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Cambodia Human Development Report 1999

Village Economy and Development

Ministry of Planning

CAMBODIA HUMAN DEVELOPMENT REPORT 1999:

VILLAGE ECONOMY AND DEVELOPMENT

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Ministry of Planning,
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of Cambodia

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FOREWORD

It gives me great pleasure to introduce the *Cambodia Human Development Report* 1999, which is the third in a series of national human development reports (NHDRs) to be published in Cambodia. More than 100 countries throughout the world have published national human development reports to date. These reports have been important vehicles for promoting the cause of human development and people-centered approach to national policy making. Both the first and second *Cambodia Human Development Reports* were launched in Phnom Penh on Poverty Day in 1997 and 1998. These reports have received a lot of media attention, both in Cambodia and in the rest of the world. More importantly, they have been useful to government ministries, NGOs, and donor agencies in planning their activities as well as in training their field staff and community workers at the grassroots level. It is our hope that these reports will result in a national dialogue on poverty and human development in the country.

While *Cambodia Human Development Report 1997* focused on poverty and human development, the topic of *Cambodia Human Development Report 1998* was the contribution of women to Cambodia's development. This -- *Cambodia Human Development Report 1999* -- is on Cambodia's villages. Using quantitative data from a national survey as well as qualitative information from various sources, the Report paints a socioeconomic and human development profile of Cambodia's villages and discusses the various village development approaches being attempted in the country.

The *Cambodia Human Development Report 1999* is the result of a nationally-executed project funded by the Government of Norway and UNDP. The report is based on an extensive analysis of data from the village questionnaire of the Cambodia Socio-Economic Survey (CSES) 1997, which was undertaken in 1997 by the National Institute of Statistics/ Ministry of Planning, under the auspices of a joint Ministry of Planning/SIDA/UNDP/World Bank project on 'Capacity Development for Socioeconomic Surveys and Planning.'

I would like to acknowledge the assistance of several agencies and individuals in bringing out the *Cambodia Human Development Report 1999.* First and foremost, the Ministry of Planning would like to thank UNDP for its many contributions, including providing technical assistance and funding to produce the report. We would also like to acknowledge the assistance of Ms. Dominique Ait Ouyahai-McAdams, Resident Representative, UNDP, for her encouragement and guidance.

Second, I would like to acknowledge the technical assistance of our consultant, Dr. Anil Deolalikar, who helped us in the preparation of the report and in the consultation process with other line ministries, UN agencies and NGOs.

Finally, I would like to thank the Technical Advisory Group of the *Cambodia Human Development Report 1999,* comprising of H.E. Ou Orhat - Ministry of Planning, Ms. Kaarina Immonen - UNDP, Mr. Howard Jost - Church World Service, Mr. Monh Sary - University of Phnom Penh, Ms. Hou Samith - Ministry of Women's and Veterans Affairs, Mr. Keo Sakann - Ministry of Social Affairs and Labour, Mr. Vann Hong - Ministry of Agriculture, Forestry and Fisheries, Mr. Sao Chivoan - Ministry of Rural

Development, Mr. Chan Ratha - Royal University of Agriculture, Dr. Yang Saing Koma - CEDAC, Mr. Mak Sathirith - NGO Forum for Cambodia, Ms. Heang Siek Ly - Ministry of Planning for their guidance in making sure that the report reflects the various concerns and sectors of Cambodian society.

I am confident that the *Cambodia Human Development Report 1999* will initiate a national debate and dialogue on people- and village-centered development in Cambodia. We need such a debate to formulate our development strategies and to define the issues and priorities for action.

Let me take this opportunity to reiterate the commitment of the Royal Government of Cambodia in continuing the important work that UNDP started in 1997. The Ministry of Planning will strive to produce the Cambodia Human Development Report on an annual basis in the future.

Phnom Penh
October 1999

Chhay Than
Minister of Planning
Royal Government of Cambodia

EXECUTIVE SUMMARY

A. Human Development in Cambodia

Human development is the process of enlarging people's choices. While income is one of these choices, it is by no means the only one. Health, education, nutrition, access to social services, and individual freedoms are no less important in judging people's welfare.

In recent years, over 100 countries around the world have issued national human development reports with UNDP support. The national human development reports have played an important role in advocating the cause of human development and people-centered approach to national policy-making; in highlighting critical concerns, such as poverty or the rights of women and children, that may be of particular relevance in certain countries; and in focusing on intranational equity in economic and human development (say, across geographical regions, gender and income groups).

This is the third national human development report for Cambodia. While the first *Cambodia Human Development Report*, published in 1997, focused on poverty and the second focused on gender, this one analyzes the role of villages in Cambodia's development. It looks at the situation of Cambodia's villages in terms of economic and social infrastructure, analyzes disparities across poor and rich villages, and discusses recent attempts to promote participatory grassroots development in the country.

The Human Development Index (HDI), proposed by UNDP, is one of several means of measuring the status of human development in a country. The HDI is a composite measure of longevity, educational attainment, and standard of living. The Gender-related Development Index (GDI) is similar to the HDI but additionally takes into account the gender inequality in life expectancy, educational attainment, and standard of living. A third indicator of human development proposed by UNDP is the Gender Empowerment Measure (GEM), which is a measure of the relative participation of women and men in political and economic spheres of activity. A final indicator of human development proposed by UNDP is the Human Poverty Index (HPI), which measures deprivation in three essential elements of human life -- longevity, knowledge and a decent standard of living.

Cambodia has among the worst human development indicators in Asia. For instance, its HDI score is the lowest in East and Southeast Asia after Laos. While HDI scores are strongly correlated with per capita income and Cambodia is among the poorest countries in Asia, the analysis in this report indicates that Cambodia's HDI score is even lower than what should be expected for a country at its level of per capita income. Cambodia does not fare much better in terms of other human development indicators, such as the Gender-related Development Index, the Gender Empowerment Measure or the Human Poverty Index. It is clear, therefore, that human development needs to be one of Cambodia's top priorities for the future. The success of countries such as Sri Lanka, China and Vietnam in achieving excellent human development indicators even at low

levels of per capita income portends well for Cambodia; it suggests that it should be possible for Cambodia to improve its human development record despite its low per capita income.

In addition, there are large disparities in human and gender development within Cambodia. The HDI score for urban Cambodia is nearly 25 per cent greater than that for rural Cambodia. The richest 20 per cent of Cambodians have an HDI score that is nearly 50% greater that of the poorest 20 per cent of Cambodians. Likewise, the Human Poverty Index indicates that poverty in the country is worse in the rural areas and among women.

B. Socioeconomic Profile of Cambodia's Village

This report uses data from the village questionnaire of the Cambodia Socioeconomic Survey of 1997 village to describe the state of social, human and economic development in Cambodia's 13,406 villages. While the data in the survey relate to only 474 villages, they are statistically representative of the situation in the entire country. For the purposes of this report, the 474 sample villages were classified into five equal sized groups (or quintiles) based on mean annual consumption expenditure per capita in each village. This stratification accurately reflects living standards across villages.

Demographic Characteristics. The mean population of the sample villages is 1,550 persons, with approximately two-thirds of all villages having populations between 1,000 and 2,000 persons. There is a general, although not pronounced, pattern of poorer villages being smaller in size than better-off villages. Likewise, virtually no variation is observed across poor and rich villages in the proportion of households that are headed by a female. Approximately 2225 per cent of households in all five village quintiles are headed by females.

Ethnic Minority Villages. In over 96 per cent of villages, Khmers constitute the principal ethnic group. However, there are a few villages that have a non-Khmer group as the principal ethnic group in the village. The main non-Khmer ethnic groups are the Vietnamese, Chinese and Cham. In addition, the villages located in the mountainous provinces of Mondulkiri and Ratanakiri are inhabited by minority tribes. Not surprisingly, minority villages -- i.e., those having a non-Khmer group as the principal ethnic group in the village -- are more common among the poorest than among the richest quintile of villages.

Poverty. Poverty is a serious problem in Cambodia. About 36 per cent of the Cambodian population lives below the poverty line, with the incidence of poverty being the lowest in Phnom Penh (11.1 per cent), followed by urban areas outside Phnom Penh (29.9 per cent) and rural areas (40.1 per cent). Furthermore, despite three strong years of economic growth, the poverty rate for the country declined only modestly from 39 per cent in 1994 to 36.1 per cent in 1997. Not surprisingly, poverty rates vary significantly across poor and rich villages, with @the incidence of poverty being as high as 70 per cent in the poorest quintile of villages but as low as 4 per cent in the richest quintile. There are

also large regional disparities in the incidence @of poverty, with the Coastal and Mountainous regions having the lowest incidence of poverty (about 22 per cent) and the Tonle Sap region having the highest incidence (38 per; cent) The Plains region falls in between, with'29 per cent of its population below the poverty line.

Economic Activities. In two-thirds of the villages, agriculture is the most important income-earning activity, while in 18 per cent of villages; trade is the most important economic activity. There are a number of secondary economic activities in the villages, such as livestock raising, fishing, trade, forestry, and crafts. There are important differences in the importance of different economic activities across poor and better-off villages. In the poorest villages, agriculture is the most important economic activity, but this is the case in relatively few of the richest quintile of villages. In the latter, trade is often the leading economic activity. Thus, the poorest villages in Cambodia are those where the population is engaged overwhelmingly in agriculture, while the better-off villages are those where a large proportion of the population is engaged in trade.

Within villages, work patterns and employment activities differ greatly across men and women. Cambodian women participate actively in the labor market. Indeed, in the age group 1529 years, a larger percentage of women than men are economically active (74 versus 68 per cent). Working women are more likely than working men to be in the agriculture and service sectors. They are also more likely than men to be self-employed, typically as own-farm operators, shopkeepers, traders or small business owners. However, a much smaller proportion of economically active women than men work in the public (government) sector.

Wages. Male wages exceed female wages for all types of agricultural and construction work, including, surprisingly, agricultural tasks that are predominantly performed by women, such as paddy planting and crop care. However, in these tasks, male wages exceed female wages by only 5 per cent, while the difference is close to 15 per cent in tasks that are predominantly performed by men, such as construction work and ploughing. The gender disparity in wages is about the same in poor and rich villages.

Landholding. On average, only 0.33 hectares of agricultural land is available per person in the sample villages. Surprisingly, however, the per-capita availability of agricultural land is greater in the poorest villages than in the richest villages, although this is likely to reflect the lower soil fertility and lower irrigation levels of agricultural land available in poor villages relative to that in the better-off villages. (Indeed, the data do show that a larger portion of agricultural land is irrigated in rich than in poor villages.) ' Since more fertile land is typically subdivided over time at a faster rate, the land/person ratio in more fertile regions is often smaller than that in less fertile regions. The availability of land per capita is observed to be much lower in the Coastal region than in the other regions of the country, again reflecting the high fertility of soil in the Coastal region.

As a result of land reforms passed in 1992, the majority of rural Cambodians have access to land. The CSES data indicate that only 14.4 per cent of rural households

are landless in the country. This proportion varies from 8.6% in the Coastal region to 17.3% in the Tonle Sap region. Access to land, however, continues to be a problem for certain groups, such as returnee refugees. One survey of returnees found that only 15 per cent of returnees, but 79 per cent of local villagers, had access to cultivable land. Another survey found that, since 1994, nearly 15 per cent of returnees' titled agricultural land and 70 per cent of their untitled agricultural land had been confiscated by the military, local officials, and local villagers.

The problem of land titles is a serious one in Cambodia. Even farmers who own land often have no legal titles to the land they cultivate. This is because the process of land titling and registration is cumbersome. It is estimated that only 10 per cent of the applicants have been granted certificates of ownership, and even these land title certificates are of a temporary nature.

This not only causes land disputes but also discourages farmers from investing in the long-term quality of their land, as their tenure is insecure.

Access to Markets and Economic Services. Access to economic services and markets is very limited in Cambodia, with only 14 per cent of villages in the country having a permanent market and 11 per cent having a bank or credit organization. Agricultural extension workers, who can help farmers in adopting new seed technologies and cultivation practices, are rarer still, with only 4 per cent of villages having one. In addition, there are large disparities in access to these services and markets across villages, with the poorest villages in the country being severely disadvantaged in terms of their access to markets and services that could improve productivity and incomes.

Economic Infrastructure. Only 43 per cent of households in villages have access to electricity. As iii the case of economic services, availability of roads and electricity are strongly related to the economic status of a village, with the poorest villages having much smaller rates of electrification than better-off villages.

Several pockets of rural-based small-scale manufacturing have begun appearing in various parts of Cambodia. For instance, in the northwest part of the country, the brick and tile manufacturing industry has emerged as an important non-agricultural activity, especially in the construction boom period of the last 5-10 years. Rice milling is another important rural industry that has seen rapid growth in the recent past. However, the data indicate that proximity to an industrial or commercial enterprise is related to village income, with only 9.5 per cent of villages in the poorest quintile -- but 62 per cent of those in the richest quintile -- being in close proximity to an enterprise.

Proximity to Administrative Centers. For a village, proximity to centers of administrative and political power are important factors in garnering additional resources for its economic development, especially in a centralized political and administrative system such as Cambodia's. On average, villages in the CSES sample are 9 kms away from the district town and 24 kms away from the provincial town. However, proximity to administrative capitals is closely linked to the economic status of a village, with the

poorest villages being much further away from district and provincial towns than the better-off villages.

Natural Disasters. Natural disasters are a common occurrence in Cambodia, with such a large proportion of the population dependent on rain-dependent agriculture and a large population living along rivers prone to seasonal flooding. More than two-thirds of all CSES sample villages experienced some type of natural disaster (flood, drought, crop failure, and fire) in the 12 months preceding the survey. Floods are the most common of all natural disasters, with almost one-half of all sample villages having experienced a flood in the past 12 months. Villages situated along the banks of the Mekong River, for instance, remain flooded for considerable periods of time. Even though most villagers are generally well prepared for the flooding because it is anticipated, there is no question that such flooding, even if it occurs regularly each year, causes considerable damage and hardship in the villages where it occurs.

Interestingly, poorer villages are more prone to natural disasters than better-off villages, reflecting the fact that the poor often have no choice but to live in harm's way -- in villages that are susceptible to natural disasters owing to their location.

C. Educational Infrastructure and Schooling Outcomes

Education Infrastructure. The education sector in Cambodia has had a tumultuous history, with the period 1975-79 seeing the destruction of much of the educational and intellectual infrastructure of the country. The achievements made by the education sector in the 1960s and 1970s were systematically decimated as the Khmer Rouge destroyed schools, equipment and books and effectively abolished schooling. While a great deal of effort went into rebuilding the education sector in the post-Khmer Rouge period, this had to be accomplished under tight budgetary constraints. As a result, Cambodia has a much smaller stock of schools and schoolteachers, and therefore smaller school enrollment rates, especially at the secondary level, than most other countries in the Asia-Pacific region.

Adult Literacy. Only about two-thirds of all Cambodian adults (aged 15 years and above) are literate, with male literacy being much higher than female literacy (80 versus 60 per cent). Interestingly, not only do better-off villages have higher rates of adult literacy than poorer villages, they also have relatively smaller levels of gender disparity in literacy. This suggests that, with income growth, female schooling expands at a faster rate than male schooling, so that the gap between male and female adult literacy narrows.

Geographical Access to Schools. Only about 46 per cent of villages in Cambodia have a primary school. The number of villages having a secondary school is significantly lower - only 5.4 per cent and 2 per cent. This means that in more than one-half of the villages, children have to commute outside their villages to attend even primary school. Average distances to the nearest primary school do not appear to be unduly long. In a typical village, the nearest primary school is only about 0.6 kms away. However, distance to the nearest secondary school is significantly greater. On average, the nearest lower

secondary school is 4.1 kms away, while the nearest upper secondary school is 8.3 kms away. In the absence of widely available public transportation across villages, these distances are too far for a student to commute on a daily basis. This may help explain the unusually low enrollment rates at the secondary level in the country.

Geographical access to schools is significantly worse in poorer villages than in rich villages. The disparity in geographical access between poor and rich villages is much greater at the secondary level than at the primary level. For instance, while the distance to the nearest upper secondary school is 12 kms among the poorest quintile of villages, it is only 4 kms among the richest quintile.

School Enrollment Rates. While Cambodia's gross primary enrollment ratio is comparable to most countries in the region, its gross secondary enrollment ratio is the lowest of any country - lower even than Laos, Nepal and Myanmar.

In addition, there are large gender disparities in school enrollment rates in Cambodia. While boys enjoy a gross primary enrollment ratio of 102 percent, the corresponding ratio for girls is only 86 percent. The gender differences widen at higher schooling levels, so that males have a gross upper secondary enrollment ratio that is nearly 90 percent greater than that of females.

Because access to schooling is significantly worse in poor than in rich villages, enrollment rates are also lower. The disparity in enrollment rates across poor and rich villages is relatively small at the primary level, but increases sharply at the secondary level. For instance, the gross enrollment rate at the upper secondary level is only 2.1 per cent for the poorest 20 per cent of villages; however, it is as high as 55.4 per cent for the richest 20 per cent of villages.

Differences in Schooling Quality Across Villages. The disparity across poor and rich villages in geographical access to schooling only tells a part of the story. Even the schools that are available in the poor villages tend to be of lower quality. This is borne out by data on pupil/teacher ratios which show, for instance, that the pupil/teacher ratio in primary schools is 88 in the poorest quintile of villages, but only 35 in the richest quintile. When pupil/teacher ratios exceed 50-60, the quality of instruction deteriorates considerably. Likewise, the proportion of schools that have adequate books for their students is significantly smaller in the poorest villages than in the richest villages.

Schooling Costs across Villages. Physical or geographical access to schools is not the only problem in Cambodia. Economic access is perhaps as important in limiting enrollments as physical access. While primary schooling is officially free in Cambodia, parents typically have to pay significant amounts for their children's primary schooling -- for school uniforms, textbooks, private tutoring, and informal supplements. In addition, students and their families have to contribute almost entirely toward the construction costs of school buildings, equipment and furniture and their maintenance.

Average reported school fees per student per year in the CSES sample of villages are R. 2,523 at the primary level, R. 4,573 at the lower secondary level, and R. 7,703 at the upper secondary level.' However, school fees at the primary level vary from R. 1,549 per student per year in the poorest villages t6 more than three times as much (R. 5,417) in the richest villages. The positive relationship between school fees and village income probably simply reflects the fact that the quality of primary schools in the richer villages is better (as evidenced by greater availability of books and lower pupil/teacher ratios) and that better quality schooling typically costs more.

Major Education-Related Problems as Perceived by Village Residents. The major problem with schooling, as cited by the large majority of village leaders in the CSES sample of villages, was the absence of a school in the village. This was particularly the case for secondary schools. This was followed, in the case of primary schools, by four other factors, which were more-or-less equally cited by village leaders as problems with schooling: poor quality of school buildings, very low budget for schools, poorly-paid teachers, and inadequate number of places and desks in schools.

In contrast, the second-most frequently cited problem for secondary schools was distance. In 18-22 per cent of villages, village authorities said that the lower and upper secondary schools were too far from the village. This was followed by school budget constraints and financial problems for the family.

Interestingly, there are some differences in the perceived importance of these problems across poor and rich villages. The poor quality of the primary school building was cited much more frequently as a problem in poor than in rich villages. "Poorly-paid teachers" at the secondary school level was cited much more frequently as a problem in rich than in poor villages. The latter does not imply that teachers in better-off villages and communities are actually paid lower wages than teachers in poor villages; it most likely reflects the fact that richer communities can afford to pay higher salaries to teachers.

Does Better Geographical Access to Schools Improve School Enrollment Rates? The CSES data provide strong evidence of the negative impact of school distance on enrollment. Primary enrollment rates begin to fall off when the nearest primary school is more than one kilometer away, and drop off quite sharply when the school is more than 2 kms away. In the case of secondary enrollments, the distance threshold is somewhat greater, as would be expected. Secondary enrollments begin to fall off sharply after the nearest secondary school is more than 5 kms away.

D. Health Infrastructure, Health-Services Utilization and Health Outcomes

Health Infrastructure. When Cambodia began the process of its reconstruction in 1991, it was faced with a very poor health infrastructure. More than three decades of war and conflict had left many health facilities around the country completely destroyed. In addition, the long period of civil strife had also destroyed much of the country's health-related human resources. Although the situation has improved considerably since then,

Cambodia's level of health infrastructure and health manpower remains weak in comparison to other countries in the region.

Geographical Access to Health Facilities in Villages. The shortage of health facilities manifests itself particularly in the villages of Cambodia. In the rural areas, access to health facilities is poor. CSES data indicate that only 16.2 per cent of villages in the country have a primary health clinic in the village.' The percentage of villages having other health providers is equally small - 24.7 per cent for drug vendors, 15.6 per cent for private clinics, and 18.8 per cent for private doctors.

Distance to the nearest health provider is particularly relevant in rural Cambodia, given that the vast majority of rural Cambodians do not have health clinics, doctors, trained midwives and drug vendors in their village of residence. The nearest public clinic is, on average, 3 kms away from the average village. The nearest public clinic is 3-5 kms away for 26.3 per cent of the villages and more than 10 kms away for 4 per cent of the villages.

