information technology personnel, physicians and the like, and too many general degree holders, accountants and management graduates. In addition, the standards across different colleges and universities vary. Finally, some disciplines are taught in English, others in French and yet others in Khmer.

## Box 5.4: Human capital formation through business development services

For many less developed countries, a supply-side strengthening in production is important. One such approach is to establish Business Development Services (BDS).

BDS includes training, consultancy and advisory services, marketing assistance, information, technology development and transfer, business link promotion, and the like. It can be both operational and strategic. Operational services are those required and provided on a day-to-day basis, while strategic services are required for medium-to long-term business planning and expansion. BDS can be individual service-specific as well as for a group of services; this would depend upon the market being served.

The different actors in a BDS are private enterprises (clients), facilitators (consultants, policy advisors), providers (product certifiers, technology suppliers, troubleshooters, trainers) and donors/governments. The relationship between the different agents is:

Donors/Government → BDS Facilitators → Providers → Clients

Clients seek services on demand and for a price. Providers also are demand-driven private agencies that work for a profit, while donors, NGOs or governments support facilitators in the initial stages of development, but in the end, facilitators too become market-driven. Sometimes even banks take up the role of facilitators. In some countries special banks known as 'development banks,' have taken up the task of carrying out these services.

The State or donors can provide a number of other services that promote the private sector, as long as these are not direct subsidies or cash concessions. They can include training (in-country or abroad), backup services in the establishment of industry or technology parks, construction of common-use facilities (e.g., deep freezers for small fishers), helping create common design centres (for small garment/leather manufacturers), or helping to organise businesspersons' associations.

A need exists to conduct studies on market demand, sources of funds and other components of BDS activities.

Source: World Bank (2001); ILO (2001)

## Approaches for improving education include:

- a. To correct the imbalance between the supply and demand for different skills by introducing technical subjects in larger numbers: For this, a human resource requirement forecast for the next few years needs to be carried out. This is a common practice in many countries and can easily be undertaken; ILO has ready modules on it.
- b. To set minimum quality standards for education: For this, an accreditation organisation will have to be set up. It should be mandatory for all colleges and universities to register with this agency and qualify for giving degrees as per the norms laid down by this organisation.
- c. To regionally balance the education supply: Presently, colleges outside Phnom Penh mainly offer courses in agricultural sciences. The need to achieve some regional balance in diverse subjects in other towns must be underscored.
- d. To make higher education affordable: The cost of technical education anywhere is considerably higher than that of humanities or management. Unless liberal aid schemes for needy students are built in, the goal of skill formation in the countryside will be lost. In any case, merit exists in subsidising higher education in low-income countries, given that the purchasing power of most students is rather modest.

*The population is spread according to availability of agricultural land, yet health centres/hospitals are located in proximity to roads*

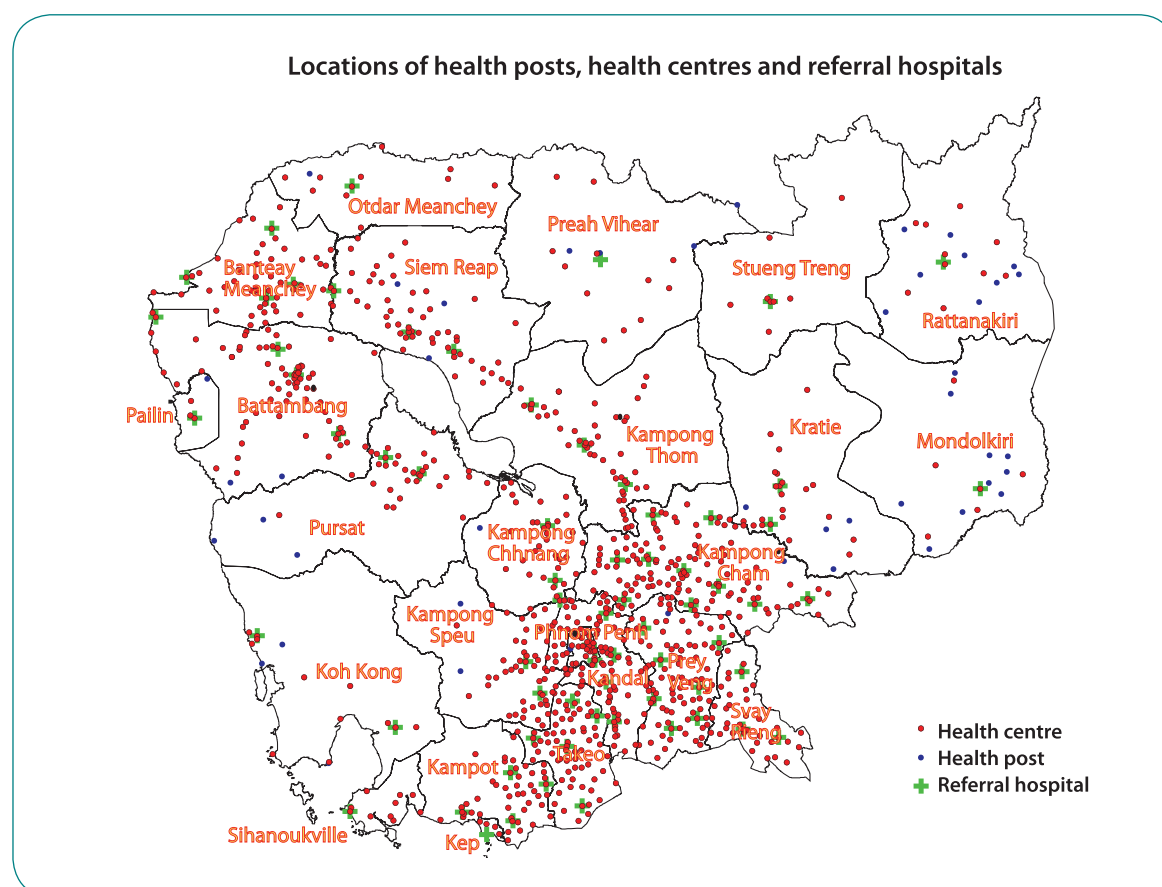
The quest for scaling up human capital should not become gender-blind. Women comprise a major part of workers in fish processing, marketing, handicrafts and a range of food processing industries. With modernisation of activities, men tend to replace women in higher-value-added jobs because they are better trained, and women workers then are relegated to jobs lower down the job ladder. Special effort therefore is necessary to ensure that the female share in training at all levels is maintained.<sup>(83)</sup>

### Health services

Much land is sold in distress in order to meet health expenses, a clear indicator that health services in rural areas need to spread and deepen. On paper, the health outreach appears impressive. Figure 5.2 shows that the whole country has health centres and referral hospitals (more than 900), by and large in correspondence with the population density. Two health services shortcomings exist, however:

- The population is spread according to availability of agricultural land, yet health centres/hospitals are located in proximity to roads. Health centres may be several kilometres away from smaller villages, and with few mechanised transport facilities, access to these may be difficult. The problem is more acute in areas where populations are thinly spread, as in the northeast. Access to health services is likewise difficult in flood-prone areas in seasons when these areas are inundated.
- The extent of endowment at each centre – personnel, medicines, diagnostic facilities – is less than desirable. No free health services exist except for a few illnesses or precautions (e.g., tuberculosis).

Figure 5.2: Spread of health facilities in Cambodia



Source: <http://www.nis.gov.kh>

<sup>(83)</sup> ILO (2006).