While geographical access to health facilities is generally poor in all of rural Cambodia, it is particularly poor in the poorest villages in the country. The poorest 20 per cent of villages have much lower local availability of virtually all types of health providers -- viz., drug vendors, private clinics, private hospital, doctors, nurses, and trained midwives. Likewise, there is a strong pattern of the poorest villages being farther away from most types of health facilities and providers than the better-off villages. For example, the nearest public clinic is 4 kms away from the poorest 20 per cent of villages, but only 1.4 kms away from the richest 20 per cent of villages.

Quality of Public Health Services. Nearly one-third of all village leaders listed inadequate availability of drugs and medicines (typically in the public clinic) as the most important health problem in the village. This was followed by the lack of physicians or qualified medical assistants in the public health clinics. About I 1- 12 per cent of the villages cited lack of beds and equipment in public health facilities, the expensive nature of health services, and distance to better-quality care as the main problems of public health services.

Interestingly, the lack of equipment (including beds) and of physicians in public health clinics was cited much more frequently as a problem in poor villages than in rich villages. These results highlight the fact that not only are richer villages in Cambodia more likely to have better access to public health facilities than poor villages, the quality of the public facilities they have access to (in terms of staffing and equipping) is generally much better. Also, the high cost of health care was reported as a problem in a much larger proportion of the richest villages relative to the poorest villages. This is surprising as there is a great deal of evidence showing that the cost of health care falls disproportionately on the poor. The finding may simply reflect the fact that people in more prosperous villages complain more often about the cost of health care than people in poor villages.

Utilization Rates of Health Services. Cambodia has among the lowest utilization rates of health services in the region. Based on facility-level data, the Ministry of Health has estimated that an average person has only 0.29 medical contacts per year with the public health services. This compares to contact rates of 4-5 in countries such as China and Sri Lanka and an annual contact rate of 3.2 for Vietnam. However, the annualized total contact rate estimated with the CSES data is significantly higher -- viz., 1.2 annual contacts -- when contacts with private providers and drug vendors are included. Thus, the public sector accounts for only a third of all contacts. These findings are broadly confirmed by a national health survey conducted by the National Institute of Public Health (1998) last year, which found that the government health sector is utilized in only one-fifth of all illnesses and injuries. It also found very high levels of self-treatment with medicines bought without consulting a trained health worker, even in the management of illnesses among children under the age of five -- a group for which incorrect prescriptions can be dangerous.

Utilization rates, even of preventive services (such as immunization), appear to vary significantly across poor and rich villages. For example, while only 22.5 per cent of children aged 0-5 are immunized against measles in the poorest 20 per cent of villages, the ratio is nearly two times as large (43.4 per cent) in the richest 20 per cent of villages. Another indicator of utilization of health services -- the percentage of women delivering children in institutional facilities (as opposed to home) -- also varies with the economic status of a village. In 92 per cent of the poorest villages, but only 26 per cent of the richest villages, women are most likely to deliver at home. These striking disparities in utilization of health services across poor and rich villages reflect the inter-village differences in health infrastructure.

Drinking Water and Sanitation Across Villages. Access to safe drinking water and sanitation, which is crucial in Cambodia because of the prevalence of water-borne diseases, is also poor in Cambodia. Only 23 per cent of villages obtain water from public or private taps; the vast majority of villages (nearly one-half) rely on wells for drinking water in the dry season. Nearly a third of the villages relying on wells for their drinking water supply have shallow unlined wells that are susceptible to contamination. Another 20 per cent of villages obtain water from ponds, rivers or streams, water from which is also often contaminated.

The sources of drinking water in villages are sharply divided along economic lines, with as many as 29 per cent of the poorest villages, but only 8 per cent of the richest villages, obtaining their drinking water from shallow unlined wells. Thus, poor villages are particularly prone to diseases caused by contaminated drinking water.

Nearly two-thirds of the population in villages have no toilet facilities. As in the case of drinking water, the availability of toilets is divided along economic lines, with 90 per cent of the population in the poorest villages, but only 21 per cent of those in the richest villages, having no toilet facilities. The combination of no sanitation and access to unsafe sources of drinking water makes people living in poor villages susceptible to water- and vector-borne diseases.

Does Village Health Infrastructure Influence Utilization of Health Services and Health Outcomes? The CSES village data clearly show that child immunization coverage is significantly higher in villages having public health clinics than in those not having such clinics. Likewise, delivery in a health institution (as opposed to home) is much more common when a village has a nurse or a doctor.

There is other evidence showing that not only the availability of health infrastructure but also the quality of care at health facilities improves health utilization significantly. Data from four districts for 1997 and 1998 show that health centers receiving a minimum package of activities (MPA), including drugs, had consistently higher rates of utilization (as measured by the annual rate of contact per inhabitant) than health centers not receiving the MPA drugs. In most cases, the difference between MPA and non-MPA health centers was very large. This suggests that stocking health centers with a minimum package of essential drugs and training health workers in the proper use of these drugs significantly improves their utilization.

Finally, CSES data show that women under the ages of 25 and 35 years experience significantly lower rates of mortality among their children in villages having public health clinics than in those not having such clinics. For instance, in villages not having a public clinic, women under the age of 25 years had lost 10.2 per cent of their children ever born by the time of the survey. The corresponding ratio in villages having a public clinic was only 3.1 per cent.

E. Community Solidarity and Social Organization

Experience from other countries suggests that it is important to involve the ultimate stakeholders (viz, communities) in the process of their economic development and indeed to make them take on a larger advocacy role with respect to central and provincial governments, international donors and the private sector. The advocacy role could include demanding a fair share of national resources for their village. A great deal of political and economic decentralization around the world has been based on the assumption that the quality of development decision making improves by shifting decision-making and accountability closer to individuals, households and communities. However, transferring such decision-making power to communities only makes sense if the communities are socially cohesive, appropriately organized, and democratic.

It is in this context that the recent debate in Cambodia over the importance of community solidarity in Khmer culture is relevant. Some researchers have argued that, unlike Chinese, Indian or Vietnamese villages, Cambodian villages have never been strong on social cohesion or community solidarity. The lack of this social cohesion may be the result of the individualism of Cambodian peasants, arising in part from the relative abundance of land in the country (which made village organization superfluous), introduction of the Napoleonic Code by the French (which made private property virtually sacred), the absence of communal land, the small number of traders and craftsmen in villages, and the absence of any political decision-making power at the

village level. In addition, of course, the years of rule under Pol Pot probably destroyed whatever traditional social cohesion and self-help mechanisms that may have existed in pre-Khmer Rouge Cambodian villages.

According to this school of thought, the Cambodian village, constituting large concentrations of houses in rows along roads, was an administrative unit created by the French colonialists to serve colonial security and administrative purposes (e.g., easy tax collection). The village in this sense is not congruent with the Khmer notion of phum.

However, this hypothesis has come under challenge from several researchers, who argue that it is possible to find numerous signs of social cohesion and solidarity in Khmer society if one looks in the right places. One such place is the Buddhist pagoda and the Buddhist religious order. A great many social, religious and welfare activities in the village are organized around the pagoda. The achaa are religious authorities traditionally dedicated to social action in the village. They fulfill an important moral leadership role in the village. In many ways, they are the religious or moral equivalent of the mekhum or the political village leader.

The practice and extent of mutual assistance in rural communities can shed some light on the question of whether social cohesion and village solidarity exist or do not exist in Cambodia. There is some qualitative evidence offered by researchers that active mutual assistance relations prevail not only among households within the same family lineage but also beyond kinship groups. For instance, labor exchange in rice cultivation is common, and, while it is based on the principle of reciprocity, there is often no strict accounting of work done on someone else's farm. It is also common for households to borrow rice, and even cash, from other households (often, but not exclusively, relatives) without interest until the following harvest. It is not unusual to see neighbors and friends in villages help build houses for one another, take care of each other's livestock, and inform each other of opportunities in migrant labor.

There is other evidence relating to community solidarity and cohesion at the village level. Many community events, such as religious and wedding celebrations, are organized in the village and are typically centered on the pagoda. At these events, villagers not only make offerings to the monks and listen to Buddhist teachings, but they also make cash and kind contributions for the upkeep of the pagoda and for village welfare activities (see Box 4).

But most importantly, the overwhelming evidence for social cohesion and community organization comes from the large number of self-help groups and associations that are emerging in the rural areas, often organized by international agencies and NG0s. These self-help groups bring communities together to pool resources on a wide range of issues, including savings and credit schemes, community forestry, water use, kitchen gardening, and developing small-scale local infrastructure. These efforts at community self-help serve not only to develop the livelihoods and living conditions of people but in a more fundamental way serve to regenerate a sense of trust and reliance among themselves.

There is some evidence that women's participation in these self-help groups and community associations is limited. A qualitative study in five provinces indicated that women had a very limited role in village planning discussions due to the perception that they were illiterate and would have little to contribute. Women -- particularly widows heading their households, who are often among the poorest groups in the village -- were afraid to speak in discussions dominated by higher status, more economically stable, male leaders. In addition, these women were so preoccupied with the basic necessities of daily life -- child care, farming, housework, fetching water from far away -- that they had no time to participate in village meetings.

F. Village-Based Development Programs

Village Development Projects. The wealth of village case studies available in Cambodia, typically based on NGO experiences, might lead one to believe that village development schemes are very common in the country. However, the CSES village data indicate that the vast majority (65.2 per cent) of villages in Cambodia, in fact, do not have any ongoing development project or intervention. The proportion of villages having no development project is somewhat higher in the poorest quintile than in the fourth and richest quintiles. The data also indicate that poor villages tend to have far fewer agricultural development projects than better-off villages. However, the reverse is true of infrastructure projects. No systematic patterns are observed for other types of projects.

A census of villages in five provinces -- Banteay Meanchey, Battambang, Pursat, Ratanikiri and Siem Reap -- also found large differences in the average number of development projects in a village. In Pursat, each village had, on average, 3 development projects (water and sanitation, agriculture, education, health and credit), while villages in Ratanakiri and Siem Reap had an average of only .08 and 0.11 projects, respectively. The latter implies that only about 8-11 per cent of villages in these two provinces had any ongoing development projects.

These are disturbing findings, since the role of government policy is to target development interventions to poor villages. The fact that the data do not show a heavy concentration of development projects in poor villages suggests that targeting of interventions is not working very well.

Village Development Approaches. A number of programs initiated by NG0s, donors and the Royal Government of Cambodia in recent years have attempted to promote decentralization and popular participation in rural development by creating new management structures from the top down, consisting of committees at the central, provincial, commune and village levels. Among the most important of these is the Village Development Committee (VDC), an elected body whose function is to represent the village to government, nongovernmental and international agencies as they plan and manage their own programs and projects on rural development. The VDC approach is meant to rectify the traditional pattern of excluding villagers from the development plans that affect them.

At present nearly 25 percent of all villages in Cambodia have a functioning VDC that serves as an important mechanism for securing the direct involvement of rural households in identifying the most urgent village needs, in project decision-making, operation and maintenance, and in contributing labor or materials for project implementation. About 7,500 VDCs covering 69 percent of all villages are planned to be operational by the end of the year 2000, provided resources are made available to train local people and for extension workers to support them.

Data from a 1998 census of villages in five provinces indicates relatively high levels of female participation in VDCS. The extent of female participation ranges from 30.6 per cent in Siem Reap to 45.9 per cent in Banteay Meanchey.

Some development agencies and NG0s have tried an alternative way of working at the village level. Instead of creating new structures, such as the VDCS, they have used existing institutions, such as pagoda committees, for designing and implementing their village development projects. The pagoda committees assist in the communication process (mostly workshops), as well as in the identification of needs and priorities for development, and are often assisted by the provincial officer in charge of rural development. The traditional role of the monk to support the community is heavily emphasized in this approach.

The NGO and donor experience of engaging pagoda committee to discuss the needs of the community has led to the organization of a variety of communal projects, such as building of schools or health centers; restoring small stretches of road, mostly leading to the temple and restoration of bridges and dikes. One advantage of this approach is that the personnel engaged in pagoda committees are known to be honest and have the trust of the people. They are experienced in organizing, settling conflicts, and managing funds. Another advantage is that when the pagoda committee supports a project, mobilization and participation of the community is far easier to achieve than without them. Sustainability is yet another advantage of pagoda committees.

Sustainability and Financing of Participatory Rural Development. While the village-based development programs discussed above are important capacity-building, grassroots initiatives that are trying to change the way rural development activities are implemented, the main question is of their sustainability. Many of these programs are funded by international donors and NG0s.

As yet, there is no systematic plan for continued funding of these initiatives by the international community or by the government.

An important aspect of most village-based programs is to implement projects based on village development plans. However, for the latter to be operationalized, there has to be a connection between the plans and the allocation of national resources through the PIP. This does not exist at the present time in Cambodia. Indeed, even provinces in Cambodia -- let alone villages -- receive virtually no money directly from the central

government for rural development activities; all they receive is a minimum amount for salaries and operating costs of the provincial administration. All funding for rural development activities comes from line ministry (e.g., Health; Education, Youth and Sports; etc.) programs or directly from bilateral donors and NG0s.

Another problem related to the funding of rural development initiatives at the grassroots level is the capacity of local governments, including VDCS, to be able to appropriately manage finances. There is concern that resources will be lost to graft and fraud without proper monitoring and control at the local levels. Some agencies have minimized the problem of mismanagement of funds in their projects by providing inputs to their projects solely in the form of commodities. However, the longer-term problem of building capacity within local governments, as well as within the central government, to manage funds appropriately needs to be addressed.

Political Decentralization. One of the most exciting developments to take place in democratic decentralization recently in Cambodia is the discussion, and possible passage, of a new Commune Administration Law. If this bill is passed by the National Assembly, it will fundamentally change the hierarchical and centralized system of administration that has been in place in Cambodia for the last 130 years. It will effectively establish a new tier of government at the commune level. In Cambodia, communes have been and are territorial or geographical units, but with no administrative function. The commune chief is typically nominated and his/her role has been to serve as a representative of the central government at the local level.

Under the proposed law, all communes in the country will have to hold elections every 4-5 years, beginning possibly as early as next year, to elect a Commune Council, composed of 5-11 members. The person with the largest number of votes will become the commune chief. The chief will have two deputies working under him/her. To ensure proportional representation of women, each commune will be required to have a minimum number of women standing for election to the Commune Council.

In addition to making and implementing development plans, the Commune Council will have responsibility for delivering services, including social services, to the villages and communes under it. This does not necessarily mean that the Commune Council will have to act as service provider - only that it will need to be the facilitator (including purchaser) for the provision of services, from whatever best provider or sources these services are available.

While this experiment at political decentralization is timely and laudable, its success depends on several factors. First, there is great heterogeneity in the size of communes in Cambodia at present. There are some communes that have a population of 100 persons, while others have a population of 50,000 persons. There may be a need for redrawing commune boundaries and consolidating smaller communes, so that there is greater uniformity in commune size and reduction in the total number of communes in the country.

Second, the traditional lines of reporting will pose new problems. For instance, it would be odd for democratically-elected commune councils to report to centrally-nominated provincial governors or district chiefs. It is appropriate for an elected body like the Commune Council to report directly to the (elected) national government. Of course, in the long run, it is inevitable that democratic decentralization will need to be extended to districts and provinces, so that district chiefs and pr6vincial governors will themselves be elected.

Third and most importantly, the success of political decentralization depends greatly on the financial decentralization that accompanies it. Communes should have the right to levy local taxes and raise revenues locally, and to retain these revenues for implementing commune and village plans. In addition, communes should be entitled to a share of national income under a revenue-sharing formula. The granting of political rights and administrative powers to communes will be meaningless until the communes have the financial wherewithal to implement local development plans.

Fourth and finally, since many of the above issues will need to be addressed at the central level, the capacity of the central government to manage the entire process of commune administration will itself need to be strengthened through a comprehensive administration program.

G. Concluding Remarks

The goal of the *Cambodia Human Development Report* is not to make specific policy recommendations but to instead describe the state of human development in the country, focusing particularly on the socioeconomic situation of Cambodia's villages and on inter-village disparities in economic and social infrastructure. Hopefully, this will lead to a national dialogue on human development in Cambodia's villages, which in turn will define the issues and priorities for action. This section merely highlights some broad findings on the village economy and rural poverty in Cambodia that emerge from this report.

Despite great difficulties, Cambodia has done much to build the economic and social infrastructure that was destroyed during the Khmer Rouge period. However, it is clear from the data presented in this report that the infrastructure in Cambodia's villages remains weak. In addition, there are large disparities in infrastructure between poor and rich villages. The combination of poor infrastructure and poverty creates a vicious circle, in which poverty prevents communities from investing in infrastructure and lack of investment in infrastructure inhibits economic growth and human development. This vicious cycle needs to be broken by a program of government investment in economic and social infrastructure targeted to the poorest villages and communities in the country.

However, it is also clear from experiences within Cambodia as well as from experiences elsewhere that investment in village infrastructure from central authorities by itself will do little to promote sustainable village development. For true development to take place in villages, the ultimate stakeholders (viz., communities, villages and villagers)

should be fully involved in the process of their economic development and should, indeed, take on a larger advocacy role with respect to central and provincial governments, international donors, and the private sector. The advocacy role should include demanding a fair share of national resources for their villages.

There have been a large number of attempts at participatory rural development in Cambodia. Many of the village-based programs have tried innovative approaches to bring together villagers to design and implement their own village plans. However, many of these programs have been initiated or funded by international NG0s and donors. As such, it is not clear how sustainable they are. In addition, many of the programs have operated on their own, without a strong link to other programs or to a larger national framework. It is difficult to see how several hundred village development projects operating by themselves, however innovative they may be, will make a substantial overall impact on poverty alleviation and human development in Cambodia.

One reason why village development programs have remained fragmented and limited to a relatively small number of villages is that there is no connection between village plans and the allocation of national resources through the PIP. Even provinces in Cambodia -- let alone villages -- receive virtually no money directly from the central government for rural development activities; all they receive is a minimum amount for salaries and operating costs of the provincial administration. All funding for rural development activities comes from line ministry (e.g., Health; Education, Youth and Sports; etc.) programs or directly from bilateral donors and NG0s. Until local governments, including village development councils, are entitled to a share of national income under a revenue-sharing formula or have the right to levy local taxes and raise revenues locally, the concept of villagers making plans for their village is not very meaningful.

Good governance is another issue that is critical for village development in Cambodia. The most important objective of good governance is to create and maintain an enabling environment for participatory economic growth, political and social development, and poverty alleviation at the village level. For example, there is concern that, because of poor governance, financial decentralization to villages and communes will result in substantial loss of resources due to graft and fraud. This highlights the need to build capacity within local governments, as well as within the central government, to manage development funds appropriately.

Gender is yet another crosscutting issue in village development. There is some evidence that women's participation in self-help groups and community associations is limited in Cambodia. Women often play a very limited role in village planning discussions due to the perception among village leaders that they are illiterate and will have little to contribute. Women -- particularly widows heading their households, who are often among the poorest groups in the village -- are afraid to speak in discussions dominated by higher status, more economically stable, male leaders. However, there is encouraging evidence showing that there is significant representation of women in groups such as the village development councils.

1. In June 1975, the time of the CSES 1997 survey, the exchange rate was R. 2,760 to the U.S. Dollar.

2. As the data used in this report were collected in June 1997, they do not reflect the emerging health infrastructure being established as part of the govemment's Health Coverage Plan. Instead, the data reflect the situation as it prevailed in 1997. At that time, very few new health centers had been established, and the vast majority of primary health facilities available to the public were the khum or commune clinics. It is hoped that the Cambodia Socio-economic Survey 1998-99 will more accurately reflect the new health infrastructure situation in the country.

I. HUMAN DEVELOPMENT IN CAMBODIA

A. The Concept of Human Development

Human development is about enlarging people's choices. While income is certainly one of these choices, it is by no means the only one. Health and education are no less important in judging people's welfare. The first *Human Development Report* (HDR) additionally included freedom and human rights in its definition of human development (see Box 1).

It is often believed that human development is limited to social sectors, such as health and education. This is not true; while social investments in people are important, they represent only one aspect of the equation. The Human Development Report 1992 put it bluntly: "... [human development] does not focus on social issues at the expense of economic issues" (UNDP, 1992: 12).

Another fallacy of human development is that it applies only to basic needs and is therefore limited to poor countries. This is also not true. The concept of human development applies to all countries at all levels of development. Naturally, the human development agenda will differ from country to country. In a poor country, the top priority might be getting people enough food to eat, while a rich country might have concerns about social issues like homelessness and drug addiction. But, "... the basic principle should be the same -- to put people at the center of development and to

Box 1: Human Development Defined

"Human development is a process of enlarging people's choices. In principle, these choices can be infinite and change over time. But at all levels of development, the three essential ones are for people to lead a long and healthy life, to acquire knowledge and to have access to resources needed for a decent standard of living. If these choices are not available, many other opportunities remain inaccessible.

But human development does not end there. Additional choices, highly valued by many people, range from political, economic and social freedom to opportunities for being creative and productive, and enjoying personal self-respect and guaranteed human rights.

Human development has two sides: the formulation of human capabilities – such as improved health, knowledge and skills – and the use people make of their acquired capabilities – for leisure, productive purposes or being active in cultural, social and political affairs. If the scales of human development do not finely balance the two sides, considerable human frustration may result.