## Options for enhancing healthcare include:

- a. It is unrealistic to believe that highly trained personnel, who might have spent considerable sums on medical college fees, will take up low-paying and unattractive jobs in remote locales. A need exists to create fully Government-supported scholarships in medical schools for meritorious students. Thereafter, as a part of the scholarship contract, these graduates can be posted in rural hospitals for a minimum period, e.g., five years.
- b. An existing cadre of paramedics who staff rural health centres can be further trained to practice 'preventive medicine' (information about diseases, simple precautions, hygiene, AIDS awareness, etc.) and simple diagnosis. They also can dispense/inject medicines for malaria, stomach infections or dehydration and *they should reach out in the villages*.
- c. Drugs in Cambodia are expensive and scarce. One option is to source medicines from countries that bulk-produce generic drugs, which are several times cheaper than branded drugs. A complementary solution to this problem is to provide a stimulus to the nascent local drug industry and set standards for quality.
- d. Fees at the health centres can be made negligible, so that the only real cost to be borne by patients is that of transport.

As Chapter 2 describes, potable water is a top priority but is not adequately attended to. Keeping in view its importance, it is being underscored here again (Box 5.5).

### Box 5.5: Drinking water – problems and solutions

Water is consumed in raw form everywhere in the countryside. It is not that people do not realise the value of boiling and/or filtering water: Most of those surveyed said that in the rainy season, when the lakes and rivers are muddy, they use filters to precipitate or strain out the mud, or even boil the water. But when questioned as to why they do not do so year-round, they said that it is not necessary; if people have survived since early times on these waters, what is the need? Awareness about what is 'clean water' is a key factor: At present only the muddiness matters, and bacterial/germ presence does not. In addition, little awareness exists that present morbidity or constrained human growth might be linked to drinking contaminated water. Clearly, cost is not a consideration, because fuelwood is gathered through self-provisioning or is available for less than 100 riel per kg; one to two kg of wood can boil water for a family for a day.

Low to very low/no-cost technological solutions are available to cleanse water. For example, if water in PET containers (polyethylene terephthalate – ordinary cola bottles) is kept in sunlight for 24 hours (48 on cloudy days), it decontaminates the water through solar radiation; ultraviolet rays kill all harmful micro-organisms. Other measures, like use of alum or potassium permanganate, also are very inexpensive.

To address the need for education, awareness and health extension, social workers can be placed in the community or volunteers trained locally.

Source: Field visits in Kampong Chhnang, September-December 2006; <http://www.sodis.ch>

### Key message:

*Investment and innovations in education must assume high priority to make people remuneratively employable. Similarly, the health sector must penetrate more deeply into the countryside and should be made less expensive. Better education and health also strengthen the roots of democracy.*

*In terms of poverty and human development, ... the indigenous populations are poorer. To worsen matters, forest/land concessionaires have excluded many of them from lands that were their common access property for centuries*

## 5.4 Indigenous minorities

Indigenous minority peoples, particularly in the northeast, have a different way of livelihood and habitat compared to Khmer settlers' lifestyles: shifting cultivation, forest produce, forest dependence, different languages, spread-out hamlets, and so on. In terms of poverty and human development, the northeast is ranked lower and the indigenous populations are poorer. To worsen matters, forest/land concessionaires have excluded many of them from lands that were their common access property for centuries. Evidence also exists that they face land alienation due to outsiders buying up lands in those provinces. Occasionally duels erupt between newer settlers and indigenous communities, principally over land.<sup>(84)</sup> Conflicts become more visible as larger infrastructure development accompanies greater commercialisation, attracting speculative land purchases. Indigenous peoples, who are not adequately integrated into the market system, lose out. With dwindling forests and increasing population, conflicts will only intensify. Affirmative action is required; considerations include:

- a. Efforts must be made to enforce, in letter and spirit, sub-clauses on indigenous minorities' lands in the land and forest laws. In addition, community titling should be initiated and all logging and other concessions on indigenous peoples' lands stopped (Chapter 3).
- b. A law to make indigenous minorities' land inalienable for a certain period can protect them from sudden exposure to markets and external shocks.
- c. A community forestry initiative should be made a priority in provinces where indigenous minorities live.
- d. Special efforts to reach out on education, health and clean drinking water, in addition to skills and information about products and markets, should form a part of the policy package.

### Key message:

*Constitutional and legal rights of indigenous minorities must be upheld, in addition to affirmative action taken on their behalf.*

## 5.5 Monitoring and evaluation

The system of monitoring and evaluation (M&E) proposed in the NSDP for tracking its targets is based on following up on inputs/activities and outputs/outcomes. The work is to be conducted by the concerned Ministries and their administrative setups, coordinated by the NIS. This needs supplementing by a user-friendly, people-centric and transparent data system with a larger control by the user communities. It also must involve a social audit.

### Development programmes

Data on key variables like programme funds and achievements should be generated for each village/commune. This would serve the purpose of feeding information back to the villages/communes about their performance, or lack of it, and also inform plan execution agencies. Data collected under the Commune Council programme is a model to follow, although that dataset could be modified to focus more directly on programmes. Part of the data can be created by users themselves in conjunction with independent parties: each group of users or beneficiaries should give its evaluation periodically, and data can then be consolidated at the village /commune level.

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<sup>(84)</sup> E.g., see Bottomley (2002).

## Land

Data on land records needs to be computerised and made accessible at the local level. It also is important to define and make public the tenure status of lands not privately owned, e.g., common lands that are part-inundated, or lands under forests, or wastelands that are/can be used for grazing/fishing or some other purpose in the village. If the tenure status of these lands is known, monitoring of their use locally can be more accurate, which will avoid conflict.

## On vital and migration statistics

Systematic data are needed at the commune level on births, deaths, marriages pregnancies, and migration, seasonal or otherwise. Such data, which can be useful in monitoring demographic changes, status of women, health status of households, and family planning, can be generated through an administrative surveillance system.

## Maintaining key statistics at the local level

At the commune/village level, transparency in the functioning of different implementation processes must be publicly displayed. Large information displays can be prepared and presented outside each commune/village office, stating all the details of area, population, sex ratio, occupational structure, land productivity, irrigation, education and literacy, out-/in-migration, land details, children in and out of school, basic facilities like water supply, schooling, health centres/posts and the status of development programmes (e.g., allocation and achievement of basic targets). As far as possible, sex-disaggregated statistics should be presented. The data can be refreshed regularly, such as once every six months. Such a display will be a constant reminder to all of the performances and achievements, or lack of these.

Social audits of development programmes must be held each year to instil confidence among the populace about the sincerity of the implementing agencies.

## Key message:

*A strong and participatory monitoring and evaluation system, with data available in the public domain, will help in better implementing development programmes and ensuring that gains reach beneficiaries. These gains also will form the basis of trust in the system.*