According to this concept of human development, income is clearly only one option that people would like to have, albeit an important one. But it is not the sum total of their lives. Development must, therefore, be more than just the expansion of income and wealth. Its focus must be people."

Source: UNDP, 1990: 10

focus on their needs and their potential" (UNDP, 1992: 13).

The concept of human development differs from that of human *resource* development. The latter regards the development of people's capabilities as a human capital input into increased production and income. However, the former values the expansion of human capabilities in and of itself. Thus, human development regards the development of people's intellectual, nutritional and health potential as both an instrument as well as a goal of development.

In recent years, over 100 countries around the world have issued national human development reports with UNDP support. The national human development reports have played an important role in advocating the cause of human development and people-centered approach to national policy-making; in highlighting critical concerns, such as poverty or the rights of women and children, that may be of particular relevance in certain countries; and in focusing on intra-national equity in economic and human development (say, across geographical regions, gender and income groups). In most countries, the national human development reports have triggered an extensive policy dialogue and debate on the interrelationship between economic, social and human development.

This is the third in a series of national human development reports planned for Cambodia. The theme of the first *Cambodia Human Development Report*, prepared in 1997, was poverty -- the magnitude of poverty, distribution of poverty across regions, socioeconomic profile of the poor, and the causes, consequences and manifestations of poverty in Cambodia. The second *Cambodia Human Development Report* focused on gender -- the situation of women and gender equality in access to health, education and consumption. This -- the third *Cambodia Human Development Report* -- focuses on the role of villages in Cambodia's development. It looks at the situation of Cambodia's villages in terms of economic and social infrastructure, analyzes disparities across poor and rich villages, and discuss recent attempts to promote participatory grassroots development in the country.

Villages are the basic building blocks of a nation. Economic development that bypasses villages is not real development at all. Historically, in most developing countries, village residents have had little say in the development and infrastructure plans that affect them and their livelihoods. They have had little say in demanding and attracting public resources -- from central and provincial governments, international donors and NGOs – to their villages. Fortunately, this is beginning to change as a number of countries have recognized the importance of participatory, village-centered development.

B. Measuring Human Development

The Human Development Index (HDI), proposed by UNDP, is one of several means of measuring the status of human development in a country. The HDI is a composite measure of longevity, as measured by average life expectancy at birth; educational attainment, as measured by a combination of adult literacy (two-thirds weight) and combined primary, secondary and tertiary enrollment ratios (one-third weight); and standard of living, as measured by real GDP per capita (expressed in purchasing power parity-adjusted exchange rates). Each component is scored on a scale of 0 to 1, and the HDI is a simple average of the individual component scores. Thus, the HDI can vary from a low of 0 (indicating an extremely low level of human development) to a high of 1 (indicating a very high level of human development). However, in practice, the index ranges from 0.254 (for Sierra Leone) to 0.932 (for Canada) (UNDP, 1999).

The Gender-Related Development Index (GDI) is similar to the HDI but additionally takes into account gender inequalities in life expectancy, educational attainment, and standard of living. A country that has high average levels of life expectancy, educational attainment and living standards but also has large gender disparities in these indicators will have a GDI score that is smaller than its HDI score.

The Gender Empowerment Measure (GEM), also proposed by UNDP, is a measure of the relative participation of women and men in political and economic spheres of activity. It is a composite measure of the representation of women in legislative (parliament) bodies, in administration and management, and in the technical-professional field relative to their representation in the general population. In addition, the GEM includes a measure of income, but (like the GDI) discounts real per capita GDP on the basis of the relative disparity in the male and female shares of earned income.

A final indicator of human development proposed by UNDP is the Human Poverty Index (HPI), which measures deprivation in three essential elements of human life -- longevity, knowledge and a decent standard of living. It is a composite measure of the percentages of people who are not expected to survive to age 40, who are illiterate, and who have no access to safe water and health services, as well as the percentage of moderately and severely underweight children under 5 years of age.

C. Human Development in Cambodia

The HDI score for Cambodia, using the most recent household survey data from the Demographic Survey of Cambodia 1996 and the Cambodia Socioeconomic Survey (CSES) 1997,[1] is 0.509.[2] This is one of the lowest HDI scores in Asia. The HDI estimated by the first and second *Cambodia Human Development Reports* was 0.427 and 0.421, respectively. The difference between those HDI estimates and the one for 1999 does not, however, imply that human development has improved significantly in Cambodia.[3] The difference is largely the result of a change in the HDI formula used by UNDP from 1999. The change affects the manner in which income is treated in the HDI calculation.

Because the earlier formula discounted income above the threshold level of $6,311 (PPP$) very heavily, thus penalizing those countries that had incomes above the threshold level, a new formula was devised which discounts all income – not just income above a certain level – by including the natural logarithm of income -- instead of actual income -- in the HDI formula (UNDP, 1999).

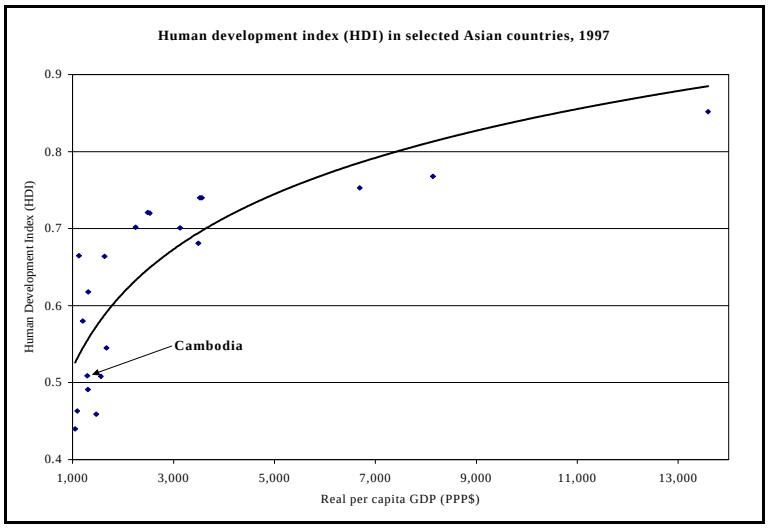

Figure 1
Source: UNDP (1999) and CSES (1997).

Indeed, Cambodia's HDI score is even lower than what would be expected for a country at its level of per capita income, based on a relationship between HDI and real per capita GDP observed across 21 countries in Asia (Figure 1).

[1]See Section II.A for a description of the CSES data used throughout this report.

[2]There is a minor discrepancy between the HDI score reported for Cambodia by the global *Human Development Report 1999* (UNDP, 1999) and that calculated in this report (0.514 versus 0.509). The dicrepancy is related to slightly different sources of data used by the two reports. No GDI or GEM scores are reported for Cambodia by UNDP (1999).

[3]Since two components of the HDI -- life expectancy and literacy -- are *stock* variables, the HDI is a relatively stable indicator that is unlikely to change significantly from year to year.

As is observed in Figure 2, GDI and HDI scores for most countries in East and Southeast Asia are almost identical. However, GDI scores are lower than HDI scores for countries in South Asia, reflecting the disadvantaged status of women in those countries. Cambodia follows the Southeast Asian norm in near-equality between HDI and GDI scores.

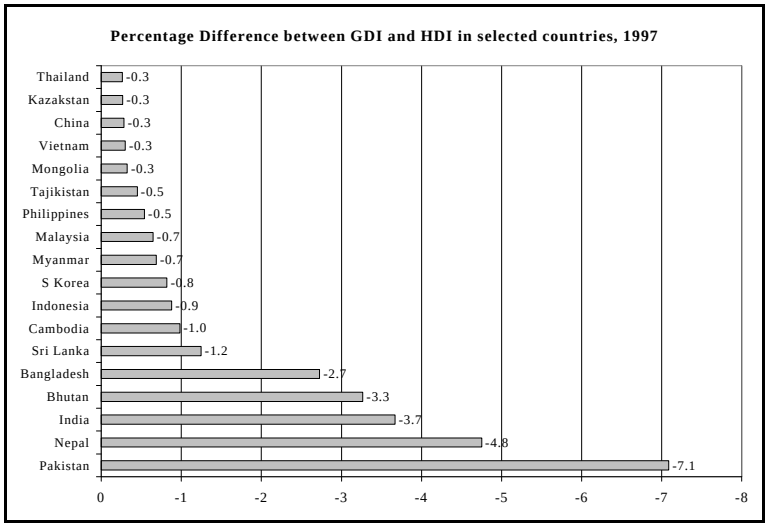

Figure 2
Source: UNDP (1999) and CSES (1997).

Figure 3 suggests that, unlike the HDI and the GDI, the Gender Empowerment Measure (GEM) is not strongly correlated with real per capita GDP across Asian countries. Cambodia's GEM score is among the lowest in Asia, with the exception of India and Pakistan. The reason for this is that, although women's participation in the labor force is high in Cambodia, their representation in legislative, management and professional occupations is low.

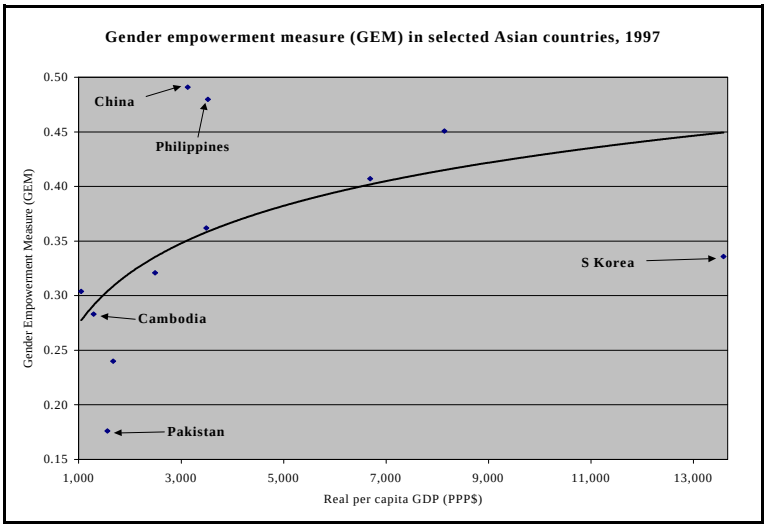

Figure 3
Source: UNDP (1999) and CSES (1997).

Although Cambodia's GEM score is among the lowest in Asia in absolute terms, Figure 3 suggests that it is not unusually low *in relation to its real per capita GDP* (unlike the case of Pakistan and South Korea, whose GEM scores are unusually low relative to their real per capita GDPs).

Finally, as would be expected given the high levels of mortality and child malnutrition and the poor availability of public services, Cambodia has a high Human Poverty Index (HPI) in relation to other Asian countries. As in the case of the GEM, only one country – Bangladesh – has a higher HPI score than Cambodia.

It is thus obvious that Cambodia has some of the worst human development indicators in Asia. This is a matter of concern as the experience of other countries in the region has shown that improved human development is not automatically ensured by economic growth. All the countries in Asia that have impressive human development indicators, such as Sri Lanka, China, Philippines and Thailand, have worked hard to achieve them, by implementing direct policy interventions to improve health, schooling and literacy. Indeed, Sri Lanka and the Philippines have managed to achieve impressive human development outcomes even without strong economic growth.

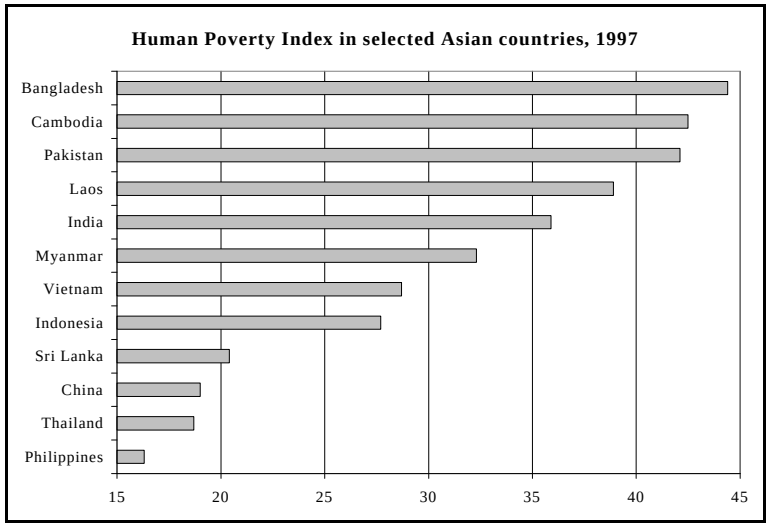

Figure 4
Source: UNDP (1999) and CSES (1997).

D. Disparities in Human Development within Cambodia

As in the case of per capita GDP, an average HDI or GDI score for a country can mask significant disparities in human and gender-related development among economic and social groups within the country. This appears to be the case for Cambodia, as Figure 5 shows.[4] The HDI score for urban Cambo-

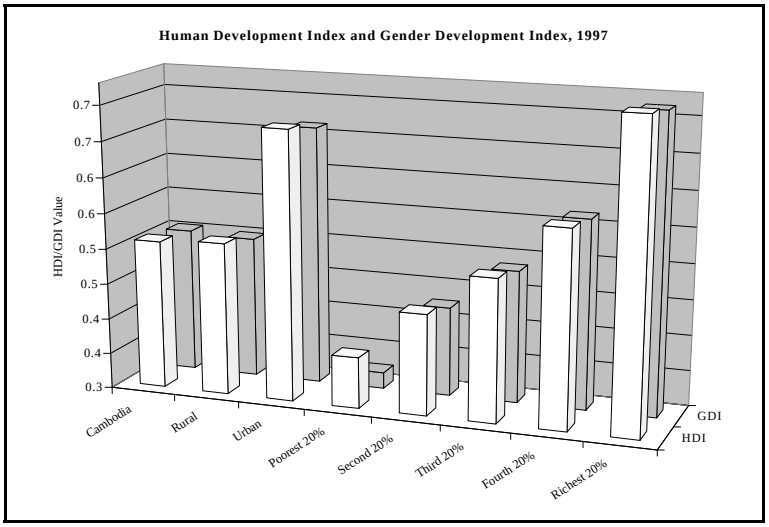

Figure 5
Source: UNDP (1999) and CSES (1997).

[4]Economic groups are defined in this report as per capita expenditure quintiles. The quintiles are obtained by ranking all individuals in the CSES 1997 sample on the basis of their monthly consumption expenditure per capita, and then dividing the sample population into five equally-sized groups. The poorest quintile thus represents the poorest 20 per cent of the Cambodian population, while the richest quintile represents the richest 20 per cent of Cambodians.

dia is nearly 25 per cent greater than that for rural Cambodia. Likewise, there are large disparities in both HDI and GDI across economic groups. The richest 20 per cent of Cambodians have an HDI score that is nearly 50% greater that of the poorest 20 per cent of Cambodians (Annex Tables 1 and 2).

As with the HDI and GDI, the human poverty index (HPI) also differs significantly across socioeconomic groups. The HPI for the rural areas of Cambodia is 45, while that for urban areas is 34, reflecting the much poorer access to safe drinking water and health services as well as the higher rates of child malnutrition, mortality and illiteracy, in the rural areas relative to the urban areas (Annex Table 3). Among males and females, some components of the HPI favor women, such as child malnutrition and mortality. However, because illiteracy is significantly more common among women than among men, women end up having higher levels of human poverty than men (49 versus 38).

There are also large disparities in the HPI across economic groups (Figure 6). The HPI score for the poorest 20 per cent of Cambodians is nearly 50 per cent greater than that for the richest 20 per cent. What is interesting is that the gender disparity in human poverty not only persists across all economic groups, it is actually greater for the richest quintiles than for the poorer quintiles. For instance, the HPI for the poorest 20 per cent of females is 19 per cent greater than that for the poorest 20 per cent of males. However, the corresponding numbers for the fourth quintile and the richest quintile are 29 per cent and 37 per cent, respectively. This evidence suggests that the gender disparity in human poverty in Cambodia will not necessarily narrow with economic growth and rising consumption standards.

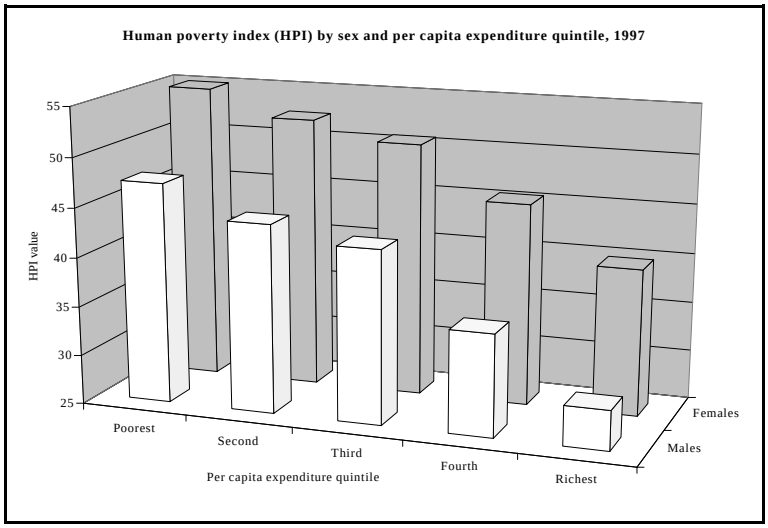

Figure 6
Source: UNDP (1999) and CSES (1997).

II. A SOCIOECONOMIC PROFILE OF CAMBODIA'S VILLAGES

Villages are the building blocks of a nation. This is especially true in a country like Cambodia, where the vast majority of the population lives in villages. Sustainable human development in the Cambodian context thus effectively means the economic, social and political development of Cambodia's 13,000 villages. The objective of the *Cambodia Human Development Report* is not to offer policy guidance on how to bring about sustainable human development to Cambodia's villages, but to instead describe the economic, social and human situation of these villages. This report looks at a number of issues relevant to human development -- demography, economic infrastructure, social (health and education) infrastructure, and social relations and community solidarity -- and pays particular attention to the wide disparities that exist among villages in Cambodia in terms of these endowments.

A. Description of Data

Cambodia has a total of nearly 13,000 villages in 180 districts in 24 provinces. While there is no database that provides information on all these villages, this Report uses village-level data that were collected as part of the Cambodia Socioeconomic Survey (CSES) 1997, which was the first in a series of multi-objective national household surveys planned under the Ministry of Planning/World Bank/UNDP project, "Capacity Development for Socioeconomic Surveys and Planning."

Building on the experience of two earlier national household surveys (i.e., the 1993-94 and 1996 SESCs) and focusing on the social sectors in Cambodia, the CSES survey utilized three separate questionnaires: (i) a core household questionnaire, (ii) a social-sector household module (intended to be the first in a series of rotating, special-purpose household questionnaires), and (iii) a village questionnaire. Data from the latter (viz., the village questionnaire) is used in this Report. The village questionnaire obtained information from village authorities on land use, access to economic and social services (e.g., roads, electricity, markets, schools, health facilities), and retail prices for selected food and non-food items (including ten specific medicines).

The 1997 CSES was administered to randomly selected households in a stratified sample of randomly selected villages in 20 of Cambodia's 23 provinces.[5] The field work was conducted in a single round of interviewing, which began in the last week of May and was completed at the end of June 1997. In the first stage of sampling, 474 villages were selected using systematic

[5] Excluded provinces were Mondul Kiri (included in the sampling frame, but not represented in the randomly selected sample), Preah Vihear, and Oddar Meanchey.

random sampling (with probability proportionate to population size) from each of three strata: 1) Phnom Penh (120 villages) ; 2) Other Urban areas (100 villages); and 3) Rural areas (254 villages). In the second stage of sampling 10 (15) households were selected using systematic random sampling from each urban (rural) village, yielding a total sample size of 6,010 households. The CSES is not a self-weighting sample, and all of the estimates presented in this report are weighted to reflect sampling probabilities calculated by the National Institute of Statistics (National Institute of Statistics, 1997).

The sampling frame of the 1997 CSES (as well as of earlier household surveys in Cambodia) did not cover all villages in the country. Table 1 summarizes the characteristics of the sampling frame used in the 1997 CSES. The 1997 CSES sampling frame includes all villages in Phnom Penh but excludes 73 (9 percent) of the villages in the Other Urban stratum and 1,571 (14 percent) of the villages in the Rural stratum. The estimates presented in the remainder of this Report apply only to the villages included in the sampling frame (i.e., no attempt has been made to extrapolate the estimates to include villages not in the sampling frame).

Table 1: Coverage of the CSES 1997

	CSES 1997 sample size (1)	CSES1997 frame (2)	Cambodia* (3)	Coverage of CSES 1997 sampling frame (%) (4=2/3)
Phnom Penh				
Villages	120	615	615	100.0
Households	1,200	134,212	134,212	100.0
Other Urban				
Villages	100	761	834	91.2
Households	1,000	143,030	150,310	95.2
Rural				
Villages	254	9,903	11,474	86.3
Households	3,810	1,218,640	1,379,143	88.4
Cambodia				
Villages	474	11,279	12,923	87.3
Households	6,010	1,491,725	1,663,665	89.7

Notes: *Based on updated UNTAC list.
Source: National Institute of Statistics (1997).