## 5.6 Summing up

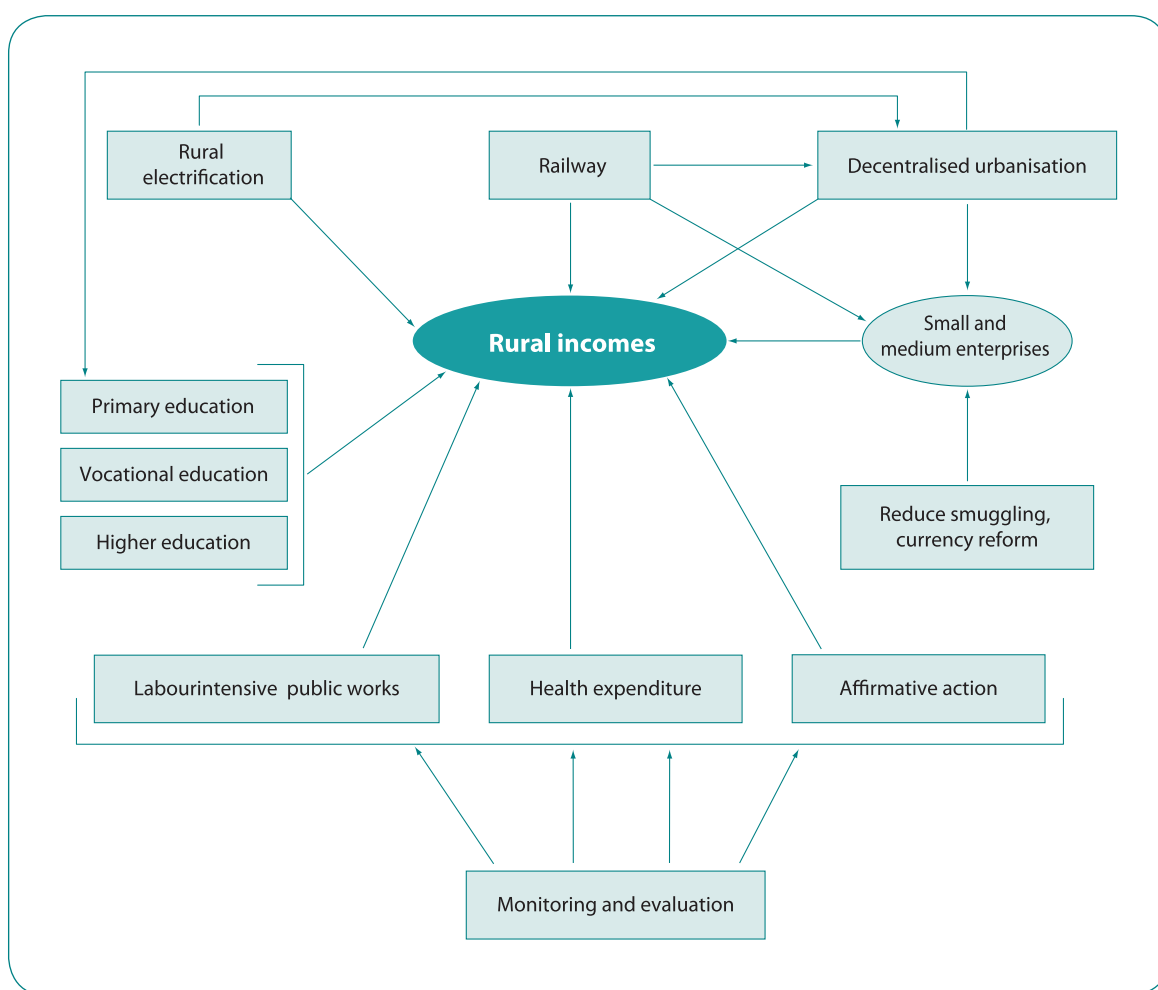
Promoting rural livelihoods in particular, and human development in general, requires multiple approaches: economic, social and institutional.

- ❖ Within infrastructure, rural electrification, rail transport and decentralised urban/industrial complex development are proposed. The principal consideration underlying this choice is the creation of maximum value and incomes in a manner as geographically balanced as possible, on a sustained basis. Given the fact that a railroad network already exists, it may not be difficult to rehabilitate it.
- ❖ A labour-intensive public works programme for the dual purpose of seasonal job creation and asset formation can help mitigate seasonal unemployment and poverty problems. Such a program would build human capacity.



- ❖ Human capital formation (primary education, vocational education, higher education, business knowledge impartation) is proposed in disciplines that can help modernise and vertically integrate agriculture, and that create remunerative self-/wage employment options. Additional priorities encompass strengthening basic health services (including medical education), making health services and medicines less expensive, and providing clean drinking water.
- ❖ Good governance is imperative. A detailed, people-friendly monitoring and evaluation system, including one through administrative surveillance, is proposed for both development programmes and the status of human and physical development alike.
- ❖ Emphasis must be placed on affirmative action for upholding the rights of indigenous minorities and their integration into the mainstream.

Figure 5.3: Summary of the macro-initiatives



Source: Text in this chapter

# CHAPTER 6





Significant deposits of oil and gas were discovered off Cambodia in 2004, leading to the possibility of new revenue flows beginning in 2010. This presents a unique opportunity to secure the country's long-term growth, substantially improve human well-being throughout Cambodia, and consolidate the country's hard-won stability.

This opportunity is unique because the oil and gas are offshore, and hence no private landowner or group of landowners can claim to own it. As an offshore natural resource in Cambodian waters, it truly belongs to all Cambodian people.

The amount of commercial reserves is still to be confirmed, but preliminary evidence is promising and is being assessed. Solid estimates should become available in the latter half of 2007. With world oil prices averaging US\$60 per barrel, this level of commercial reserves could annually generate sizable revenues for the Government budget.

This chapter examines (1) whether the expected oil and gas revenues can turn out to be a "resource blessing" for Cambodia instead of a "resource curse," along with (2) ways to recognise the warning signs, based on global experience. Ensuring that (3) the common features of a resource blessing, again based on global experience, are (4) brought to bear in the country, on the policy, legal, institutional and budgetary fronts, will be critical. Lastly, (5) effectively allocating expenditures will help to invest in shared prosperity and long-term stability arising from the new oil and gas deposits.

## 6.1 Blessing or curse?

While expected oil and gas revenues present perhaps the single biggest emerging opportunity facing Cambodia, socio-economic research by SNEC and the Cambodian National Petroleum Authority (CNPA) during 2005-2006, supported by UNDP, also strongly suggests that it may be the single biggest threat to the country's well-being and longer-term stability.<sup>(85)</sup>

These conclusions also are strongly reinforced by experiences in many other low-income developing countries over the past 40 years. More oil-, gas - and mineral-rich developing countries than not have been negatively affected by the related revenue booms – and some even destabilised.<sup>(86)</sup>

In general, available research indicates that long-term growth rates of oil- and mineral-rich developing countries have been 30 percent to 50 percent lower than growth rates for oil- and mineral-poor developing countries. Moreover, mineral-rich countries have underperformed mineral-poor developing countries on a variety of other economic, social and political indicators.<sup>(87)</sup>

<sup>(85)</sup> See, e.g., 'A SWOT Analysis of the Cambodian Economy' by researchers from Harvard University in cooperation with CNPA, SNEC and UNDP; and 'Avoiding the Resource Curse: Lessons Learned from International Experiences,' by ODI in cooperation with SNEC and UNDP.

<sup>(86)</sup> Hence the term 'resource curse,' defined as 'A phenomenon whereby a country with an export-driven natural resource sector, generating large revenues for government, leads paradoxically to economic stagnation and in some cases political instability.' A resource curse can have several dimensions, including overvalued real exchange rates, thereby undermining the competitiveness of the non-resource sectors, particularly agriculture and manufacturing; wastage; corruption/predation; and reduced incentives for accountability by governments to their people.

<sup>(87)</sup> The most striking examples include many of the oil- and mineral-poor Asian 'tigers' compared with oil- and mineral-rich countries in Latin America and Africa, many of which are among the poorest and most indebted in the world. Among the more publicised resource curse experiences are those of Nigeria, Angola, Liberia, Sierra Leone, Equatorial Guinea, Ecuador, Venezuela, Trinidad and Tobago, Kazakhstan, former Zaire, Philippines in the 1970s-80s, and many others.

## 6.2 Global experience on the resource curse

A review of experiences of developing countries plagued by resource curse outcomes over the past 40 years reveals some of the main warning signs leading up to serious resource curse outcomes. These include a sudden surge of foreign currency revenues generated from the extraction of non-renewable natural resources combined with:

- Lack of financial transparency
- Weak financial governance
- Fragmented and porous public finance systems
- Weak and narrow tax base
- Strong evidence of significant corruption
- State mismanagement where officials maximise personal gains through misuse of public office<sup>(88)</sup>
- Weak macroeconomic management capacity, resulting in 'Dutch disease,'<sup>(89)</sup>
- Significant borrowing against oil reserves<sup>(90)</sup>

## 6.3 Ingredients for a blessing

The minority of oil-/gas-/mineral-rich countries that achieved an oil blessing also share common features.<sup>(91)</sup> These include an expected surge of oil revenues generated from extraction of non-renewable natural resources combined with:

- Advance planning to effectively govern, manage and invest the resulting financial flows
- A high degree of transparency
- A high degree of participation in meaningful decision-making by the parliament or national assembly
- Well-developed and effective public sector institutions
- Relatively low corruption, with a functioning legal and judicial system
- A healthy media and civil society
- Effective macroeconomic management capacity
- Aversion to debt accumulation
- Effective management and investment of the revenues to avoid over-valuation of the exchange rate and promote economic diversification
- A rate of investment expenditure that ensures inter-temporal efficiency and equity within the capacity limits of the State and absorption capacity of the country, typically backstopped by a well-designed and transparent natural resource fund

<sup>(88)</sup> Often-cited examples here include former regimes in Nigeria, Liberia, Sierra Leone and former Zaire.

<sup>(89)</sup> 'Dutch Disease' is effectively an overvaluation of the real exchange rate and substantial loss of competitiveness in the non-oil tradable sectors, especially agriculture and manufactures, thereby narrowing the base of economic activity, increasing unemployment and reducing incomes. The reduced diversification of the economy and increased reliance on the commodity sector leaves the country more vulnerable to economic instability resulting from volatility in the specific commodity markets concerned.

<sup>(90)</sup> Some of the most highly indebted developing countries are also, ironically, mineral-rich countries.

<sup>(91)</sup> The most-cited countries that managed to achieve a resource blessing are Norway, Canada (Alberta), USA (Alaska), Australia, Chile and Botswana. Timor-Leste often is cited as a developing country that has in recent years incorporated in its approach to offshore gas the most important lessons learned by other countries over the past 40 years; hence, it may serve as a model for Cambodia.

## 6.4 Ensuring an oil blessing for Cambodia

Clearly, achieving an oil blessing for Cambodia will not be automatic, but fortunately, international experience provides valuable guidance.

Cambodia's Constitution provides an effective road map toward achieving an oil blessing. The Constitution instructs that a 'precise plan' be devised by the State for managing such resources as oil and gas, and that such a plan be decided upon by the people through their voice in the National Assembly, Senate, Government and Judiciary.<sup>(92)</sup> Such advance planning and broad participation of the people in the decision-making process has proven an important ingredient to oil blessings in some of the more successful oil-exporting countries.

Moreover, given the current institutional and development context of Cambodia, international experience would suggest that a number of important policy, legal and institutional safeguards will need to be in place well in advance of oil revenue flows to ensure that Cambodia avoids an oil curse and enjoys an oil blessing.

### On the policy front:

A need exists for a clearly defined policy on how potentially substantial future oil and gas revenues will be governed and managed; transparent policies on how oil and gas concessions should be allocated to maximise benefits to the country as a whole; transparency on the various types and amounts of financial payments and financial flows generated by oil and gas licensing, exploration, development and extraction; and, more generally, clear policies on the degree of transparency in the sector overall.<sup>(93)</sup>

Offshore oil and gas are the patrimony of all the people of Cambodia, so better informing and broadening the public debate on future use of oil and gas revenues is essential. In order to maximise both efficiency and benefits accruing to the country, the allocation of oil and gas concessions to foreign companies will best be done through a competitive bidding process. In addition, in order to better inform public debate, related planning and effective decision making, the broad terms of Production Sharing Contracts outlining the various production-sharing arrangements and types of financial flows to the country should be made easily available to the public (e.g., gazetted or posted on a public website).

### On the legal front:

A need exists for a well-designed petroleum law to govern the sector within the broader legal and institutional context of Cambodia, based on a rational division of responsibilities within the State and between the State and the non-State sectors. Similarly, a well-designed revenue management law will help better define how oil revenues are to be managed and invested for the good of the people and nation. Ensuring legal clarity and coherence with other laws (e.g., on taxation, environment, etc.) is critical.

### On the institutional front:

Given the current stage of institutional development in Cambodia, a strong case can be made for putting in place a well-designed and transparent petroleum fund to minimise the risk of 'Dutch disease' and other resource curse outcomes.

<sup>(92)</sup> Article 59 of the Constitution indicates that the State will establish a precise plan in the management of resources like oil and gas, and manage these for the improved welfare and standard of living of its citizens. All power belongs to the people, and such power is exercised through the National Assembly, the Senate, the Government and the Judiciary.

<sup>(93)</sup> The Government has initiated a working relationship with the Extractive Industry Transparency Initiative (EITI) to assist in this process.



As is done in the most successful countries that have avoided the curse, financial flows generated by oil and gas can first be deposited in such a well-designed, transparent fund before being disbursed to and through the Government budget process to finance planned investments within the NSDP. Revenues from the fund to the budget would be disbursed at a rate that would enable efficient and effective investments within the limits of the country's still-developing institutional and absorption capacities.<sup>(94)</sup> Such a petroleum fund-based approach also will better help ensure inter-temporal efficiency and equity of related investment expenditures.

In general, a further strengthening of public financial systems and management clearly will be important to avoid a resource curse. The Government's ongoing efforts in public financial management reform are even more critical in light of the potential for an oil and gas revenue surge beginning in 2010. A need also exists to ensure a rational division of institutional responsibilities and related capacities within the petroleum sector. The capacity of CNPA needs strengthening in a wide range of technical areas, and the division of responsibilities with other Government bodies may need further definition.

## 6.5 Investing in shared prosperity and long-term stability

Another potential challenge facing Cambodia is how to effectively allocate expenditures through the budgetary process and NSDP so as to minimise the risk of a resource curse and maximise the likelihood of a blessing. Preliminary findings from ongoing UNDP-supported research, in collaboration with SNEC and CNPA, are illuminating.<sup>(95)</sup>

The preliminary findings generated by quantitative modelling simulations of the Cambodian economy under varying oil and gas scenarios strongly support the other conclusions of this report. Notably, because of the low capital intensity in most of rural Cambodia, quantitative modelling simulations strongly suggest that the most effective way for Cambodia to minimise the risk of 'Dutch disease' and other resource curse outcomes will be to invest a substantial share of future oil and gas revenues into rural development.

Rural investments in human resource development through much-improved basic education, training, and extension services, as well as in rural infrastructure such as rural electrification, irrigation and roads, appear to generate the highest returns. These results are largely due to the existing low capital intensity in rural areas, as noted above.

Such rural-based investments in human capital and infrastructure also appear to offer the greatest scope for economic diversification, generating jobs and incomes in the agricultural and manufacturing sectors, and sustaining healthy growth rates over the long term. Moreover, quantitative simulations also indicate strong positive impact on equity indicators, thereby further underpinning long-term social stability.

In sharp contrast, as increasing shares of future revenues accrue to urban areas, the risks of 'Dutch disease' and loss of competitiveness in agriculture, manufacturing and tourism will rise. In this scenario, equity indicators deteriorate rapidly, boding ill for long-term social stability and human well-being. Similarly, this scenario also tends to further exacerbate already-high land concentration and related inequalities.

<sup>(94)</sup> Funds deposited in the proposed petroleum fund can continue to grow at a healthy international rate of return, allowing for continued improvements in health and education beyond the eventual depletion of oil reserves, and better securing financial and socioeconomic stability.