B. Economic Stratification of Villages

Village-level data on social and physical infrastructure cannot be analyzed in a vacuum; for analytical purposes, it is important to be able to classify villages in terms of some indicator of wealth, living standards or affluence. One option would be to stratify villages (like nations) on the basis of gross village product per capita. However, since such data rarely exist at the village level, this Report uses aggregated information on household living standards as an indicator of how well-off a village is relative to other villages. Household living standards are proxied by monthly consumption expenditure per member (on all goods and services, whether

purchased or home-produced). This is done for two reasons: (i) detailed data on household income were not collected in the CSES 1997, and (ii) household consumption expenditure per member is a better proxy of household permanent income because of large transitory fluctuations in income that are common to rural households in developing countries. Indeed, much of the large literature on household welfare and poverty throughout the world uses consumption expenditure per capita (instead of income) as an indicator of household welfare.

The stratification was done as follows. Total household consumption expenditure was obtained by adding all incurred real expenditures, as well as imputed real values of consumption on home-produced and own-stock goods and services,[6] and dividing this by the number of members in the household. The sample-weighted mean of this variable, averaged across all households in a village, formed the village per-capita consump tion expenditure. All 474 vil lages were then divided into five equal-sized groups or quintiles, representing 20 per cent of the villages ranked by this measure of real consumption expenditure per capita. Thus, what are re ferred to as "the poorest 20 per cent or quintile of villages" in the remainder of this Report are the 95 villages having the lowest real consumption expenditure per capita.

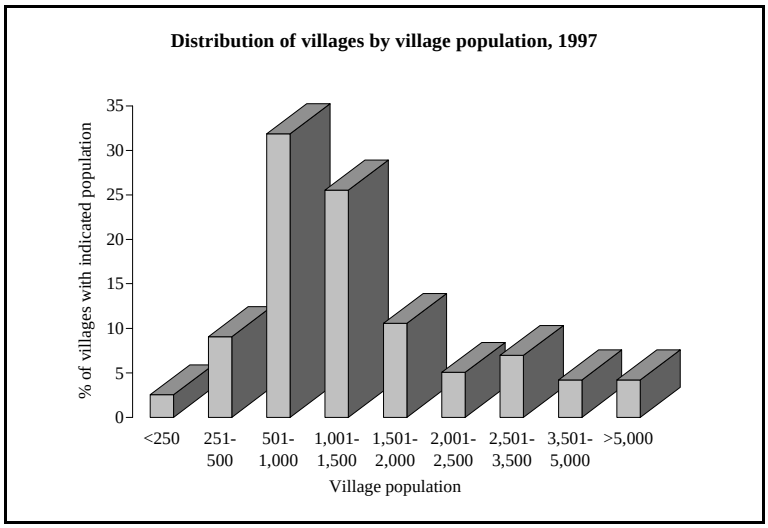

Figure 7
Source: CSES (1997).

C. Demographic Characteristics of Villages

Most Cambodian villages are small; the population of a typical village is about 1,550 persons, with approximately two-thirds of all villages having populations between 1,000 and 2,000 persons (Figure 7). Nearly 12 per cent of villages are very small – having a population of 500 or fewer persons, while slightly more than 4 per cent have populations of more than 5,000.

[6]To obtain real per capita consumption expenditures, nominal expenditures were deflated using the food poverty lines for Phnom Penh, Other Urban and Rural Areas (MoP, 1998a).

Table 2 shows mean village size and population composition of villages by the economic status of villages. There is a general, although not strong, pattern of poorer villages being smaller in size than better-off villages. For instance, the mean population size of the poorest 20 per cent of villages is 1,157, while that of the richest 20 per cent is 1,600. Interestingly, while there is no difference in the share of the population that is female across villages of differing economic status, there appears to be a pattern of the richest 20 per cent of villages having a smaller share of children in their population than the poorest 20 per cent of villages (45 per cent versus 51 per cent). This should not come as a surprise, as higher child dependency burdens are typically associated with lower levels of income and consumption among households.

Table 2: Population and demographic characteristics of villages, 1997

Economic status of village	Village population	Percentage of population that is: children (< 18 yrs.)	female
Poorest 20%	1,157	51.01	52.98
Second 20%	1,335	49.78	52.69
Third 20%	1,443	50.17	51.83
Fourth 20%	2,218	50.04	52.11
Richest 20%	1,600	45.05	50.89
All villages	1,550	49.22	52.11

Source: CSES (1997).

D. Minority Villages

In most villages (over 96 per cent), Khmers constitute the principal ethnic group. However, there are a few villages that have a a non-Khmer group as the principal ethnic group in the village. The main non-Khmer ethnic groups are the Vietnamese, Chinese and Cham. In addition, the villages located in the mountainous provinces of Mondulkiri and Rattanakiri are inhabited by minority tribes. Not surprisingly, Figure 8 shows that 'minority villages' are more common among the poorest than among the richest quintile of villages (5.3 per cent versus 3.2 per cent).

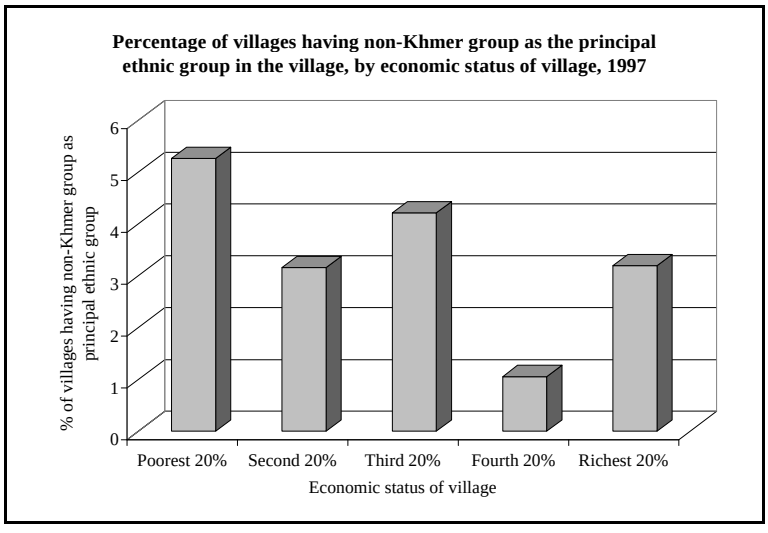

Figure 8
Source: CSES (1997).

E. Consumption Expenditure Per Capita and Poverty Across Villages

Poverty is a serious problem in Cambodia. According to the CSES 1997, 36.1 per cent of the Cambodian population lives below the poverty line. As would be expected, the head-count of poverty is lowest in Phnom Penh (11.1 per cent), followed by urban areas outside Phnom Penh (29.9 per cent) and rural areas (40.1 per cent). Furthermore, despite three strong years of economic growth, the poverty rate for the country declined only modestly from 39 per cent in 1994 to 36.1 per cent in 1997 (MoP, 1998a).

How do consumption levels and poverty rates vary across the village quintiles defined in this Report? Since villages have been stratified here on the basis of mean per-capita consumption expenditure, poverty rates will naturally vary enormously across village quintiles. This is seen in Figure 9, which shows that the incidence of poverty is as high as 68 per cent in the poorest quintile of villages but as low as 2 per cent in the richest quintile of villages. Mean real consumption expenditure per capita per month varies from R. 41,067 for the poorest quintile of villages to R. 196,615 for the richest quintile of villages (Figure 9).

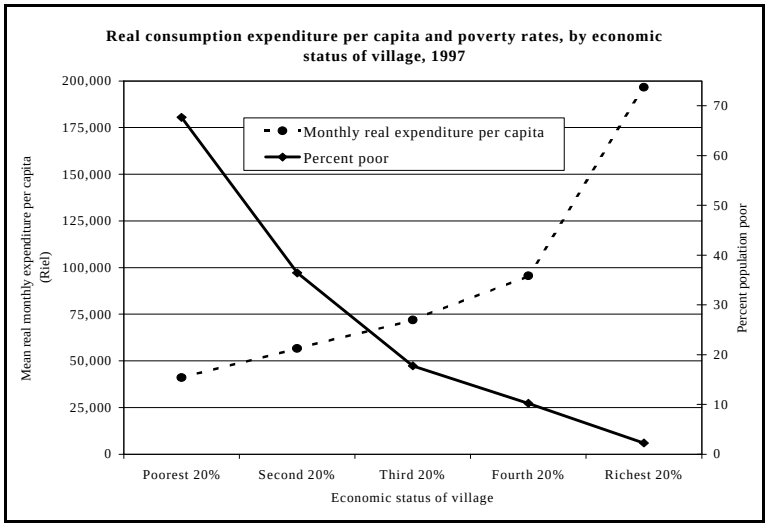

Figure 9
Source: CSES (1997).

It should be noted, however, that, because of the way the village quintiles have been defined, there may not be a perfect match between the poorest quintile of villages and the poorest quintile of individuals in the country. This is seen in Table 3 below which tabulates per capita expenditure quintiles of *individuals* against per capita expenditure quintiles of *villages*. It is seen that more than 87 per cent (= 63.87 + 23.55) of the poorest 20 per cent of individuals in Cambodia live in the bottom and second quintile of villages. On the other hand, nearly 98 per cent (= 28.66 + 69.20) of the richest 20 per cent of Cambodians live in the fourth and top quintile of villages. Thus, the stratification of villages by quintiles based on mean per-capita consumption expenditure does a reasonable job of sorting villages by the living standards of their residents.

Table 3: Percentage distribution of individuals by individual and village quintiles, 1997

Per-capita consumption expenditure individual quintiles	Per-capita consumption expenditure village quintiles					All villages
	Poorest 20%	Second 20%	Third 20%	Fourth 20%	Richest 20%	
Poorest 20%	63.87	23.55	9.28	3.02	0.29	100.00
	(55.05)	(21.43)	(10.22)	(4.47)	(0.64)	(23.30)
Second 20%	35.69	36.38	20.02	7.10	0.81	100.00
	(29.89)	(32.17)	(21.41)	(10.21)	(1.76)	(22.64)
Third 20%	14.32	35.20	31.10	16.24	3.14	100.00
	(11.16)	(28.97)	(30.95)	(21.72)	(6.32)	(21.07)
Fourth 20%	4.94	21.02	31.41	30.04	12.59	100.00
	(3.35)	(15.04)	(27.19)	(34.94)	(22.08)	(18.32)
Richest 20%	1.01	4.17	14.76	30.79	49.28	100.00
	(0.55)	(2.39)	(10.23)	(28.66)	(69.20)	(14.67)
All individuals	27.03	25.60	21.17	15.76	10.45	100.00
	(100.00)	(100.000	(100.00)	(100.00)	(100.00)	(100.00)

Source: CSES (1997).

F. Economic Activities in Villages

The CSES 1997 asked village authorities for the most and second-most important income-earning activities of people in the village. As would be expected, two-thirds of the village authorities listed agriculture as the most important income-earning activity in the village, while 18 per cent reported trade as the most important economic activity (Figure 10). There was a wider range of activities that took the second spot: livestock raising (cited by 20 per cent of villages), fishing (17.5 per cent), trade (10.7 per cent), forestry (10.2 per cent), and crafts/artisanship (10.2 per cent).

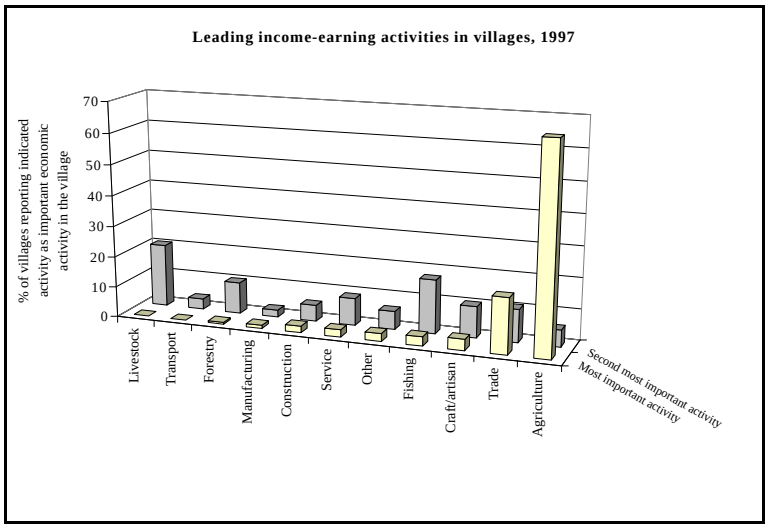

Figure 10
Source: CSES (1997).

However, there are revealing differences in the importance of economic activities across poor and better-off villages. In more than 92 per cent of the poorest quintile of villages, agriculture is the most important activity, but this is the case in only 21 per cent of the richest quintile of villages (Figure 11). Likewise, while only 4.3 per cent of the poorest quintile

of villages reported trade as the leading economic activity, this ratio was as high as 51.1 per cent in the richest 20 per cent of villages. It is thus very clear that the poorest villages in Cambodia are those where the population is engaged overwhelmingly in agriculture, while the better-off villages are those where a large proportion of the population is engaged in trade.

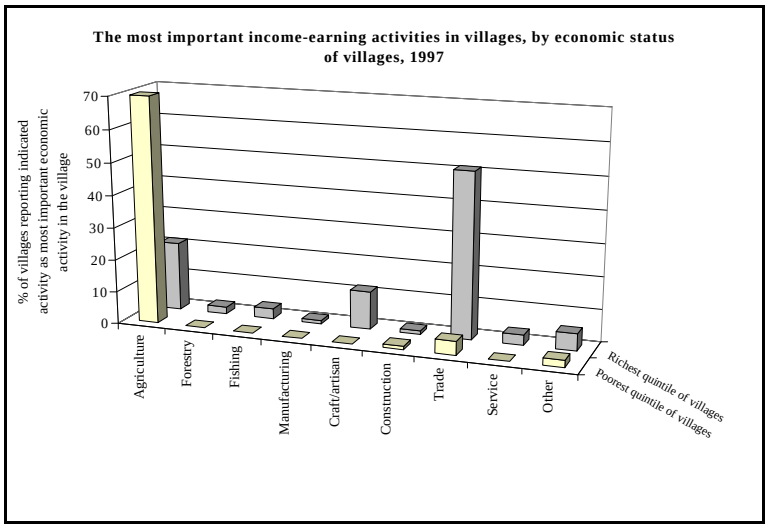

Figure 11
Source: CSES (1997).

G. Agricultural and Non-Agricultural Wages for Men, Women and Children

Given the importance of agriculture to the livelihoods of most Cambodians, an interesting question is the disparity in agricultural wages across rich and poor villages? Agricultural wages determine the income and consumption of a large number of Cambodians who are either landless or whose land-holdings are too small for them to eke out a living.

Table 4 reports the prevailing daily wages rates for different types of agricultural work and for unskilled construction work in the CSES sample of villages. There are three conclusions that emerge from these data. First, there appears to be significant gender and age disparity in wages, with male wages typically greater than female wages and female wages greater than child wages. For instance, the wage rate for ploughing is nearly 15 per cent greater for men than for women. In the case of paddy planting, the male wage exceeds the female wage by 5 per cent, while the female wage exceeds the child wage by about 10 per cent.[7] Similarly, male harvesting wages exceed female harvesting wages by about 9 per cent, while the latter exceed child harvesting wages by 13 per cent. These differences persist in unskilled construction work. Of course, without additional information, it is difficult to speculate whether these wage differences reflect discrimination in the labor market or whether they reflect productivity differences in the three types of labor.

[7]It should be noted that paddy planting and transplanting is largely a female task.

Table 4: Daily village-level wages (in Riel) for agricultural and construction work, by sex and age and by economic status of village, 1997

Type of task/work	Demographic group	Poorest 20%	Second 20%	Third 20%	Fourth 20%	Richest 20%	All villages
Ploughing	Males	5,628	5,805	6,516	6,942	6,435	6,205
	Females	5,734	4,773	5,033	5,941	5,714	5,430
	Children	5,444	5,650	4,904	5,900	5,625	5,494
Paddy Planting	Males	2,995	3,465	3,534	3,770	3,676	3,444
	Females	2,844	3,233	3,377	3,537	3,935	3,280
	Children	2,564	3,059	3,181	3,250	3,222	2,990
Crop Care	Males	2,971	3,018	3,609	3,500	3,625	3,317
	Females	2,944	2,833	3,327	3,286	3,643	3,138
	Children	2,267	2,706	2,917	3,075	3,250	2,811
Harvesting	Males	3,307	3,794	3,636	3,942	4,762	3,737
	Females	3,025	3,370	3,451	3,593	4,432	3,431
	Children	2,916	2,871	3,068	3,263	3,364	3,040
Unskilled Construction Work	Males	4,606	4,638	5,125	5,670	6,127	5,283
	Females	4,294	4,226	4,459	4,725	5,078	4,619
	Children	4,262	3,357	4,045	4,226	5,026	4,224

Source: CSES (1997).

H. Landholding in Villages

Agriculture is the single most important economic activity in Cambodia, with more than three-quarters of the population engaged in agriculture. Land is therefore the most important asset in the rural areas, especially in those villages where there are few prospects for nonfarm employment.

On average, only 0.30 hectares of agricultural land is available per person in the sample of CSES villages. Surprisingly, however, the per-capita availability of agricultural land is greater in the poorest villages than in the richest villages (Figure 12), although this is more likely to reflect the fact that the agricultural land available in poor villages is typically less fertile and less irrigated than the land available in better-off villages. Since more fertile land is typically subdivided over time at a faster rate, the land/person ratio in more fertile regions is often smaller than that in less fertile regions.

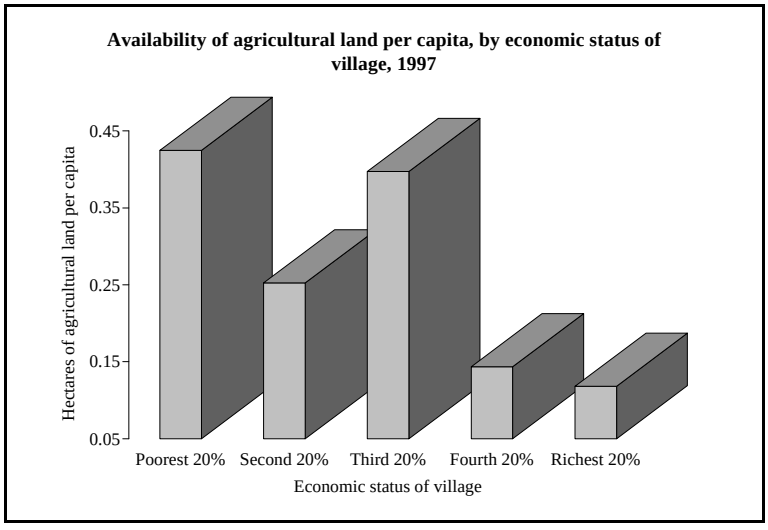

Figure 12
Source: CSES (1997).

This hypothesis is borne out by the data on irrigation. A much larger portion of agricultural land is irrigated in rich than in poor villages. For instance, in the poorest quintile of villages, approximately 59.6 per cent of agricultural land is irrigated (Figure 13). This proportion, however, is as high as 83.6 per cent in the richest quintile of villages. Although data on soil quality are not available from the CSES 1997, it is very likely that soil quality is lower in the poor villages than in the rich villages.

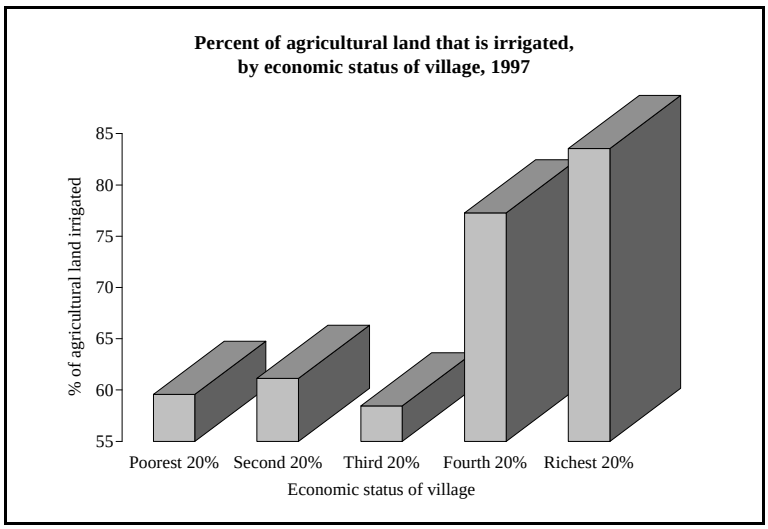

Figure 13
Source: CSES (1997).

The issue of land tenure is an important one in the Cambodian context. Before 1975, all land belonged to the God/King with usufruct rights issued to individual farmers. Efforts by the colonial administration to introduce French land laws were not successful. During the Khmer Rouge period as well as the period from 1979 to 1986, there was no private ownership of land, with all land being owned by the State. It was only in 1986 that privatization of land was begun.

Access to land continues to be a problem for returnee refugees. Although land had been reserved for returnee refugees in all provinces, it was generally low-quality land or land infested with mines or land located in front-line areas where security could not be guaranteed. In some cases, the land was already occupied, and the local population was not keen on sharing the land with the returnees (Williams, 1999).