<sup>(95)</sup> In light of the need to plan well in advance for various possibilities, this ongoing research is aimed at simulating and quantifying the socioeconomic implications for Cambodia of various oil and gas scenarios using a first-ever CGE model of the economy. The draft research findings will be released in the latter half of 2007 for consultations and enrichment



Similarly, early simulations strongly suggest that striking a safe balance between consumption and investment expenditures also will prove critical. 'Dutch disease' effects increase sharply as increasing shares of new revenues are used for consumption. The impact is especially negative on private-sector competitiveness and investment. Imports also could rise to unsustainable levels.

Fortunately, the Government's Rectangular Strategy and NSDP both heavily emphasise rural development and achieving the CMDGS. Effective implementation of the NSDP will be essential to ensuring that rural areas receive the highest priority and that rural investments are sequenced up front. In short, substantial investments in rural people and rural infrastructure, funded by future oil and gas revenues and coupled with needed governance reforms, appear to be the most effective way to avoid a resource curse.

## 6.6 Summing up

The discovery of oil and gas in Cambodia will likely lead to a sizable increase in available revenue for the Government. While the potentially significant new funds offer the opportunity to improve socio-economic conditions, the Government must undertake rapid and wide-ranging institutional reforms to avoid the resource curse that affects the majority of developing country oil and gas producers.

- Recent studies in Cambodia have concluded that revenues accruing from the oil and gas sector represent both the largest opportunity and threat to the country. Reasons for concern are warranted since the majority of low and middle-income oil-producing countries have long-term economic growth that is thirty to fifty percent lower than resource-poor countries.
- Comprehensive international research on developing countries has concluded that the factors that cause a resource curse outcome to occur in most developing countries are: limited financial transparency, weak financial governance, underdeveloped public financial management and tax systems, corruption, intentional government mismanagement, ineffective macroeconomic policies, and borrowing against oil reserves.
- The few countries that have actually improved their socio-economic conditions from non-renewable natural resource revenues share common conditions. These include: forward planning to govern, manage, and invest revenues, high transparency, participatory decision-making, strong public sector institutions, low corruption with a strong judiciary and legal system, active civil society and media, appropriate macroeconomic policy, limited debt, effective revenue management to maintain currency stability and economic diversification, and public expenditure that balances immediate development and equity needs with consideration of absorptive capacity and long-term development.
- While Cambodia has initiated steps to ensure an oil blessing, including a constitutional road map to establish a precise plan for managing future revenues that incorporates input from the government and citizens, a number of reforms remain incomplete. There is a need for a transparent oil and gas sector management policy that benefits society as a whole. The legal system requires effective petroleum and revenue management laws. Finally, institutional capacity building is necessary for public financial management, the CNPA and various other government ministries.
- Focus must be placed on long-term inclusive development. This can be achieved with effective budgeting aligned with the NSDP and Rectangular Strategy. Economic analysis of various potential revenue levels suggests that rural investment will maximize the likelihood of avoiding a resource curse. Reasons for this include preventing Dutch disease that will occur if there is excessive urban investment that will decrease competitiveness in other economic sectors, broadening the economic base through increasing human and agricultural capacity, and insuring equitable distribution of gains, all of which will maximize the long-term social and economic development of the country.

# CHAPTER 7





*"Opportunities multiply as they are seized..."*

*His Excellency Prime Minister Samdech Hun Sen, 22 February 2007*

Over the past decade, Cambodia has made significant progress in many areas important to improving human well-being. Nevertheless, poverty and near-poverty remain widespread, especially in rural areas, where the vast majority of Cambodians still live and work. Similarly, a wide range of other human development indicators continues to reflect difficult living conditions in rural areas. Clearly, reaching the CMDGs by 2015 and substantially improving human well-being in Cambodia will require an unprecedented focus on improving rural livelihoods.

A major challenge facing the country will be managing a smooth transition from a still-largely impoverished, agrarian-based society with 85 percent of the population in rural areas to a modern, urban-based one with shared prosperity and longer-term stability. In other successful developing countries in the region, a vibrant rural economy based on smallholder family farms provided a solid bedrock of rural stability with adequate livelihoods for rural labour until more attractive employment was generated in higher-value-added manufacturing and services industries, typically in urban areas.

In the case of Cambodia, consumption, incomes and wealth, especially land, already have become highly concentrated at this early stage of transition from rural poverty. An avoidable worst-case scenario involves land becoming so concentrated and inefficiently used in rural areas that vast numbers of rural people would have little choice but to migrate to urban areas in search of better livelihoods, well before urban-based industries have sufficient time to develop and create needed jobs. The risk of resource curse outcomes from future offshore oil and gas revenues compounds the challenges ahead. Timely remedial measures clearly will be needed to arrest and reverse some of the more worrisome underlying trends.

The timing is right to take the needed decisions and actions to elevate Cambodia to a much higher level of development, with shared prosperity and longer-term stability. The onset of political stability over the past eight years, combined with high economic growth rates in urban areas, provide optimal conditions to accelerate the implementation of some long-overdue reforms needed to redress Cambodia's high-cost economy; to broaden and diversify growth in agriculture and manufacturing; and to generate much more abundant opportunities and choices for the less fortunate half of the Cambodian population.

Fair and effective implementation of the Land Law and Forestry Law is clearly needed. Similarly, increased transparency, much greater public access to essential information and meaningful participation in decision making at the local level also are necessary. This will help reduce information asymmetries in a range of areas that have in turn left rural people vulnerable to exploitation by a minority of better-informed interests.

The passage and full implementation of an effective anti-corruption law will help underpin such efforts by eliminating layers of bureaucratic informal fees and reducing the scope for decisions and actions that result in much higher costs throughout the economy than is the case in neighbouring countries. Such higher costs have rendered much of the Cambodian economy uncompetitive and narrowly based.

As noted elsewhere in this report, the Government's Rectangular Strategy and NSDP 2006-2010 are aimed at much-improved governance as well as at directing more investments to rural areas, specifically in human capital (education and health), agricultural productivity, infrastructure and private-sector development.

Clearly, effective implementation of such strategies and plans will be crucial. Given still-weak institutional capacities at the central, provincial and sub-provincial levels, a greater focus on existing implementation capacities is needed in areas likeliest to generate the highest socio-economic returns. All of these efforts can be reinforced through the careful management and investment of potential revenues from oil and gas beginning in 2010. Together, this will boost efforts to substantially improve human well-being, equity and long-term socioeconomic stability, ensuring that the outlook for Cambodia and its people is truly blessed over the coming decades.

### Box 7.1: Essential Ingredients for Prosperous Rural Livelihoods

#### *Effective Governance*

1. Fair and effective implementation of laws on land, forestry and fisheries.
2. Greater transparency, public access to needed information, and meaningful participation in decision making at a decentralized level.
3. Approval and full implementation of an effective anti-corruption law to help attack underlying causes of Cambodia's high cost economy.

#### *Efficient and Equitable Land Use*

1. Accelerate land titling for small holder farm families.
2. Distribute quality surplus lands to rural landless and near landless farming families through SLCs with adequate support services and infrastructure.
3. Substantially reform ELCs for both economic efficiency and equity reasons.
4. Implement a well-designed land tax to discourage speculation and generate local revenues for essential public services.
5. Check excessive land fragmentation and promote community management of excessively small lands that cannot be consolidated.
6. Protect indigenous ethnic minorities' traditional land rights, issue needed community land titles, and ensure meaningful participation of indigenous communities in local development decision making.

#### *Elevate Farm Productivity*

1. Improve availability of timely market information, quality extension services and new bio-technologies. Popularise innovations like SRI.
2. Expand various types of irrigation, especially irrigation that also increases potable water supply.
3. Reduce impediments to competitive input and output markets.
4. Increase access to affordable credit through improved microfinance regulations and incentives.
5. Invest substantially in rural electrification. Extend power lines from Thailand and Vietnam.



6. Invest in development and rehabilitation of rural feeder roads.
7. Facilitate development of farmer groups and associations to improve price negotiating power, post harvest systems, and conditions for contract farming.

#### *Enrich Fishing*

1. Constitute and strengthen community fisheries to strengthen price bargaining power.
2. Convert select commercial fish lots to protected fish sanctuaries needed to enrich fishing waters and ensure sustainability.
3. Facilitate private sector and community fishery investments in fish processing and higher value-added fish products.
4. Help diversify occupations of vulnerable fisher families.

#### *Broaden and Diversify Off Farm Employment*

1. Attack root causes of unnecessarily high costs for transportation, port handling, energy, and other essential services to the production and marketing process.
2. Promote investment and competition in rice milling.
3. Promote diversification for small holder families through “farming systems” approach and cash crops for larger farms.
4. Promote rural industrialisation in agro-processing, handicrafts and other higher value-added goods through training, credit and market linkages.
5. Promote economically rational public works programmes aimed at creating/maintaining rural infrastructure while also providing jobs for the poor in the off seasons.
6. Explore potential benefits of resurrecting railway system to encourage commercialization and multi-nodal rural industrialization.

#### *Invest in Human Capital*

1. Increase net primary school enrolments and completion rates by reducing costs to poor rural pupils, providing mid-day meals to encourage attendance and completion, and motivating teachers with adequate salaries.
2. Enlarge technical and vocational education/training, particularly at more elementary levels.
3. Diversify health services and reduce the cost of health services and medicines.
4. Popularize readily available inexpensive techniques for cleaning drinking water.

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## Abbreviations and Acronyms

ACI	Agrifoods Consultants International
Affirmative action	Policy initiatives aimed to protect the interests of minorities
AMUL	Anand Milk Union Limited
ASEAN	Association of Southeast Asian Nations
Bappenas	<i>Badan Perencanaan Pembangunan Nasional</i> (National Planning Board of Indonesia)
BDS	Business Development Services
CARDI	Cambodia Agricultural Research and Development Institute
CDRI	Cambodia Development Resource Institute
CEDAC	<i>Centre d'Etude et de Developpement Agricole Cambodgien</i> (Cambodian Center for Agricultural Study and Development)
CF	Community Forestry
CG	Consultative Group
CIPS	Cambodia Inter-census Population Survey
CMDGs	Cambodia Millennium Development Goals
CNPA	Cambodian National Petroleum Authority
CMEA	Council of Mutual Economic Assistance
DAN	Development Analysis Network
Danida	Danish International Development Agency
DHS	Demographic Health Survey
EDC	<i>Electricite du Cambodge</i> (Electricity of Cambodia)
EFCT	Environment Forum Core Team
EIC	Economic Institute of Cambodia
ELC	Economic Land Concession
EMI	Educational Monitoring Indicators
FMD	Foot and Mouth Disease
GCMMF	Gujarat Cooperative Milk Marketing Federation
GDI	Gender Development Index
GDP	Gross Domestic Product
GEM	Gender Empowerment Measure
GTZ	<i>Gesellschaft für Technische Zusammenarbeit</i> (German Technical Cooperation Agency)
HACCP	Hazard Analysis and Critical Control Point Programme
HD	Human Development
HDI	Human Development Index
HDR	Human Development Report
HDRC	Human Development Resource Centre
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
HPI	Human Poverty Index
HYV	High-Yielding Varieties
IFAD	International Fund for Agricultural Development
ICTSD	International Centre for Trade for Sustainable Development
IL	Incremental Literacy
ILO	International Labour Organisation
IMR	Infant Mortality Ratio
IPS	Integrated Package Services

IRN	Inter-Rivers Network
IT	Information Technology
JICA	Japan International Cooperation Agency
Krom Samaki	Farmers' collective
Krom Samaki Nesat	Fishing collective
KWh	Kilowatt-Hour
LADIT	Landlessness and Development Information Tool
LASED	Land Allocation for Social and Economic Development
MAFF	Ministry of Agriculture, Forestry and Fisheries
MDG	Millennium Development Goals
MFA	Multi-Fibre Agreement
MOP	Ministry of Planning
MPDF	Mekong Private Sector Development Facility
MRRP	Mahaweli Reconstruction and Rehabilitation Project
MSP	Minimum Support Price
MW	Megawatt
NGO	Non-Governmental Organisation
NHDR	National Human Development Report
NIS	National Institute of Statistics
NSDP	National Strategic Development Plan, 2006-2010
NTFP	Non-Timber Forest Produce
ODA	Official Development Assistance
PPP	Purchasing Power Parity
PTC	Provincial Training Centres
Public action	Action taken by the Government toward improving social and public services
RGC	Royal Government of Cambodia
SCW	Save Cambodia's Wildlife
SES-97	Socio-economic Survey of 1997
SES-04	Socio-economic Survey of 2003-04
SIFFS	South Indian Federation of Fishermen Societies
SLC	Social Land Concession
SNEC	Supreme National Economic Council
SRI	Systematic Rice Intensification
Swidden	Shifting ( <i>slash-and-burn</i> ) cultivation
T&V	Training and Visit
TVET	Technical and Vocational Education Training
UNDP	United Nations Development Programme
UNHCHR	United Nations High Commission for Human Rights
UNICEF	United Nations Children's Fund
UNTAC	United Nations Transitional Authority in Cambodia
USAID	United States Agency for International Development
VAHW	Village Animal Health Worker
VSF	<i>Vétérinaires Sans Frontières</i> (Veterinarians Without Borders)
WFP	World Food Programme
WTO	World Trade Organization
WUA	Water Users' Association