Even farmers who own land in Cambodia rarely have legal titles to the land they cultivate. This not only causes land disputes but also discourages farmers from investing in the long-term quality of their land, as their tenure is insecure. There is a great deal of evidence from around the world indicating that security of land tenure is essential for farmers to invest in sustainable agricultural practices.

I. Access to Markets and Economic Services Across Villages

Access to credit and agricultural markets and availability of professional services, such as agricultural extension, can have powerful impacts on rural incomes and living standards by

raising the productivity and efficiency of agricultural and other self-employment activities. Unfortunately, access to such services is very limited in Cambodia. Only 14 per cent of villages in the country have a permanent market, and 11 per cent have a bank or credit organization. Agricultural extension workers, who can help farmers in adopting new seed technologies and cultivation practices, are rarer still, with only 4 per cent of villages having one. Slightly fewer than 10 per cent of villages have a shop selling manure, fertilizer and agro-chemicals.

Furthermore, there are large disparities in access to these services and markets across villages. Average distance to the nearest bank or loan cooperative is a staggering 27 kms. for the poorest 20 per cent of villages, while it is merely 6.4 kms for the richest quintile of villages. Likewise, an agricultural extension worker is much closer to the richest than to the poorest quintile of villages (11.3 kms versus 25.3 kms) (Figure 14). There is a similar disparity in access to a permanent market and to a shop selling manure and agro-chemicals. Thus, the poorest villages in the country are severely disadvantaged in terms of their access to markets and services that could improve productivity and incomes.

It should be noted that Figure 14 simply reveals a correlation between village living standards on the one hand and access to markets and economic services on the other hand. No causality is implied by these data. But it is likely that causality runs in both directions. The poorest villages are probably poor in the first place because they lack access to important services and markets that can increase productivity and incomes. At the same time, the location of markets and economic services is probably also endogenous with respect to living standards in a village. For example, banks (especially private ones) are more likely to be situated near villages in which there is a demand for their services, and demand for banking is likely to be greater in villages having higher levels of agricultural and nonagricultural output and higher incomes.

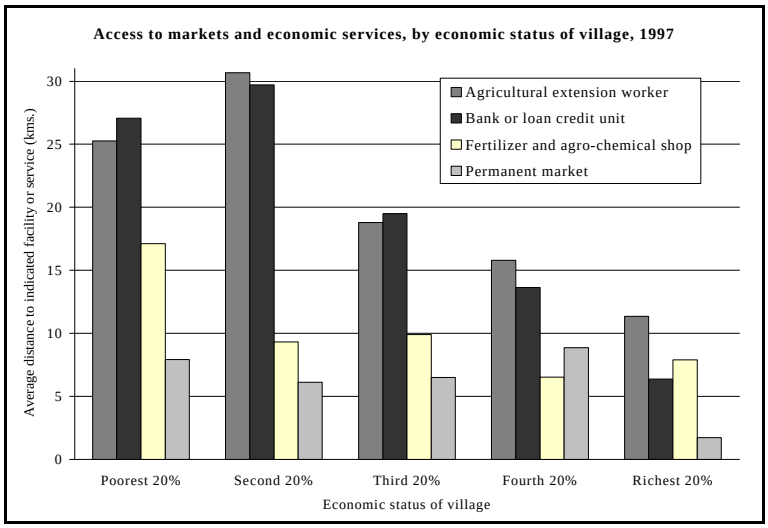

Figure 14
Source: CSES (1997).

J. Economic Infrastructure

Like markets and economic services, economic infrastructure in the form of roads and electricity can raise productivity in both farm and nonfarm activities and thus improve incomes. In addition, the availability of roads and electricity improves consumer welfare as well, as people have easier access to health services and to schools and have a regular source of energy to light their homes.

In the sample of CSES villages, only 43 per cent of households in village had access to electricity. Access to a motorable road was much better, with nearly 81 per cent of villages reporting a motorable road entering the village. However, as in the case of economic services, availability of roads and electricity were both strongly related to the economic status of a village. While only 9.3 per cent of households in the poorest quintile of villages had electricity in their homes, as many as 81 per cent of households in the richest quintile of villages had electricity (Figure 15). Likewise, only 70.2 per cent of the poorest quintile of villages, but 94.6 per cent of the richest quintile of villages, had a motorable road entering the village. Again, as in the case of economic services, it is not immediately clear whether the lack of a road or electricity keeps villages in poverty, or whether prosperous villages are better able to build or obtain economic infrastructure from central authorities. In most likelihood, the relationship between poverty and infrastructure is a bidirectional and complicated one.

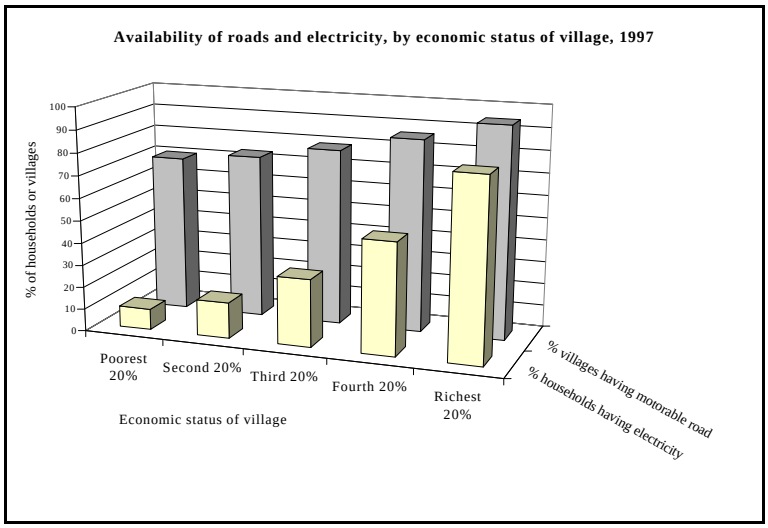

Figure 15
Source: CSES (1997).

The CSES 1997 also asked village authorities if there was a large industrial or commercial enterprise (e.g., a factory or company employing more than 10 persons) in the village or within 10 kms of the village. More than a third of villages were in proximity to such an enterprise. However, as Figure 16 shows, proximity to an industrial or commercial enterprise is a function of village income. While only 9.5 per cent of villages in the poorest quintile were in close proximity to an enterprise, the ratio was as high as 61.7 per cent for village in the richest quintile.

This finding should not come as a major surprise. Rural industries have been the engine of economic growth in a number of countries, most notably China. In addition to their capacity to provide off-farm employment opportunities, they can also have a strong synergy with agriculture, as many such enterprises are based in agro-related sectors.

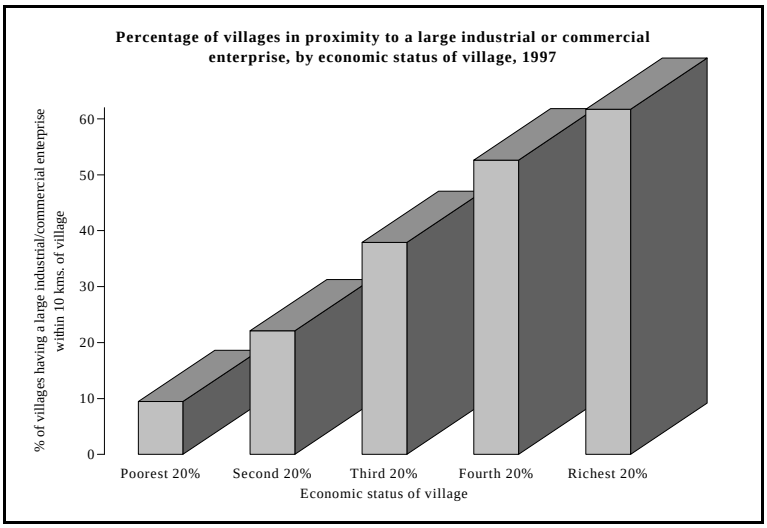

Figure 16
Source: CSES (1997).

Several pockets of rural-based small-scale manufacturing have begun appearing in various parts of Cambodia. For instance, in the northwest part of the country, the brick and tile manufacturing industry has emerged as an important non-agricultural activity, especially in the construction boom period of the last 5-10 years. There are 30 brickyards in the province of Battambang and another 15 in Banteay Meanchey (Rozemuller, 1999). Since both industries are very labor-intensive, these units generate significant non-agricultural employment. Rice milling – either in the form of custom milling or market milling – is another rural industry (agro-based) that has seen rapid growth in the recent past (Rozemuller, 1998).

K. Proximity to Administrative Centers

For a village, proximity to centers of administrative and political power are important factors in garnering additional resources for its economic development, especially in a centralized political and administrative system such as Cambodia's. On average, villages in the CSES sample are 8.9 kms away from the district town and 24.1 kms away from the provincial town. However, as Figure 17

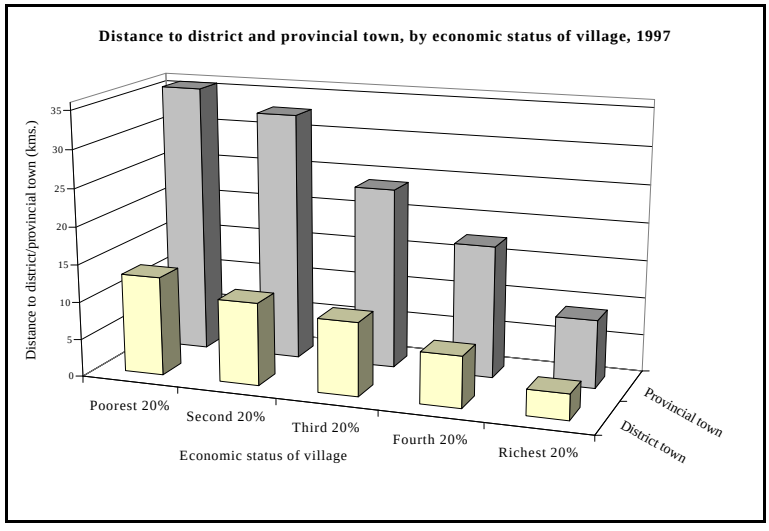

Figure 17
Source: CSES (1997).

shows, proximity to administrative capitals is closely linked to the economic status of a village. While villages in the poorest quintile are, on average, 13.2 kms and 35.7 kms away from the district and provincial town, respectively, those in the richest quintile are only 3.4 kms and 9 kms away, respectively. These data clearly indicate the importance for a village in being close to centers of administrative power.

L. Natural Disasters

Natural disasters are a common occurrence in Cambodia, with such a large proportion of the population dependent on rain-dependent agriculture and a large population living along rivers prone to seasonal flooding. Figure 18 shows that natural disasters are extremely common in the country, with more than two-thirds of all villages having experienced some type of natural disaster in the 12 months preceding the CSES 1997. Such a high frequency of natural disasters is unusually high and implies that, on average, a Cambodian village experiences a natural disaster about every 18 months!

Floods are the most common of all natural disasters, with almost one-half of all sample villages having experienced a flood in the 12 months preceding the survey. Villages situated along the banks of the Mekong River, for instance, remain flooded for considerable periods of time. Droughts and related crop-failures are the next most frequent natural disasters, although the combined frequency of their occurrence is about one-half of that of floods.

Are poorer villages more prone to natural disasters than better-off villages? The CSES data shown in Table 5 certainly suggest so. While 81.9 per cent of villages in the poorest quintile experienced a natural disaster in the 12 months preceding the CSES survey, only 25.8 per cent of villages in the richest quintile did. Droughts, flood and crop failure (although not fire and other natural disasters) are all much more common among the poorest than among the richest quintile of villages. In addition, while villages in the richest quintile experienced a

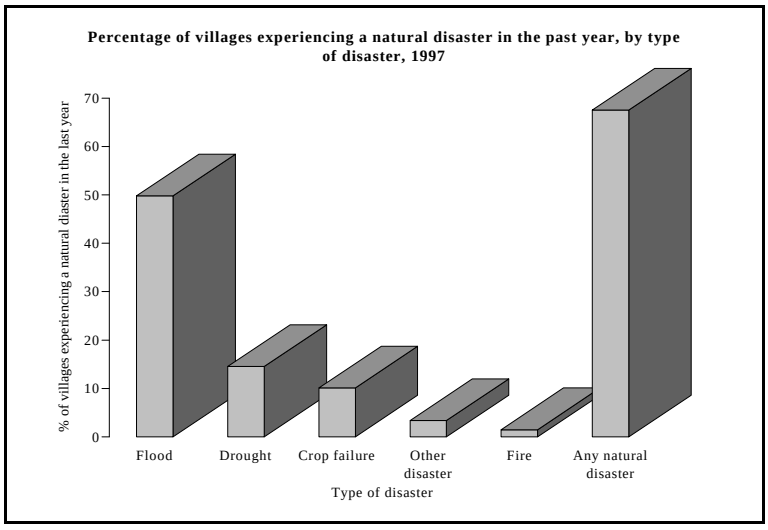

Figure 18
Source: CSES (1997).

natural disaster in 0.8 years of the 5 years preceding the survey, villages in the poorest quintile experienced a natural disaster in 2.5 years. Obviously, this finding does not imply that natural disasters single out poor villages! Instead, it suggests that villages that are susceptible to natural disasters, perhaps because of their location, end up becoming poor over time.

Table 5: Percentage of villages having a natural disaster in the 12 months preceding the survey, by type of disaster and by economic status of village, 1997

Type of natural disaster	Economic status of village					All villages
	Poorest 20%	Second 20%	Third 20%	Fourth 20%	Richest 20%	
Any natural disaster	81.91	74.74	73.40	81.05	25.81	67.52
Drought	24.21	15.79	12.63	15.79	4.26	14.56
Flood	62.11	51.58	57.89	58.95	18.09	49.79
Crop failure	12.63	8.42	8.42	17.89	3.19	10.13
Fire	1.05	1.05	1.05	3.16	1.06	1.48
Other disaster	2.11	6.32	3.16	3.16	2.13	3.38
Number of years in the past 5 years that natural disasters have affected the village	2.50	2.29	2.18	2.12	0.82	1.99

Source: CSES (1997).

III. EDUCATIONAL INFRASTRUCTURE AND SCHOOLING OUTCOMES

A. Education Infrastructure

The education sector in Cambodia has had a tumultuous history. The period 1975-79 saw destruction of much of the educational and intellectual infrastructure of the country. The achievements made by the education sector in the 1960s and 1970s were systematically decimated as the Khmer Rouge destroyed schools, equipment and books and effectively abolished schooling. It is estimated that 75-80 percent of teachers and secondary students fled or died during these years (Asian Development Bank, 1996).

While there was a concerted effort in the post-Khmer Rouge period to rebuild the education sector, this had to be accomplished under very tight budgetary constraints. This posed a great challenge in the face of a rapidly-expanding primary school-age population. As a result, Cambodia has a much smaller stock of schools and school teachers, especially at the secondary level, than most other countries in the Asia-Pacific region.

B. Geographical Access to Schools in Villages

Only about 46 per cent of villages in Cambodia have a primary school. The number of villages having a secondary school is significantly lower – only 5.4 per cent and 2 per cent. This means that in more than one-half of the villages, children have to commute outside their villages to attend even primary school.

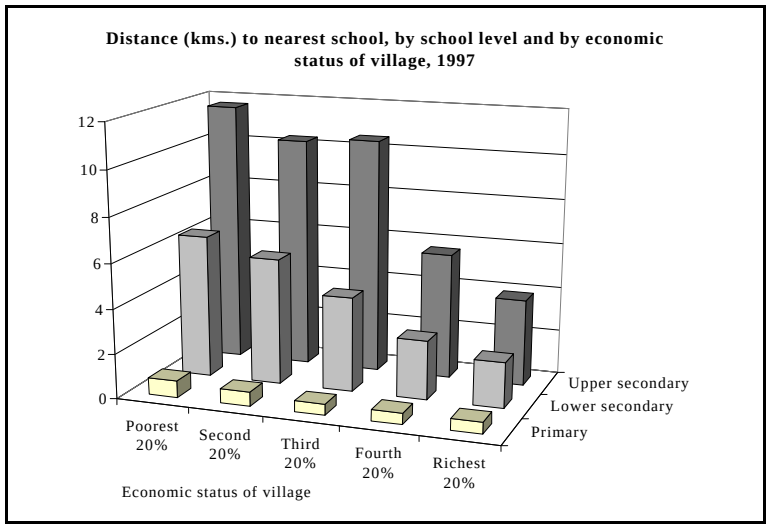

Figure 19
Source: CSES (1997).

Average distances to the nearest primary school do not appear to be unduly long. In a typical village, the nearest primary school is only about 0.6 kms. away. However, distance to the nearest secondary school is significantly greater. On average, the nearest lower secondary school is 4.1 kms away, while the nearest upper secondary school is 8.3 kms away. In the absence of widely available public transportation across villages, these distances are too far for a student to commute on a daily

basis. This may help explain the unusually low enrollment rates at the secondary level in the country.

Interestingly, geographical access to schools is not randomly distributed across villages. The CSES 1997 data clearly show that access to schools is significantly worse in poorer villages than in rich villages. For instance, average distance to the nearest primary school is 0.76 kms in the poorest 20 per cent of villages, but it is only 0.52 in the richest 20 per cent of the villages (Figure 19). The disparities are even more glaring at the secondary level. While the nearest upper secondary school is as far as 11.7 kms away among the poorest 20 per cent of villages, it is only 3.9 kms away among the richest 20 per cent of villages.

C. School Enrollment Rates by Gender and by Economic Status of Villages

Table 6 shows enrollment ratios for several developing countries in Asia. Cambodia's *gross* primary enrollment ratio is comparable to most countries in the region. While its *net* primary enrollment ratio is lower than that in many other countries, most of the other countries have significantly higher per capita incomes. However, it is at the secondary level that Cambodia differs significantly from other countries in the region. Cambodia's gross secondary enrollment ratio is the lowest of any country – lower even than Laos, Nepal and Myanmar.

Table 6: Enrollment Ratios, Asia, 1995

	Primary		Secondary
Country	Gross	Net	Gross
Brunei	110	91	78
Cambodia	95*	85*	19*
China	118	99	67
India	100		49
Indonesia	114	97	48
Laos	110	60**	25
Malaysia	91	91	57
Myanmar	103		30
Nepal	110		37
Pakistan	74		
Philippines	116	100	79
Sri Lanka	113		75
Thailand	87		55
Vietnam	101	78***	47

Source: All data except those marked with asterisks are from UNESCO, 1998.
* MoEYS (1997).
** World Bank (1995)
*** Prescott (1997)

In addition, there are large gender disparities in school enrollment rates in Cambodia. The CSES 1997 data indicate that while boys enjoy a gross primary enrollment ratio of 102

percent, the corresponding ratio for girls is only 86 percent (Table 7). The gender differences widen at higher schooling levels. Males have a gross lower secondary enrollment ratio that is 68 percent greater than that of females, while the male-female enrollment difference widens to 88 percent at the upper secondary level.

Table 7: Gross enrollment rates by gender, 1997

Level	Total	Females	Males
Primary	94.5	86.4	102.3
Lower secondary	30.5	22.7	38.2
Upper secondary	7.2	5.0	9.4

Source: MoEYS (1997).

The fact that access to schooling is significantly worse in poor than in rich villages means that enrollment rates are likely to be lower in the poor villages. This is borne out by Figure 20, which shows enrollment rates across poor and rich villages. The disparity in enrollment rates across poor and rich villages is relatively small at the primary level, but increases sharply at the secondary level. For instance, the gross enrollment rate at the upper secondary level is only 2.1 per cent for the poorest 20 per cent of villages; however, it is as high as 55.4 per cent for the richest 20 per cent of villages.

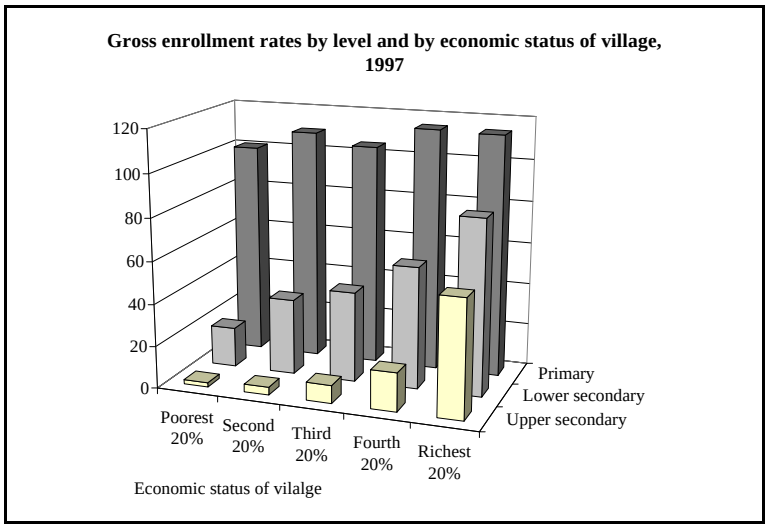

Figure 20
Source: CSES (1997).

D. Differences in Schooling Quality Across Villages

The disparity across poor and rich villages in the geographical access to schooling only tells a part of the story. Even the schools that are available in the poor villages tend to be of lower quality, with the result that there is enormous disparity between better-off and worse-off villages in quality-adjusted schooling opportunities.

While data on objectives measures of schooling quality are hard to come by, the CSES 1997 data provide some information on two measures of quality: (i) the pupil/teacher ratio, and (ii) the adequacy of books in the school. Pupil/teacher ratios are frequently used in the educational literature as a proxy for schooling quality, since fewer pupils per teacher typically means that the teacher is able to pay greater attention to the learning needs of each pupil, and this presumably improves cognitive performance of the students. In addition, the availability of textbooks is also regarded as an important factor improving the effectiveness of teachers. In the absence of adequate supplies of textbooks, teachers have to spend their time in copying material *verbatim* from their copy of the textbook to the blackboard, and students waste their time in re-copying the material from the blackboard to their exercise books. This reduces the amount of time allocated to teaching and learning.

As noted earlier, Cambodia has among the highest pupil/teacher ratios in the Asia-Pacific region. On average, the pupil/teacher ratio at the primary level is 55, while that at the lower and upper secondary level are 42 and 18, respectively. It is possible to calculate pupil/teacher ratios for villages of differing economic status only at the primary level, because there are so few villages in the CSES 1997 sample having a lower or upper secondary school. These data clearly indicate that pupil/teacher ratios are inversely correlated with the economic status of a village (Figure 21). In the poorest 20 per cent of villages, for instance, the average pupil/teacher ratio at the primary level is 88, while it is only 35 for the richest 20 per cent of schools. When pupil/teacher ratios exceed 50-60, the quality of instruction deteriorates considerably. It is not clear what type of teaching or learning, or whether any teaching or learning, can take place in a classroom where a single teacher has to manage 88 students!

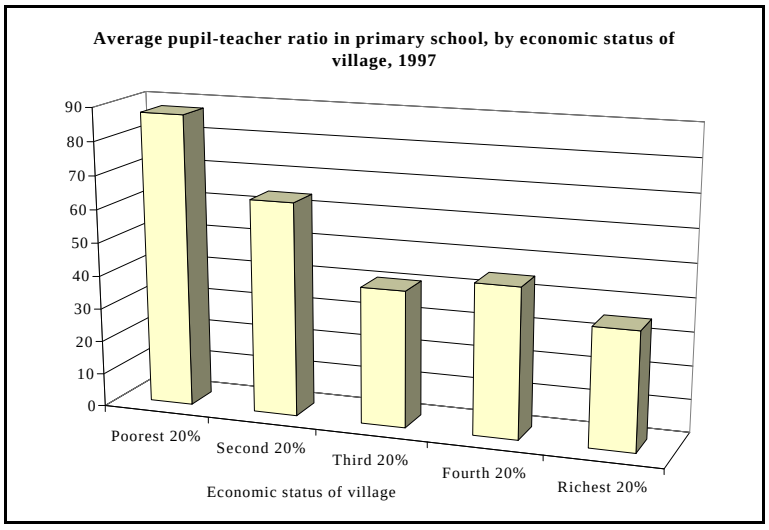

Figure 21
Source: CSES (1997).

The CSES 1997 also asked village heads if the primary school in their village had "no books, some but not enough books, or enough books" in relation to the number of students in the school. Overall, only 22 per cent of village primary schools appear to have adequate books for their students. About 15 per cent have no books at all, while 63 per cent have some but not enough books. But there are interesting differences across poor and rich villages (Table 8).

Among the poorest 20 per cent of villages, only 25 per cent of the village heads thought their primary school had enough books for all the students, but in the richest 20 per cent of the villages, this ratio was as high as 48 per cent. This provides additional evidence of lower-quality schooling in poor villages relative to more prosperous villages.

Table 8: Adequacy of books in primary school, by economic status of village, 1997

Economic status of village	% of responses indicating adequacy of books in primary school			Total
	No books	Some but not enough books	Enough books	
Poorest 20%	20.00	55.00	25.00	100.00
Second 20%	21.28	63.83	14.89	100.00
Third 20%	9.26	70.37	20.37	100.00
Fourth 20%	10.64	74.47	14.89	100.00
Richest 20%	12.00	40.00	48.00	100.00
All villages	14.55	63.38	22.07	100.00

Source: CSES (1997).

E. Schooling Costs across Villages

Physical or geographical access to schools is not the only problem in Cambodia. Economic access is perhaps as important in limiting enrollments as physical access. While primary schooling is officially free in Cambodia, parents typically have to pay significant amounts for their children's primary schooling. In addition to expenditure on school uniforms and textbooks, there are admission charges and various kinds of miscellaneous supplements. Private tutoring is a major expense as well. Private tutoring, often by the same teacher at school, is frequent and somewhat obligatory, both because it is seen as providing a favor to teachers, who have to supplement their extremely low salaries through private tutoring, but also because the quality of teaching in schools is so poor. Finally, students and their families have to contribute almost entirely toward the construction costs of school buildings, equipment and furniture and their maintenance.

The CSES 1997 Village Questionnaire asked village authorities for the average amount of annual school fees per student in the village primary, lower secondary and upper secondary school (if one was present in the village). Average reported school fees per student per year were R. 2,523 at the primary level, R. 4,573 at the lower secondary level, and R. 7,703 at the upper secondary level.

For primary schools, it is possible to see how these village head-reported school fees vary across villages. Figure 22 shows a positive relationship between the economic status of a village

and average primary school fees in the village school. Among the poorest 20 per cent of villages in the country, primary school fees average only R. 1,549 per student per year, while they average more than three times as much (R. 5,417) in the richest 20 per cent of villages. The positive relationship between school fees and village income probably simply reflects the fact that the quality of primary schools in the richer villages is better (as evidenced by greater availability of books and lower pupil/teacher ratios) and that better quality schooling typically costs more.

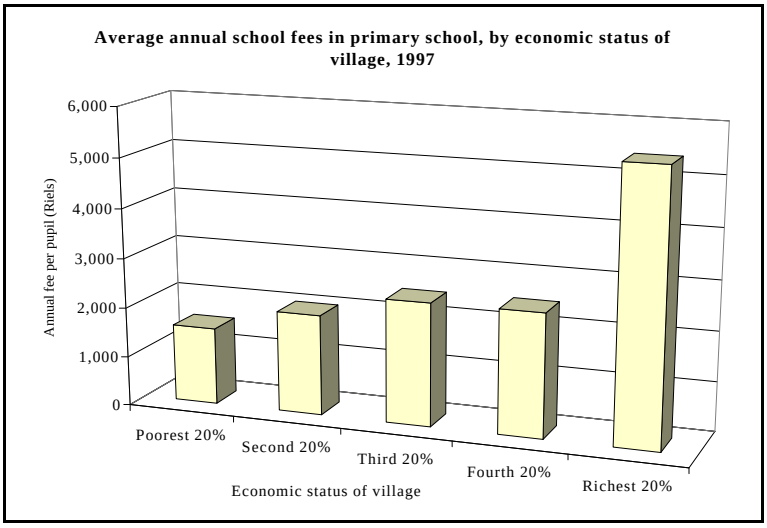

Figure 22
Source: CSES (1997).

F. Major Education-Related Problems as Perceived by Village Residents

The CSES 1997 asked village authorities for their opinions of what the major problems of schooling were in their villages. The major problem in the large majority of cases was, of course, the absence of a school in the village. This was particularly the case for secondary schools. This was followed, in the case of primary schools, by four other factors, which were more-or-less equally cited by village authorities as problems with schooling: poor quality of school buildings, very low budget for schools, poorly-paid teachers, and inadequate number of places and desks in schools. Distance to primary school was reported as a major problem by only 4.6 per cent of village heads (which is consistent with the earlier-cited fact that the average distance to primary school is only 0.6 kms) (Table 9).

Table 9: Problems with primary school as perceived by villagers, by economic status of village, 1997

Problem	Percentage of villages listing the problem as the most major problem with primary schools in the village:					
	Poorest 20% of villages	Second 20% of villages	Third 20% of villages	Fourth 20% of villages	Richest 20% of villages	All villages
No school in village	30.77	34.78	26.60	37.23	35.16	32.90
School too far	8.79	1.09	4.26	3.19	5.49	4.55
Poor building (e.g., no roof)	20.88	18.48	14.89	11.70	7.69	14.72
Teachers poorly paid	8.79	11.96	10.64	8.51	23.08	12.55
School budget constrained	10.99	16.30	14.89	12.77	12.09	13.42

Table 9: Problems with primary school as perceived by villagers, by economic status of village, 1997

Problem	Percentage of villages listing the problem as the most major problem with primary schools in the village: Poorest 20% of villages	Second 20% of villages	Third 20% of villages	Fourth 20% of villages	Richest 20% of villages	All villages
Inadequate number of places/desks	9.89	10.87	17.02	17.02	7.69	12.55
Not enough school supplies	7.69	2.17	4.26	2.13	3.30	3.90
Poor quality of teachers	0.00	0.00	0.00	0.00	1.10	0.22
Not enough teachers	0.00	0.00	1.06	3.19	2.20	1.30
Classes not held regularly	1.10	2.17	2.13	0.00	0.00	1.08
Other	1.10	2.17	4.26	4.26	2.20	2.82
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: CSES (1997).

In contrast, the second-most frequently cited problem for secondary schools was distance. In 18 - 22 per cent of villages, village authorities said that the lower and upper secondary schools were too far from the village. This was followed by school budget constraints and financial problems for the family (Tables 10 and 11).

Table 10: Problems with lower secondary school as perceived by villagers, by economic status of village, 1997

Problem	Percentage of villages listing the problem as the most major problem with lower secondary schools in the village: Poorest 20% of villages	Second 20% of villages	Third 20% of villages	Fourth 20% of villages	Richest 20% of villages	All villages
No school in village	41.33	50.00	48.84	52.27	50.56	48.82
School too far	36.00	19.77	9.30	15.91	10.11	17.69
Poor building (e.g., no roof)	1.33	1.16	4.65	1.14	2.25	2.12
Teachers poorly paid	6.67	5.81	3.49	7.95	21.35	9.20
School budget constrained	9.33	13.95	24.42	18.18	11.24	15.57
Inadequate number of places/desks	0.00	2.33	3.49	1.14	3.37	2.12
Not enough school supplies	2.67	3.49	2.33	2.27	1.12	2.36
Poor quality of teachers	1.33	0.00	0.00	0.00	0.00	0.24
Not enough teachers	0.00	0.00	1.16	0.00	0.00	0.24
Classes not held regularly	1.33	0.00	0.00	0.00	0.00	0.24
Other	0.00	3.49	2.33	1.14	0.00	1.42
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: CSES (1997).

Interestingly, there are some differences in the perceived importance of these problems across poor and rich villages. The poor quality of the primary school building was cited much more frequently as a problem in poor than in rich villages (21 per cent versus 7.7 per cent). “Poorly-paid teachers” at the secondary school level was cited much more frequently as problem in rich than in poor villages. The latter does not imply that teachers in better-off villages and

communities are actually paid lower wages than teachers in poor villages; most likely it reflects the fact that richer communities can afford to pay higher salaries to teachers.

Table 11: Problems with upper secondary school as perceived by villagers, by economic status of village, 1997

Problem	Percentage of villages listing the problem as the most major problem with upper secondary schools in the village: Poorest 20% of villages	Second 20% of villages	Third 20% of villages	Fourth 20% of villages	Richest 20% of villages	All villages
No school in village	36.99	54.79	48.78	51.22	45.35	47.47
School too far	38.36	24.66	15.85	23.17	9.30	21.72
Poor building (e.g., no roof)	4.11	0.00	0.00	1.22	4.65	2.02
Teachers poorly paid	2.74	0.00	1.22	3.66	18.60	5.56
School budget constrained	8.22	8.22	10.98	9.76	10.47	9.60
Inadequate number of places/desks	0.00	1.37	3.66	2.44	1.16	1.77
Not enough school supplies	1.37	1.37	0.00	1.22	1.16	1.01
Poor job prospects	1.37	0.00	3.66	1.22	0.00	1.26
Financial problems for family	6.85	9.59	13.41	6.10	8.14	8.84
Other	0.00	0.00	2.44	0.00	1.16	0.76
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: CSES (1997).

G. Does Better Geographical Access to Schools Improve School Enrollment Rates?

An important question is whether proximity of a school to a village significantly affects school enrollment rates in that village. This question can be addressed by looking at enrollment rates in villages with varying distances to the nearest school.

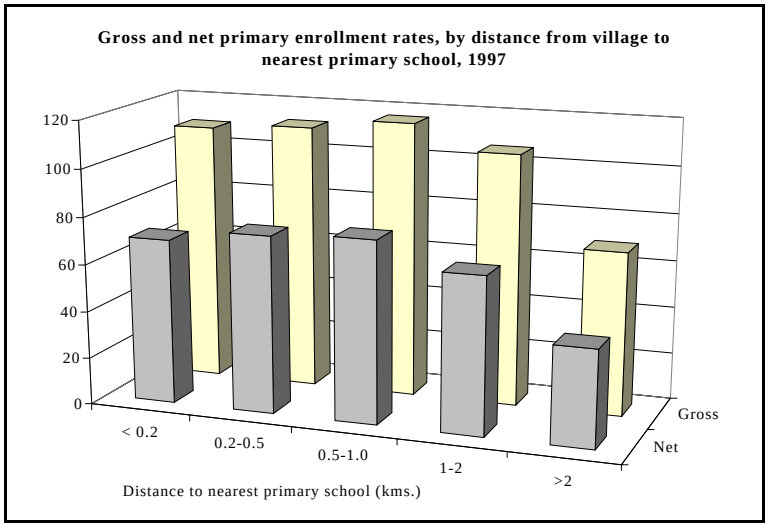

Figure 23
Source: CSES (1997).

Figures 23-25 clearly provide evidence of the strong impact of distance on enrollment. Primary enrollment rates begin to fall off when the nearest primary school is more than 1 km away, and drop off quite sharply when the school is more than 2 kms away. In the case of secondary enrollments, the distance threshold is somewhat greater, as would be expected.

Secondary enrollments begin to fall off sharply after the nearest secondary school is more than 5 kms away.

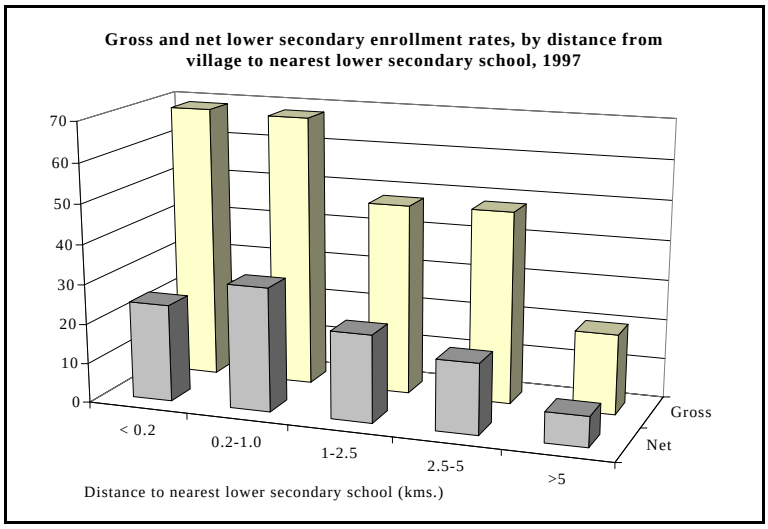

Figure 24
Source: CSES (1997).

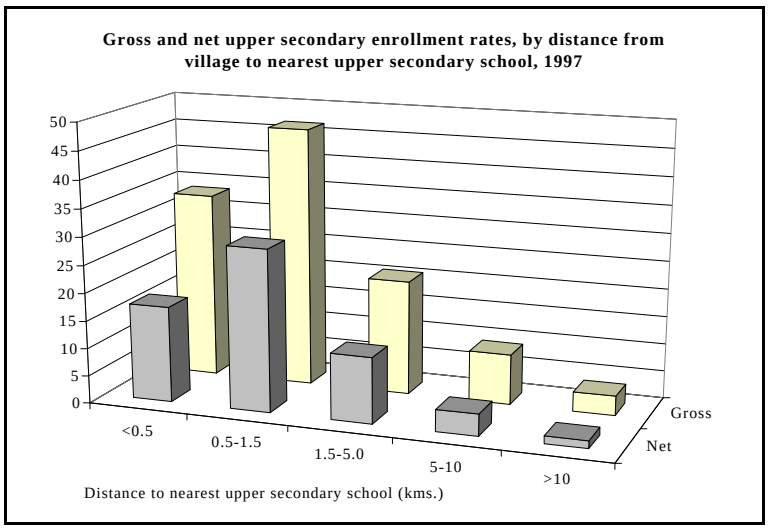

Figure 25
Source: CSES (1997).

IV. HEALTH INFRASTRUCTURE, HEALTH-SERVICES UTILIZATION, AND HEALTH OUTCOMES ACROSS VILLAGES

A. Health Infrastructure

When Cambodia began the process of its reconstruction in 1991, it was faced with a very poor health infrastructure. More than three decades of war and conflict had left many health facilities around the country completely destroyed. In addition, the long period of civil strife had also destroyed much of the country's health-related human resources. In this sense, Cambodia is different from many developing countries (e.g., neighboring Vietnam) that have a vast network of health facilities and/or a large supply of health workers. In many areas of Cambodia, health facilities are nonexistent, and in other areas they are too dilapidated to be used. In addition, there is a serious shortage of human resources in the health sector everywhere in the country. Figure 26 shows that the number of health workers in relation to the population are significantly lower in Cambodia than in Vietnam, Laos, Bangladesh and Thailand.

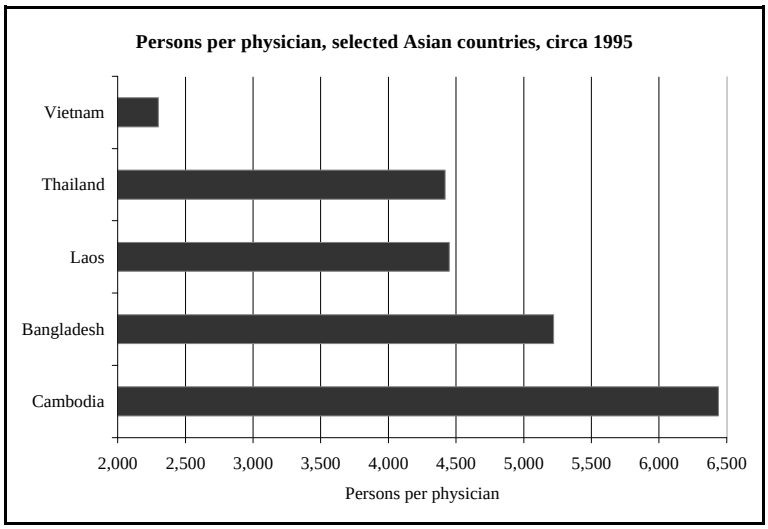

Figure 26
Source: Ministry of Health (1997) and World Bank (1995)..

To rectify this situation, the Ministry of Health has been implementing a Health Coverage Plan since 1996 to expand and rationalize population access to health facilities. The Health Coverage Plan has formed and will form the basis of all government investments in the health sector from 1996 to 2001. It calls for the establishment of a network of health centers and referral hospitals grouped into operational districts, so that the entire population has a rational and equitable access to basic health and referral services. Under the plan, 65 referral hospitals and 8 national hospitals (and 909 health centers) will be established in 72 operational districts. At the present time, a little more than one-third of the Plan has been implemented.

However, the staffing of health facilities by trained doctors, nurses and health workers is likely to be a problem into the foreseeable future. The inadequate number of physicians and nursing staff in Cambodia represent the legacy of the Khmer Rouge period. A large number of

health workers fled or died during this period and during the subsequent period of civil strife in the country. While the country has been trying to rebuild the stock of health workers, the standards of medical education are so low in the country that those staff classified as doctors and nurses would most likely not meet minimum international or regional standards. The shortage of skilled health workers is a major bottleneck to expanding health services in the country.

B. Geographical Access to Health Facilities in Villages

The serious shortage of health facilities manifests itself particularly in the villages of Cambodia. In the rural areas, access to health facilities is extremely poor. Data from the Cambodia Socioeconomic Survey 1997 indicate that only 16.2 per cent of villages in the country have a *khum* (or commune health) clinic. The percentage of villages having other health providers is equally small – 24.7 per cent for drug vendors, 15.6 per cent for private clinics, and 18.8 per cent for private doctors (Table 12). The data show that traditional healers (either *khru khmer* or another type) and traditional birth attendants (TBAs) are the most ubiquitous providers in rural Cambodia, with about one-half of the villages having these providers. These rates of availability are significantly lower than in other countries in the region.