- Acharya S, S Iyer and A Basak 2005, *Towards Strengthening District Planning for Human Development*, Human Development Resource Centre, New Delhi: UNDP Country Office
- Acharya S, S Kim, S Chap, and Y Meach 2003, 'Off-Farm and Non-Farm Activities and Employment in Cambodia,' DAN, in *Off-Farm and Non-Farm Jobs in SEATE and Thailand: Rationale and Synthesis of Country Studies*, Phnom Penh: CDRI
- ACI (Agrifoods Consultants International) 2005, *Final Report of the Cambodian Agrarian Study*, Prepared for RGC and World Bank, Bethesda (Maryland)
- Anand S and A Sen 2000, 'The Income Component in the Human Development Index,' *Journal of Human Development*, Vol.1 No. 1
- Anders J and A Kokko 2006, (*Land and Human Development*), Discussion Paper, Insights for Action, Phnom Penh: UNDP Cambodia Country Office (early draft)
- Auffret, P 2003, *Rural Poverty in Cambodia: Impact of Land Distribution and Alternative Policies*, World Bank: Washington
- Ballard B and S So 2004, *Cambodia Land Titling Program: Baseline Survey Project, Final Report, Rural Phase 1*, Phnom Penh: CDRI/Ministry of Land Management, Urban Planning and Construction
- Barret CB 1993, 'On Price Risk and the Inverse Farm Size-Productivity Relationship,' *Department of Agricultural Economics Staff Paper Series No. 369*, Madison: University of Wisconsin
- Biddulph R 2000, *Making the Poor More Visible*, Phnom Penh: Oxfam GB
- Biddulph R 2004, *Poverty and Social Impact Assessment of Social Land Concessions in Cambodia: Landlessness Assessment*, Phnom Penh: Oxfam GB
- Boserup E 1965, *The Conditions for Agricultural Growth*, Chicago: Aldine
- Bottomley R 2002, 'Contested Forests: An Analysis of the Highlander Response to Logging, Rattanakiri Province, Northeast Cambodia,' *Critical Asian Studies* Vol. 34 No. 4, 587-606
- Bush SR and LN Minh 2005, *Fish Trade, Food and Income Insecurity: A Review of the Constraints and Barriers Faced by Small-Scale Fishers, Farmers and Traders in the Lower Mekong Basin*, Phnom Penh: Oxfam America
- CDRI (Cambodia Development Resource Institute) 2005, *Annual Development Review 2004-05*, Phnom Penh
- CDRI 2006, *Cambodia: National Synthesis Report*, Phnom Penh
- CDRI 2007, *'We Are Living With Worry All the Time'*, Phnom Penh: CDRI
- Chan S and S Acharya 2002, *Facing the Challenge of Rural Livelihoods – A Perspective from Nine Villages*, Working Paper 25, Phnom Penh: CDRI
- Chan S, S Tep and S Acharya 2001, *Land Tenure in Cambodia – A Data Update*, Working Paper 19, Phnom Penh: CDRI
- Chanda N 1986, *Brother Enemy*, New York: Collier
- Chandler, D 1993, *A History of Cambodia*, Boulder: Westview Press
- Chandler D 2006, 'Rhymes of Cambodian History,' paper presented at *Equity and Development – Exploring Issues and Options for Cambodia*, roundtable among research partners, Phnom Penh: World Bank Country Office
- Christian S, KS Heov and B Khlok 2005, 'Natural Resources and Environment: Issues, Constraints and Challenges,' in CDRI *Annual Development Review 2004-05*, Phnom Penh
- Dapice D, T Vellely and B Wilkinson 2006, *Improving the Lives of Cambodia's Rural Citizens: Raising Farm Family Incomes in Cambodia* Discussion Paper, Insights for Action, Phnom Penh: UNDP Cambodia Country Office (early draft)
- Devereux S and C Solomon 2005, *Employment Creation Programmes: The International Experience*, Roundtable on National Guarantee Programme in India, 30-31 August, New Delhi: ILO

- Dinravy K and A Groetschel 2004, *Potential Poverty and Social Impacts of Cambodia's Proposed Social Land Concession Programme – Presentation and Discussion of Results and Recommendations from the PSIA Exercise* Phnom Penh: Ministry of Land Management, Urban Planning and Construction, Oxfam, GTZ and World Bank
- Ear S 1995, *Cambodia's Economic Development and History*, Undergraduate Economics Honours Thesis, Department of Economics, University of California, Berkeley, <http://www.csua.berkeley.edu/~sophal>
- Ear S 2005, 'Political Economy of Pro-Poor Livestock in Cambodia,' in PPLPI Working Paper No. 26, *Living from Livestock*, Rome: Food and Agriculture Organisation (FAO)
- Edwards S and I Magendzo 2002, *Dollarisation and Economic Performance: What Do We Really Know?*, Working Paper No. 65, Vienna: Oesterreichische Nationalbank
- EFCT (Environment Forum Core Team) 2005, *Fast-Wood Plantations, Economic Concessions and Local Livelihoods in Cambodia – Field Investigations in Koh Kong, Kampong Speu, Pursat, Kampong Chhnang, Mondolkiri, Prey Veng and Svay Rieng Provinces*, Phnom Penh: NGO Forum
- EIC 2006, *Cambodia: Agricultural Development Report – 2006*, Phnom Penh
- Frausto K 2001, 'Developing Irrigation Options for Small Farmers,' Thematic Review IV.2 – *Assessment of Irrigation Options*, Institute of Developing Enterprises (US), <http://www.dams.org>
- Goletti, F 2004a, *Agribusiness and Commercial Agriculture Short Course*, Agrifoods Consulting International, 19-23 January 2004, Manila: Asian Development Bank
- GTZ (Gesellschaft für Technische Zusammenarbeit) 2006, *Overview of Major Legal Categories of Lands and Waters in Cambodia*, Phnom Penh
- Halabi K 2005, *Review of Experiences in Land Distribution in Cambodia*, Land Allocation for Social and Economic Development (LASED), Phnom Penh: Ministry of Land Management, Urban Planning and Construction, GTZ and World Bank.
- Hap N, R Chuenpagdee and J Kurien 2006, *Livelihood Importance and Values of Tonle Sap Fisheries*, Policy Brief, Phnom Penh: Inland Fisheries Research and Development Institute, RGC/World Fish Centre
- Hap N, L Seng and R Chuenpagdee 2006, *Socioeconomics and Livelihood Issues of Tonle Sap Lake Fisheries*, Phnom Penh: Inland Fisheries Research and Development Institute, RGC/World Fish Centre (<http://www.ifredi.org>)
- Heov KS, B Khlok, K Hansen and C Sloth 2006, 'The Value of Forest Resources to Rural Livelihoods in Cambodia,' in *CDRI Policy Brief*, Issue 2
- ICTSD (International Centre for Trade for Sustainable Development) 2005, *Untangling Fisheries and Trade: Towards Priorities for Action*, Geneva: Report of a Seminar, May
- ILO (International Labour Organisation) 2001, *Business Development Services for Small Enterprises*, <http://oracle02.ilo.org/dyn/empent.Portal.Portal?P:Prog=S&P=BD>
- ILO 2006, *Promoting Employment in Cambodia: Analysis and Options*, Working Paper (draft) prepared for the Ministry of Labour and Vocational Training, Ministry of Labour, Cambodia; Bangkok
- ILO-Bappenas 2005, *A National Employment Guarantee Programme for Indonesia – An Approach*, Jakarta: International Labour Office
- IMM 2005, *Understanding the Factors That Support or Inhibit Livelihood Diversification in Coastal Cambodia*, Innovation Centre, Rennes Drive, Exeter UK
- IRN (Inter-Rivers Network) 2002, *Damming the Sesan River: Impact on Cambodia and Vietnam*, Briefing Paper, Inter-Rivers Network, <http://www.irn.org>
- Kato E 2000, *Where Has All the Land Gone? Land Rights and Access in Cambodia*, Phnom Penh: Cambodia Land Project, Oxfam GB
- Kim S 2005, 'The Socio-Economic Status of Coastal Fishing Communities, Including Health and HIV/AIDS,' paper prepared for FAO GCP/RAS/199/SWE Strengthening Capacity in Fisheries Information Gathering for Management, Phnom Penh: FAO
- Kim S, S Chan and S Acharya 2002, *Land, Rural Livelihoods and Food Security in Cambodia – A Perspective from Field Reconnaissance*, Working Paper 24, Phnom Penh: CDRI