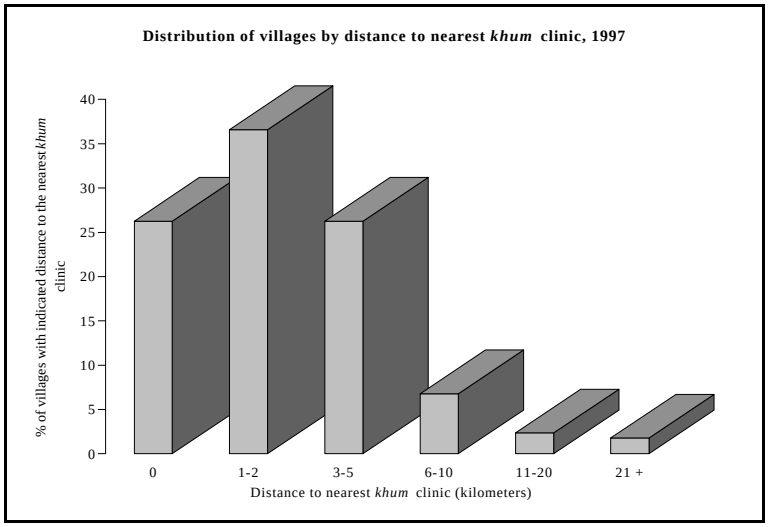

Figure 27
Source: CSES (1997).

If a health provider or facility is not located within the village of residence, the distance to the nearest health provider outside the village becomes relevant. Distances to the nearest health provider are particularly relevant in rural Cambodia, given that the vast majority of rural Cambodians do not have *khum* or private clinics, doctors, trained midwives and drug vendors in their village of residence. The CSES data on average distances to the nearest health providers are shown in Table 13. It is seen that the nearest *khum* clinic is, on average, 3 kms. away. The nearest khum clinic is 3-5 kms away for 26.3 per cent of the villages and more than 10 kms away for 4 per cent of the villages (Figure 27).

C. Income Differences in Geographical Access

An interesting question is whether these differences in access are random or whether they are related to the socioeconomic status of villages or households. Table 12, which reports the availability of health providers in the village of residence, as well as the presence of a health campaign in the village during the 12 months preceding the survey, by economic status of village, suggests that the richest 20 per cent of villages have much greater local availability than the poorest 20 per cent of villages of many types of health providers -- viz., drug vendors, private clinics, private hospital, doctors, nurses, and trained midwives. For example, 2.1 percent of the poorest quintile of villages, but 37.2 percent of those in the richest quintile, have a private clinic. Likewise, only 6.3 percent of the poorest quintile of villages, but 42.6 percent of the richest quintile, have a drug vendor. The poorest villages do have greater local availability of some providers (such as TBAs and *khru khmers*) than the richest villages, but these are typically considered low-quality providers.

Table 12: Availability of health facilities and programs in rural areas, 1997

	Economic status of village					
	Poorest 20%	Second 20%	Third 20%	Fourth 20%	Richest 20%	All villages
% of villages having facility/provider						
Commune clinic	12.63	14.74	18.95	24.21	10.64	16.24
Private clinic	2.11	2.11	12.63	24.21	37.23	15.61
Pharmacy/drug vendor	6.32	13.68	27.37	33.68	42.55	24.68
District health center	6.32	4.21	8.42	7.37	9.57	7.17
Provincial hospital	6.32	4.21	2.11	6.32	7.45	5.27
Private hospital	3.16	1.05	2.11	6.32	11.70	4.85
Doctor	5.26	4.21	13.68	25.26	45.74	18.78
Nurse	11.58	12.63	25.26	26.32	37.23	22.57
Trained midwife	7.37	8.42	20.00	28.42	28.72	18.57
Traditional birth attendant (TBA)	57.89	62.11	51.58	50.53	24.47	49.37
Khru Khmer	61.05	50.53	50.53	49.47	26.60	47.68
Other traditional healer	24.21	31.58	29.47	27.37	17.02	25.95
Other provider	2.11	4.21	4.21	1.05	1.06	2.53
% of villages that had a health campaign during last 12 months						
Child immunization	95.56	95.51	97.80	95.65	100.00	96.92
Malaria control	37.36	39.56	43.01	45.74	65.96	46.44
Leprosy control	30.00	26.09	27.96	24.47	16.13	24.89
Health education for mothers	55.68	57.14	56.52	60.22	60.87	58.11

Source: CSES (1997).

In contrast, there do not appear to be major differences in the proportion of villages touched by vertical disease-control programs. For instance, while 95.6 per cent of the poorest

quintile of villages have had a child immunization campaign, the corresponding ratio for the richest quintile of villages is only slightly greater (100 per cent). (The only exception is malaria control, which appears to benefit the richest villages disproportionately.) This trend is consistent with vertical disease programs being public goods that are available equally to all sections of the rural population. This finding also demonstrates the greater success of vertical disease programs relative to primary health care in rural Cambodia (at least in terms of reaching a larger share of villages), perhaps due to the better funding available for these programs from international donors.

The CSES data on average distances to the nearest health provider are shown for the five quintiles of villages in Table 13. In general, there is a pattern of the poorest villages being farther away from most types of health facilities and providers than the richest villages. For example, the nearest khum clinic is 4 kms away from the poorest 20 per cent of villages but only 1.4 kms away from the richest 20 per cent of villages. Likewise, the distance to the nearest drug vendor is 9.4 kms for the poorest quintile of villages but only 2.3 kms for the richest quintile of villages. The nearest provincial hospital is, on average, 32.6 kms away for the poorest quintile of villages but only 8.6 kms for the richest quintile of villages.

Table 13: Average distance to health facilities for the rural population, 1997 (kms.)

Facility/provider	Economic status of village					All villages
	Poorest 20%	Second 20%	Third 20%	Fourth 20%	Richest 20%	
Commune clinic	3.97	3.32	3.91	1.86	1.44	2.97
Private clinic	9.40	8.81	10.48	4.95	2.29	7.07
Pharmacy/drug vendor	8.81	6.05	6.76	2.87	1.71	5.15
District health center	11.75	9.32	10.53	6.51	3.82	8.70
Provincial hospital	32.56	28.03	24.06	17.08	8.62	22.20
Private hospital	23.62	18.77	15.53	12.33	3.28	14.59
Doctor	16.72	13.33	10.83	10.10	4.24	10.96
Nurse	9.27	8.37	5.73	5.24	2.25	6.28
Trained midwife	8.87	8.29	6.01	4.06	2.69	6.02
Traditional birth attendant (TBA)	1.68	0.94	1.27	1.73	2.39	1.52
Khru Khmer	0.74	1.12	0.57	0.86	1.82	0.99
Other traditional healer	2.79	2.86	2.13	1.44	2.25	2.29
Other provider	0.00	3.73	0.00	0.00	0.00	1.95

Source: CSES (1997).

These data provide solid evidence of the fact that, while geographical access to health facilities is generally poor in all of rural Cambodia, it is particularly poor for the poorest villages in the country. There is a systematic pattern of poor villages having fewer health facilities and being located further away from most types of health providers vis-a-vis richer villages.

D. Quality of Public Health Services as Perceived by Village Residents

What do rural Cambodians perceive to be the main problems with the public health services? The CSES 1997 asked village leaders to list the most important problem with public health services in their village. Nearly one-third of all villages listed inadequate availability of drugs and medicines (typically in the health center) as the most important problem (Table 14). This was followed by the lack of physicians or qualified medical assistants in the public health centers (reported by 24 per cent of villages as a problem). About 11-12 per cent of the villages cited lack of beds and equipment in public health facilities, the expensive nature of health services, and distance to better-quality care as the main problems of public health services. Interestingly, there are some differences in the perceived importance of these problems across poor and rich villages. The lack of equipment (including beds) and of physicians in public health centers was cited much more frequently as a problem in poor villages than in rich villages. For instance, unavailability of physicians and qualified medical staff in health centers was reported as a problem in 23 per cent of the poorest villages but in only 8 per cent of the richest villages. These results highlight the fact that not only are richer villages in Cambodia more likely to have public health facilities than poor villages, the quality of the public facilities they have (including staffing and equipping) is generally much better.

One surprising result in Table 14 is the difference across poor and rich villages in the extent to which the cost of health services is perceived to be an important problem. While the high cost of health care was reported as a problem in 29 per cent of the richest villages, it was considered a problem in only 1.4 per cent of the poorest villages. This may reflect one of two facts: first, out-of-pocket costs for health care in government health facilities are actually much greater in rich than in poor villages (perhaps owing to the higher quality of services that are available or owing to subsidies offered by the government in poor villages); second, people in more prosperous villages simply complain more often about the cost of health care than people in poor villages. The former is unlikely to be the case. Although health services in public facilities are free in principle, almost everyone has to pay for using these services. There is virtually no systematic exemption of the poor from the arbitrary and informal fees that are typically levied at primary health centers (MoP, 1998b).

Table 14: Most important problem with health services for village people, by economic status of village, 1997

	Economic status of village					
Health service problem	Poorest 20%	Second 20%	Third 20%	Fourth 20%	Richest 20%	All villages
Lack of beds, equipment, etc.	14.29	9.88	19.51	9.30	8.00	12.18
Not enough medicines, drugs	42.86	27.16	25.61	31.4	37.33	32.49
Poor quality of services	1.43	2.47	0.00	0.00	4.00	1.52

Table 14: Most important problem with health services for village people, by economic status of village, 1997

Health service problem	Economic status of village: Poorest 20%	Second 20%	Third 20%	Fourth 20%	Richest 20%	All villages
No physician or qualified medical assistant available	22.86	38.27	30.49	20.93	8.00	24.37
Health services are too expensive	1.43	6.17	8.54	16.28	29.33	12.44
Long distance to better-quality care	15.71	9.88	10.98	9.30	10.67	11.17
Unsanitary health facilities	0.00	1.23	0.00	0.00	1.33	0.51
Staff are unhelpful	0.00	0.00	1.22	1.16	0.00	0.51
Other	1.43	4.94	3.66	11.63	1.33	4.82

Source: CSES (1997).

E. Utilization Rates of Health Services by Gender and Age Groups

Cambodia has among the lowest utilization rates of health services in the Asia-Pacific region. Based on facility-level data, the MoH (1999) has estimated an average medical contact rate of only 0.29 per capita for the country. This compares to contact rates of 4-5 in countries such as China and Sri Lanka (Gish, 1989) and an annual contact rate of 3.2 for Vietnam (Prescott, 1997).

However, the annualized contact rate estimated with the CSES data is significantly higher than this -- viz., 1.2 annual contacts (Figure 28). A closer look at Figure 28 suggests that the MoH statistics are based only on returns from public health providers, and do not reflect the contacts that individuals have with private providers and with pharmacy and drug vendors. Indeed, the CSES data also indicate that, on average, the population has only 0.39 contacts per capita with the public providers. This means that the public sector accounts for only a third of all contacts, with private providers and drug vendors (self medication) accounting for the remaining 46 percent and 21 percent, respectively, of all contacts that Cambodians have with the health services.

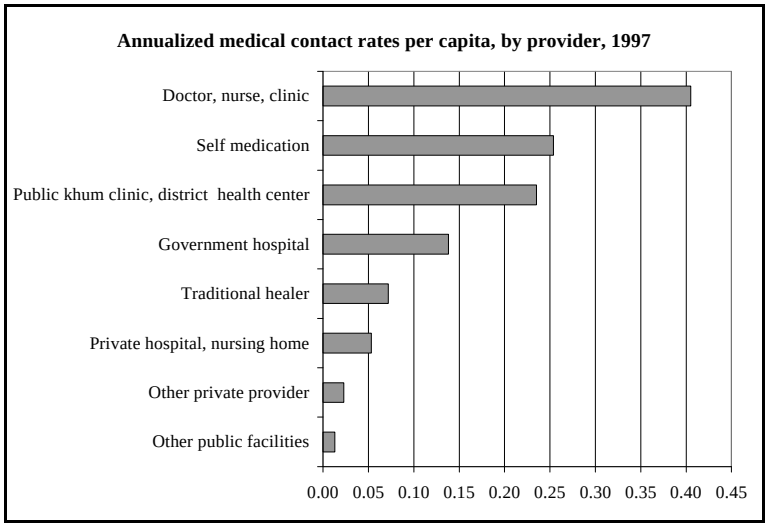

Figure 28
Source: CSES (1997).

To see how one measure of utilization -- immunization coverage -- varies across vil-

lages, Table 15 reports the percentage of children aged 0-5 years who have received polio, tuberculosis, measles and DPT vaccinations. Overall, immunization coverage varies from only 28.4 per cent for measles to 66 per cent for polio. However, for each type of immunization, there appears to be a clear pattern of significantly greater population coverage in richer villages than in poorer villages. For example, while only 22.5 per cent of children aged 0-5 are immunized against measles in the poorest 20 per cent of villages, the ratio is nearly two times as great (43.4 per cent) in the richest 20 per cent of villages.

Table 15: Immunization coverage among children 0-5 years, by economic status of village, 1997

Economic status of village	% of children 0-5 immunized for:			
	Polio	TB	Measles	DPT
Poorest 20%	54.12	43.40	22.53	44.40
Second 20%	63.45	51.12	24.37	48.69
Third 20%	66.87	50.28	25.77	52.25
Fourth 20%	71.79	59.19	29.83	61.23
Richest 20%	76.86	67.36	43.40	65.27
All villages	66.04	53.56	28.42	53.74

Source: CSES (1997).

This finding is disturbing since it is generally thought that immunization is a public good that is available to all irrespective of economic status. However, the provision of immunization and other preventive services takes place through existing health infrastructure, and since health infrastructure is more developed and better available in richer villages, a positive relationship between the utilization of preventive services and the economic status of a village is obtained.

Table 16: Most common location of delivery for women in village, by economic status of village, 1997

	Economic status of village					
Location of delivery	Poorest 20%	Second 20%	Third 20%	Fourth 20%	Richest 20%	All villages
Home	91.95	87.21	74.16	52.75	26.14	66.21
Public health facility	5.75	10.47	17.98	42.86	53.41	26.30
Private health facility	1.15	1.16	7.87	4.40	20.45	7.03
Other	1.15	1.16	0.00	0.00	0.00	0.45
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: CSES (1997).

Another indicator of utilization of health services, especially preventive services, is the percentage of women delivering children in institutional facilities (as opposed to home). Data from the MoH (1999) indicate that 76 per cent of all deliveries in Cambodia take place at home. The CSES 1997 asked village leaders the location where most women in the village gave birth. In two-thirds of all villages, women were most likely to deliver at their homes (Table 16). In 26 per cent of villages, a government facility was cited as the most likely location for delivery.

However, there were wide differences across poor and rich villages. In 92 per cent of the poorest villages but only 26 per cent of the richest villages, women were most likely to deliver at home. In contrast, women were most likely to deliver in a government health facility in only 6 per cent of the poorest villages but 53 per cent of the richest villages. These striking differences again highlight the enormous disparity in utilization of health services across poor and rich villages, largely owing to the inter-village disparity in health infrastructure.

F. Drinking Water and Sanitation Across Villages

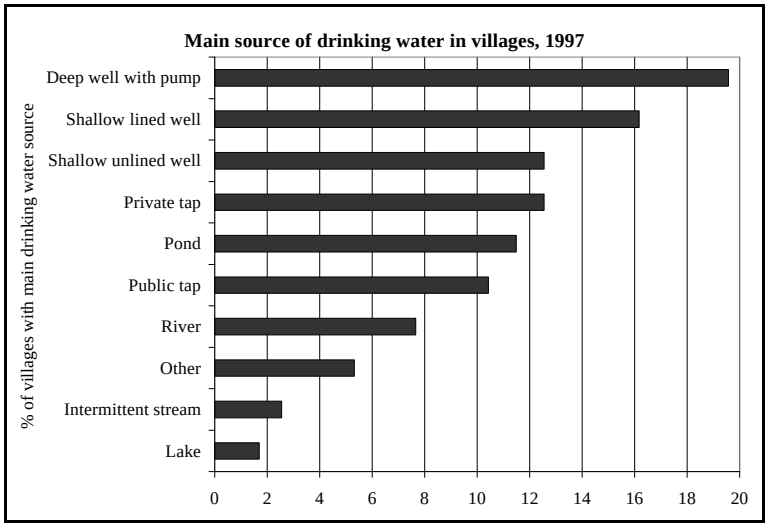

Figure 29
Source: CSES (1997).

Access to safe drinking water and sanitation is an essential aspect of human development because of its strong impact on health and nutritional outcomes. A large proportion of the diseases in Cambodia are water-borne and caused by lack of access to safe drinking water and sanitation. Piped water (to the dwelling) or water from public taps is a luxury for a small segment of the Cambodian population.

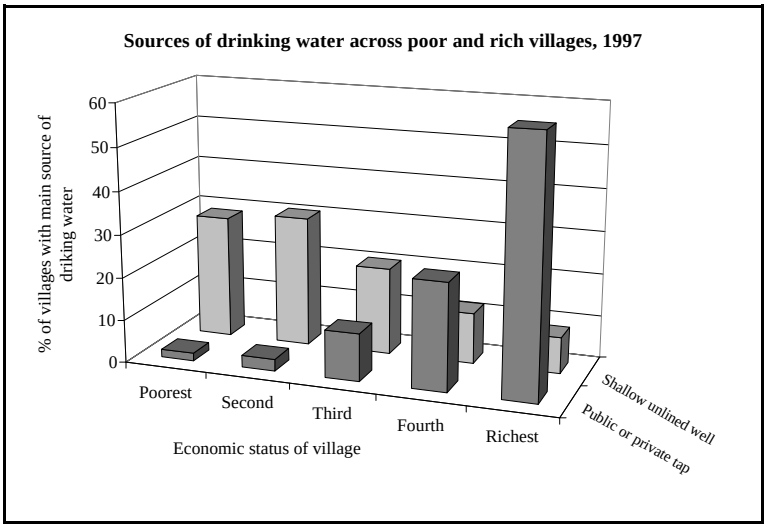

Figure 30
Source: CSES (1997).

The CSES 1997 indicates only 23 per cent of villages obtain water from public or private taps; the vast majority of villages (nearly one-half) rely on wells for drinking water in the dry season (Figure 29). Nearly a third of the villages relying on wells for their drinking water supply have shallow unlined wells that are susceptible to contamination. Another 20 per cent of villages obtain water from ponds, rivers or streams. Water

from these sources is also often contaminated. This means that only 40 per cent of the villages in the country have safe sources of drinking water.

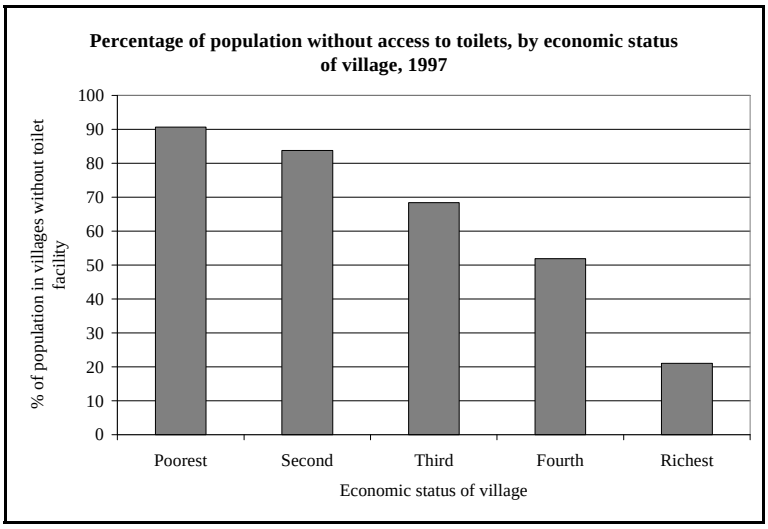

Figure 31

Interestingly, the sources of drinking water in villages are sharply divided along economic lines (Figure 30). Fewer than 2 per cent of the poorest 20 per cent of villages in the country, but as many as 60 per cent of the richest villages, list piped water as their main source of drinking water. In contrast, nearly 29 per cent of the poorest villages obtain their drinking water from shallow unlined wells, while the corresponding ratio for the richest villages is only 8 per cent. Thus, poor villages are particularly prone to diseases caused by contaminated drinking water.

The CSES 1997 also obtained information on the types of toilet facilities that households have. Nearly two-thirds of the population in villages report having no toilet facilities, with sharp differences across villages. Over 90 per cent of the population in the poorest villages, but only 21 per cent of those in the richest villages, report no toilet facilities (Figure 31). The combination of no sanitation and access to unsafe sources of drinking water makes people living in poor villages susceptible to water- and vector-borne diseases.

G. Does Village Health Infrastructure Influence Utilization of Health Services and Health Outcomes?

An important question is whether the availability of health infrastructure in a village makes a difference to health utilization patterns and ultimately to health outcomes in that village. This question can be addressed by

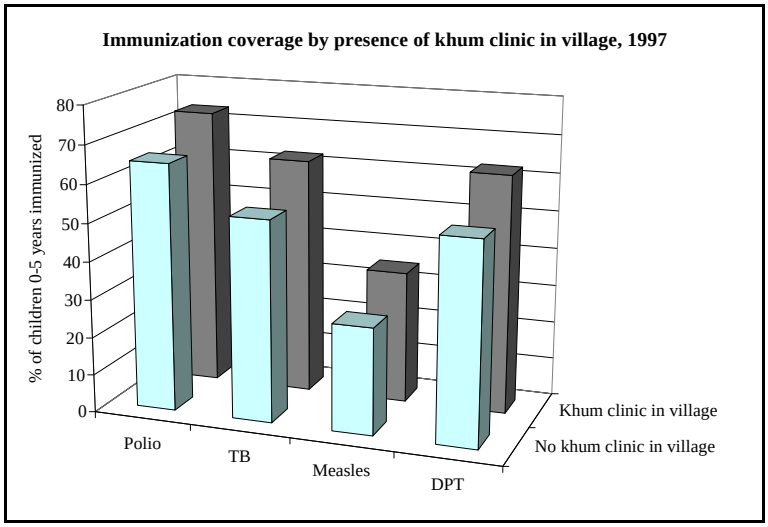

Figure 32
Source: CSES (1997).

looking at utilization rates and health outcomes in villages with and without health facilities. Figure 32, which shows immunization coverage in villages with and without *khum* clinics, clearly indicates that immunization coverage is significantly higher for every type of vaccination in villages having *khum* clinics than in villages not having *khum* clinics.