- Kurien, J, N So and So Mao 2006, *Cambodia's Aquarian Reforms: The Emerging Challenges for Policy and Research*, Phnom Penh: Inland Fisheries Research and Development Institute, RGC/World Fish Centre (<http://www.ifredi.org>)
- Kusakabe K, S Prak, S Ubolratana, S Napaporn 2005, *Gendered Commodity Chain of Fish Border Trade from Cambodia to Thailand*, paper presented at the Conference on Trans-Border Issues in Greater Mekong Sub-Region, Ubonatchathani, Thailand, 30 June-2 July
- Le Billon P 2002, 'Logging in Muddy Waters – Politics of Forest Exploitation,' in *Critical Asian Studies*, Vol. 34, No. 4, 563-586
- Ling Z and J Zhongyi 1995, 'Yigong-Daizhen in China: A New Experience with Labour-Intensive Public Works in Poor Areas,' Chapter 4, in J von Braun (Ed.), *Employment and Poverty Reduction and Food Security*, Washington: IFPRI
- Ly Chou Beang and Lao Sethaphal 2004, *Community Forestry in Cambodia*, Proceedings of a Regional Workshop on Forestry and Poverty Reduction, FAO (Bangkok)-Chinese Academy of Forestry (Beijing) <http://www.fao.org/docrep/007/ad511e/ad511e00.htm>
- Mak S 2001, 'Continued Innovation in a Cambodian Rice-Based Farming System: Farmer Testing and Recombination of New Elements,' in *Agricultural Systems* No. 69, 137-149
- Mak Sithirith 2005, *'The Hydrodynamics of the Tonle Sap Lake in Cambodia,'* mimeo
- McKenny B and T Prom 2002, *Natural Resources and Rural Livelihoods in Cambodia – A Baseline Assessment*, Working Paper 23, Phnom Penh: CDRI
- Moreno-Dodson B (Ed.) 2005, *Reducing Poverty on a Global Scale – Findings from the Shanghai Global Learning Initiative*, Washington: World Bank
- Mouhot, H 1862, *Travels in Siam, Cambodia, Laos and Annam*, Bangkok: White Lotus, republished 2000
- MPDF (Mekong Private Sector Development Facility) 2005, *Cambodia and WTO: A Guide to Business*, Phnom Penh: Ministry of Commerce/International Finance Corporation
- Mysliwiec E 1988, *Punishing the Poor: International Isolation of Kampuchea*, Oxford: Oxfam
- Nou K 2005, 'The Competitiveness of Cambodian Agriculture: Case of Maize, Soybeans and Cassava,' in CDRI *Annual Development Review 2004-05*, Phnom Penh
- Ngy S 2006, *'Rural Development in Cambodia,'* mimeo, Phnom Penh: Ministry of Rural Development
- Oxfam 2005, *Assessment and Learning from Community Fisheries Management Process*, Phnom Penh: Oxfam GB
- Rab MA, N Hap, L Seng, M Ahmed and K Viner 2005, *Marketing Infrastructure, Distribution Channels and Trade Pattern of Inland Fisheries Resources Cambodia: An Exploratory Study*, Penang: World Fish Centre (<http://www.ifredi.org>)
- RGC (Royal Government of Cambodia) 2003, *Cambodian Agricultural Finance Survey – Statistical Report*, National Institute of Statistics, Phnom Penh: Ministry of Planning (MOP)
- RGC 2004, *Agricultural Statistics 2003-04*, Phnom Penh: MOP
- RGC 2005, *Agricultural Statistics 2004-05*, Phnom Penh: MOP
- RGC 2005a, *Cambodia Socioeconomic Survey 2004, Final Summary Report*, National Institute of Statistics, Phnom Penh: MOP
- RGC 2006, *A Poverty Profile of Cambodia*, Phnom Penh: MOP
- RGC 2006a, *National Strategic Development Plan 2006-2010*, Phnom Penh
- RGC 2006b, *National Accounts of Cambodia 1993-2005*, Bulletin No. 10, National Institute of Statistics, Phnom Penh: MOP
- RGC 2006c, *Agricultural Statistics 2005-06*, Phnom Penh: MOP
- RGC 2006d, *Cambodia Education Sector Performance Analysis 2006, EC Technical Advisory Team*, Phnom Penh: Targeted EC Support to Pro-Poor Basic Reforms in Cambodia
- SCW (Save Cambodian Wildlife)/Danida 2006, *The Atlas of Cambodia – National Poverty and Environment Maps*, Phnom Penh



- Seng B, B Dongelmans B and J ter Horst 2006, *Silk Weavers in Cambodia*, Phnom Penh: Asia Foundation/USAID/ Centre for Advanced Study
- Sik, B 1998, *Rice Supply Response in Cambodia*, unpublished master's thesis, University of New England, Australia
- SNEC (Supreme National Council of Cambodia)-Harvard University 2006, *A SWOT Analysis of the Cambodian Economy*, Phnom Penh: UNDP
- So S, S Real, U Uch, R Sy B Ballard and S Acharya 2001, *Social Assessment of Land – A Field Study*, Working Paper 20, Phnom Penh: CDRI
- Sok H, H Chea and B Sik 2001, *Annual Economic Review*, Phnom Penh
- Sok V 2005, *'Fish Markets in Phnom Penh, Siem Reap and Sihanoukville'* Working Paper 1, Department of Fisheries, Phnom Penh: Ministry of Agriculture, Fisheries and Forests (MAFF)
- Sokh, H and S Ty 2005, *'Cambodia Community Forestry'*, mimeo, Department of Forestry, Phnom Penh: MAFF
- TWG (Technical Working Group) – Agriculture and Water 2006, *Agriculture and Water Strategy 2006-2010* (draft report), 11 September 2006
- Thanh NX 2005, *Cambodia: Land and Agricultural Development*, mimeo, Vietnam Programme, Kennedy School of Government, Cambridge: Harvard University
- Thion S 1993, *Watching Cambodia*, Bangkok: White Lotus
- Ty S, H Sokh and S Lao 2006, *Institutional Arrangements for Community Forestry in Cambodia*, Department of Forestry, Phnom Penh: MAFF
- UNDP (United Nations Development Programme) 1995, *Human Development Report*, New York: Macmillan
- UNDP 2006, *Human Development Report*, New York: Macmillan
- UNDP-Planning Commission 2001, *National Human Development Report – India*, New Delhi
- UNDP-HDRC (Human Development Resource Centre) 2006, *A Course in Human Development*, New Delhi: UNDP India Country Office
- UNHCHR (United Nations High Commission for Human Rights) 2004, *Land Concessions for Economic Purposes in Cambodia – A Human Rights Perspective*, Phnom Penh
- USAID (United States Agency for International Development) 2005, *Human Impact of Forest Conflict*, Washington (<http://www.usaid.gov>)
- Vickery M, *Cambodia 1975-1982*, South End Press, 1984 (Questia Online Library), <http://www.questia.com/library/book/cambodia-1975-1982-by-michael-vickery.jsp>
- Williams S 2000, *A Study of the Capacity of Five Provinces to Resolve Conflicts Over Land*, Phnom Penh: Cambodia Land Project, Oxfam: Great Britain
- World Bank 2001, *Private Sector Development Strategy – Directions for the World Bank Group*, <http://rru.worldbank.org/strategy/documents/PSDStrategy-Dec3version.pdf>
- World Bank 2002, *Project Appraisal Document Report No. 22869-KH for Proposed Credit for Land Management and Administration Project*, Washington: Rural Development and Natural Resources Sector Unit, East Asia and Pacific Region
- World Bank 2005, *Cambodia Rural Sector Strategy Note*, Phnom Penh
- World Bank 2005a, *Shaping the Future of Water for Agriculture – A Sourcebook for Investment in Agriculture and Water Management*, Washington: The World Bank
- World Bank, 2006, *Cambodia: Halving Poverty by 2015? Poverty Assessment 2006*, Report No. 35213-KH, Document of the World Bank, East Asia and the Pacific Region, Washington
- World Bank 2006a, 'Cambodia in the Second Decade of Peace: Creating Shared Growth,' paper presented in *Equity and Development – Exploring Issues and Options for Cambodia*, roundtable among research partners, Phnom Penh: World Bank Country Office
- Yim C and B McKenny, 2003, *Domestic Fish Trade: A Case Study of Fish Marketing from the Great Lake to Phnom Penh*, Working Paper 29, Phnom Penh: CDRI

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