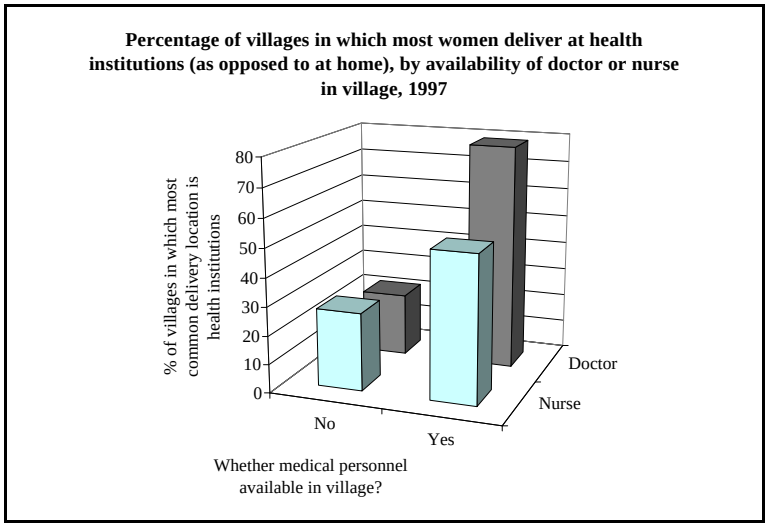

Figure 33

Other evidence on the effect of village health infrastructure on rates of utilization of health services is provided by Figure 33, which shows the percentage of villages in which most women deliver at health institutions (as opposed to home), by the presence of a doctor or nurse in the village. More than 50 per cent of villages having a nurse, but only 27 per cent of villages not having a nurse, report a health institution as the most common delivery location. The presence of a doctor in a village makes an even larger difference. Nearly 80 per cent of villages having a doctor (as opposed to 22 per cent of villages not having a doctor) report a health institution as the most common delivery location.

There is other evidence showing that not only the availability of health infrastructure but also the quality of care at health facilities improves health utilization significantly. One common problem with government health facilities in Cambodia is that, among other things, they are poorly stocked with a supply of drugs. This results in low utilization of these facilities, as patients do not wish to waste their time visiting facilities that do not have any drugs to dispense. However, with support from UNICEF and WHO, a limited number of health centers in the country have been receiving a minimum package of drugs. In

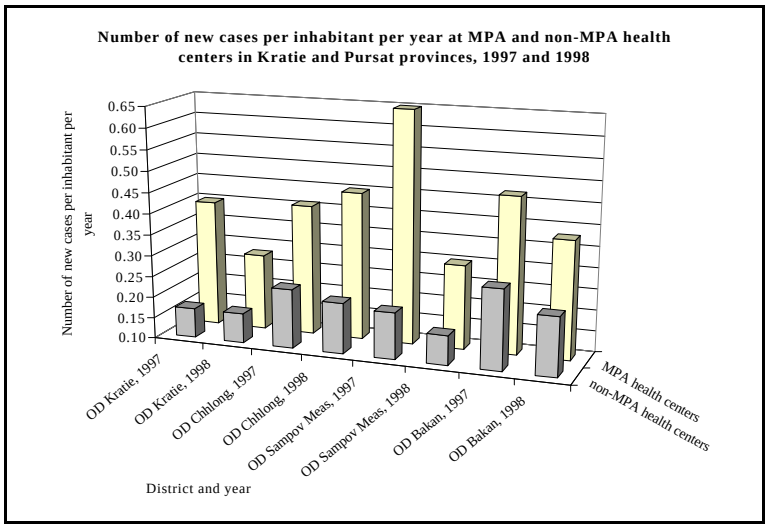

Figure 34
Source: WHO (1999).

selected provinces, MPA (or minimum package of activities) drugs are provided officially by the Ministry of Health to health centers that have (i) an appropriate building to store the drugs, (ii) at least six staff members, on whom is a secondary nurse or secondary midwife, (iii) staff trained in MPA module 1, and (iv) a supervision mechanism. Figure 34 shows that in four districts over two years (1997 and 1998), health centers receiving MPA drugs had consistently higher rates of utilization (as measured by the annual rate of contact per inhabitant) than health centers not receiving the MPA drugs. In most cases, the difference between MPA and non-MPA health centers was very large. This suggests that stocking health centers with a minimum package of essential drugs significantly improves their utilization.

Ultimately, however, what is important to know is if health outcomes are influenced at all by village health infrastructure. While data on objective measures of health status are not readily available from the CSES 1997, it is possible to derive a very rough measure of child mortality from the survey data. All women aged 15-49 years were asked how many children had been born (alive) to them and how many were surviving at the time of the survey. It is possible to calculate from these data the proportion of children ever born who have died. To make sure that this number reflects recent mortality experience and to keep recall error low, the sample of women was further truncated to two age groups: 15-25 years and 15-35 years. It should be noted that this number does <u>not</u> represent infant mortality nor under-5 mortality. In addition, since mortality is a rare event, the mortality rates derived from a sample as small as the CSES 1997 are likely to be measured very imprecisely.

Despite these data limitations, the empirical findings are revealing. Both measures of mortality (viz., for women under the ages of 25 and 35 years) are significantly lower in villages having *khum* clinics than in those not having *khum* clinics (Figure 35). For instance, in villages not having a *khum* clinic, women under the age of 25 years had lost 10.2 per cent of their children ever born by the time of the survey. The corresponding ratio in villages having a *khum* clinic was only 3.1 per cent.

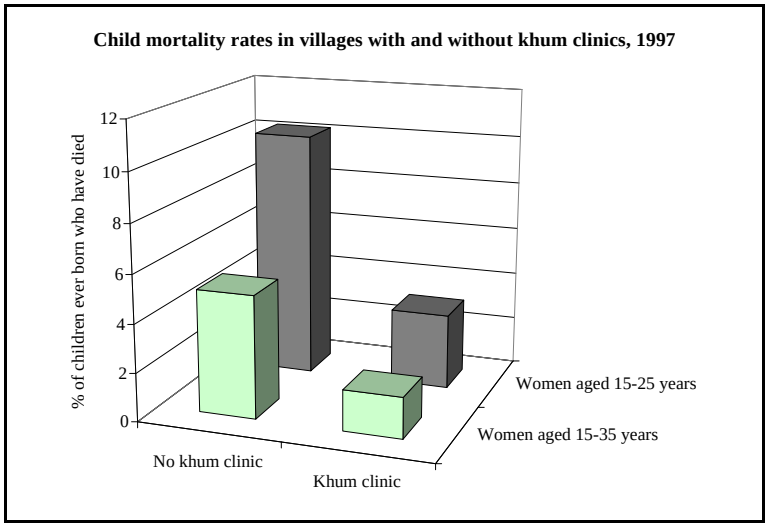

Figure 35
Source: CSES (1997).

V. COMMUNITY SOLIDARITY AND SOCIAL ORGANIZATION

It is clear from the preceding chapters that Cambodian villages, especially those that are poor, seriously lack economic and social infrastructure, and the absence of this infrastructure keeps these villages in poverty. The building of this infrastructure is therefore a high priority. However, experience in other parts of the world has shown that the sustainable creation and maintenance of village infrastructure requires active community participation and grassroots institutions. There are at least two ways in which community participation is important in this context. First, the existence of strong village-level institutions and organizations means that villages are more likely to create infrastructure by raising local resources and claiming matching grants or loans from provincial authorities and external agencies (such as NGOs). Second, when communities actively participate in infrastructure creation, they have a greater stake in maintaining that infrastructure. Evidence from all over the world shows that infrastructure created with community participation, such as village wells and roads, have greater utilization rates and a significantly longer economic life than infrastructure that has been put in place by central governments or donors without any community participation.

Obviously, creation and maintenance of economic and social infrastructure is not the only objective of community solidarity and village-level organizations! The larger objective is to involve the ultimate stakeholders (viz, communities) in the process of their economic development and indeed to make them take on a larger advocacy role with respect to central and provincial governments, international donors and the private sector. The advocacy role could include demanding a fair share of national resources for their village. A great deal of political and economic decentralization around the world has been based on the assumption that the quality of development decision-making improves by shifting decision-making and accountability closer to individuals, households and communities. Moving the responsibility of decision-making to villages and communities implies redistributing power from central bureaucrats to village councils, households and individuals, who presumably have a greater stake in the content and quality of development. Proponents of decentralization believe that granting of power and authority to these stakeholders will make development more responsive to the needs of local communities, and will more fully exploit the knowledge, creativity, and initiative of agents at the community level. However, transferring such decision-making power to communities only makes sense if the communities are socially cohesive, appropriately organized and democratic.

A. Community Solidarity and Village Organization: One Perspective

It is in this context that the recent debate in Cambodia over the importance of community solidarity in Khmer culture is relevant. In a recent book, When Every Household is An Island, Ovesen et. al (1996) have argued that, unlike Chinese, Indian or Vietnamese villages, Cambodian villages have never been strong on social cohesion or community solidarity.[8] The lack of this social cohesion may be the result of the individualism of Cambodian peasants, arising in part from the relative abundance of land in the country (which made village organization superfluous), introduction of the Napoleonic Code by the French (which made private property virtually sacred), the absence of communal land, the small number of traders and craftsmen in villages, and the absence of any political decision-making power at the village level. In addition, of course, the years of rule under Pol Pot probably destroyed whatever traditional social cohesion and self-help mechanisms that may have existed in pre-Khmer Rouge Cambodian villages.

According to this school of thought, the assumption that the village is a universal feature of rural societies, while taken for granted by researchers and development practitioners, is not necessarily valid in the Cambodian context. The village, constituting large concentrations of houses in rows along roads, was an administrative unit created by the French colonialists to serve colonial security and administrative purposes (e.g., easy tax collection). The village in this sense is not congruent with the Khmer notion of *phum*. In Khmer, the word *phum* denotes "... an inhabited space in the rural areas in general, and for the peasant it means his home area in a loose sense rather than a specific agglomeration of houses or a bounded organizational entity" (Ovesen *et. al*, 1996: 68).

Box 2: Social Solidarity and Public Social Services

"... The absence of public social services is aggravated by the rudimentary sense of solidarity in the village as a whole. For example, we talked to a lady who had recently become a widow. She was skilled in sewing and had a small business, but it seemed impossible for her to find someone who would help her with baby-sitting, even for a short period of time: "I cannot even get the neighbors to help look after the child while I work." She saw, bitterly, no way out but selling the little land she had. To us this seems like the beginning of a trajectory leading to absolute poverty."

Source: Ovesen *et. al*, 1996, p. 66.

Ovesen *et. al* (1996) argue that several factors have eroded the notion of village solidarity or organization in Cambodia in recent years. One of these is the lack of popular participation and

[8]By no means are Ovesen *et al.* (1996) the only researchers to articulate this view. Indeed, they cite the work of Delvert (1961), probably the foremost authority on Cambodian peasant life.

political democracy in the village, especially since the 1993 election. The village chief (or *mephum*) is the only person in the village employed by the state. He is typically a farmer who is paid a minimal salary to inform and implement new directions and initiatives handed down from the central level. During earlier times, the village chief coordinated a number of grassroots groups (*krom*) in the village, such as the People's Party Committee and the Women's Association, and presided over large village meetings that were common when work in the village was collectively organized. However, as these groups and meetings have virtually ceased to function since 1993, there is no forum in which villagers can organize themselves and make their voices heard. In addition, most villagers are reluctant to obey the orders of the village chief as he is seen as an agent (or puppet) of higher, central authorities.

Another reason for the lack of village organization cited by Ovesen *et. al* is the monetization of the rural Cambodian economy. The latter makes it difficult to mobilize villagers for public or community work without paying them a wage. In the words of Ovensen *et. al* (1996: 66), "people have become very reluctant to work for the common good without pay, even on irrigation schemes which would directly improve their own conditions." As a result, public works, such as minor irrigation schemes, school buildings, ponds, and roads, which are not funded by a central budget, are simply not carried out.

B. Community Solidarity and Village Organization: An Alternative Perspective

The hypothesis of Ovesen *et. al* (1996) has come under challenge from several researchers. The latter argue that it is possible to find numerous signs of social cohesion and solidarity in Khmer society if one looks in the right places. One such place is the Buddhist pagoda and the Buddhist religious order. A great many social, religious and welfare activities in the village are organized around the pagoda. The *achaa* are religious authorities traditionally dedicated to social action in the village. In the words of Collins (1998a):

> "... The *achaa* represent a parallel to the *mekhum*. They serve on the boundary of civil society, in this case between the village with its mundane concerns, and the *wat* with its other-worldly concerns... *Achaa* are former monks who have given up the saffron robes to re-enter social and family life. As former members of the community of monks, they serve as lay spiritual leaders and teachers. And as organizers and fund raisers, they attend to the worldly needs of the *wat*.

Achaa fulfill an important moral leadership role in the village. They occasionally engage in dispute resolution and mediation in the village, although often in partnership with the village state authorities. In many ways, they are the religious or moral equivalent of the *mekhum* or the political village leader.

Indeed, it is difficult to see how households in a village could survive if they operated as independent economic entities without much interaction with each other. For their survival, they need "... a high degree of interaction, interdependence, cooperation and coordination with other individuals, households and other entities. Economic activities at the village level are an intricately oven web of human needs, relationships and interactions" (Krishnamurthy, 1999: 23).

C. Community Solidarity and Village Organization: The Evidence

The practice and extent of mutual assistance in rural communities can shed some light on the question of whether social cohesion and village solidarity exist or do not exist in Cambodia. There is some qualitative evidence offered by researchers that active mutual assistance relations prevail not only among households within the same family lineage but also beyond kinship groups. For instance, labor exchange in rice cultivation is common,[9] and, while it is based on the principle of reciprocity, there is often no strict accounting of work done on someone else's farm (McAndrew, 1998). It is also common for households to borrow rice, and even cash, from other households (often, but not exclusively, relatives) without interest until the following harvest. It is not unusual to see neighbors and friends in villages help build houses for one another, take care of each other's livestock, and inform each other of opportunities in migrant labor (see Box 3).

[9]To be fair to Ovesen *et al.* (1996), they do recognize the existence of household cooperation in Cambodia. But they argue that household cooperation in the form of exchanging labor (*provos dai*) during the busy periods of the agricultural year occurs between households of relatively equal social and economic standing -- typically neighbors and kinsmen. Poorer, widow-headed households are mostly excluded from this sort of cooperation.

Box 3: Mutual Assistance in Babaong

Family households in Babaong assisted one another in rice cultivation without the need for repayment. The married daughters of an elderly widow pulled seedlings for their mother. A young couple worked on the farm of the wife's disabled father without requiring strict terms of exchange. The married daughters of a father stricken by a stroke worked with their husbands on the rice fields of their parents without the need for exchange. The sister-in-law of a second wife helped the latter with her cultivation. Two married sisters helped their two unmarried sisters with cultivation on their mother's farm.

In the Babaong household studied, assistance was available in the form of borrowing land, draught animals, rice and cash... In the 1995-96 crop season, a woman who earned primarily from her business enterprises allowed an aunt to cultivate her inherited highland plot without sharing the harvest. She also allowed a half-sister to cultivate an inherited 0.6-hectare lowland parcel without sharing. In a similar manner, a married son allowed his widowed mother to cultivate an inherited 0.1-hectare lowland plot.

In the 1995-96 crop season, four rice-cultivating households were able to borrow draught animals without the need for exchange repayment... During the year between the 1995 and 1996 harvests, 13 households without sufficient rice stocks were able to take consumption loans from relatives and neighbors without interest. Some families gave relatives in separate households gifts of paddy and milled rice.

Some households were likewise able to borrow cash from relatives without interest. In 1995, a woman borrowed five chis of gold without interest from an aunt in Phnom Penh for medical treatment. In 1996, another woman borrowed 100,000 riels from her sister without interset for medical treatment. In late 1996, a married daughter still owed her mother one chi of gold borrowed without interest to repay debts. In 1996, a married couple borrowed half a chi of gold from relatives to contribute to the purchase of a rice thresher.

Source: McAndrew, 1998: 24.

There is other evidence relating to community solidarity and cohesion at the village level. Many community events, such as religious and wedding celebrations, are organized in the village and are typically centered around the pagoda. At these events, villagers not only make offerings to the monks and listen to Buddhist teachings, but they also make cash and kind contributions for the upkeep of the pagoda and for village welfare activities (see Box 4).

While it is true that such activities at the village and pagoda level virtually stopped during the Khmer Rouge period, they slowly returned back to normal during the late 1980s and 1990s (Krishnamurthy, 1999). Of course, there has been some changes in these activities over time. Indeed, some observers have argued that these pagoda-centered community events have become more welfare-oriented than religious-oriented.

Box 4: Community Events in Prey Koh Village

"Prey Koh is one of six villages attached to the Salong pagoda which is 2 km away... The Salong pagoda committee is made up of 15 persons, three of them from Prey Koh... In addition to weddings and funerals, important ceremonies celebrated in the villages and at the pagoda level are the *Phlong Ambok, Kathen, Da Lean, Chol Chnam* (Khmer New Year), *Bisak Bochea, Chol Vorsa, Chen Vorsa, and Pchum Ben*. During these ceremonies, Buddhists visit their pagoda and occasionally other pagodas to make offerings to the monks and to listen to Buddhist teaching. In addition to learning about Buddhist precepts, families pray for their ancestors, pray for rain and a good harvest and pray to keep away evil spirits.

Most of the ceremonies, in particular the *Kathen* and the *Da Lean,* are important occasions for raising contributions from the people for activities for the common good... While most of the contributions raised during the ceremonies go towards the upkeep of the pagoda, some of the contributions are used for village welfare activities... In Prey Koh, funds have been raised at these ceremonies for maintenance and repairs to the pagoda and school, repair of the road, digging of canals, and building of a small bridge. People have contributed rice or cash and also their labor for these activities. During *Chol Chnam* in Prey Koh, one of the senior teachers in the village organizes traditional Khmer games for the youth.

Source: Krishnamurty (1998): 54-55.

VI. VILLAGE-BASED DEVELOPMENT PROGRAMS

In recent years, many developing countries have realized that real development begins at the village level, since this is where most of the population lives. Bottom-up (as opposed to top-down) development means providing villagers with the capacity, resources and freedom to make economic and social decisions that involve them. It also means empowering villagers through their representative village councils or committees to play an advocacy role in attracting resources from the central government, international donors and NGOs to their villages.

A. The SEILA and CASD Development Approaches

SEILA (or "foundation stone" in Khmer) is the Royal Government of Cambodia's program for decentralized governance to promote rural development and alleviate poverty (developed in cooperation with and funding from UNDP/CARERE). It is based on the premise that rural development and local governance issues are intertwined at the grassroots level. An important component of SEILA has been to promote decentralization and popular participation in rural development by creating a new management structure from the top down, consisting of committees at the central, provincial, commune and village levels. Among the most important of these is the Village Development Committee (VDC), an elected body whose function is to represent the village to government, nongovernment and international agencies as they plan and manage their own programs and projects on rural development. This will hopefully rectify the traditional pattern of excluding villagers from the development plans that affect them. The VDC is

> "... part of a new bureaucratic structure closely linked to the state, but which also aims to form a bridge to civil society through development activities... The VDC was created to look mainly upward toward a hierarchy of committees and line ministry departments associated with the new management structure to obtain development support. That support is presently available mainly from external, international donor sources... The UNDP/CARERE/SEILA development approach can [thus] be seen as an attempt to decentralize the financing and management of development in the Cambodian government and to create the VDC as a legal-rational entity at the boundary of the state and civil society" (Collins, 1998b: 17-18).

Since 1996, SEILA has developed and put in place management systems for decentralized and participatory planning, finance and management of rural development in five provinces. The ultimate goal is to have SEILA in place in all of the provinces in Cambodia.

Another program that has worked at the community level since 1996 is the Community Action for Social Development (CASD). This is a five-year (1996-2000) program funded by UNICEF and other international donors. As of March 1998, the CASD program had reached more than 300,000 persons in 8 provinces. The CASD program supports the building of institutional and human resource capacities at various levels and responds to the delivery of services based on village action plans.

The VDCs are an important conduit through which CASD projects work. The VDCs are generally the main contact point between the government working groups and the villagers for the various CASD projects and activities in the villages. Thus, they effectively function as CASD activity managers.

B. Sustainability and Financing of Participatory Rural Development

While both the SEILA and CASD programs are important capacity-building, grassroots programs that are trying to change the way rural development activities are implemented, the main question is of their sustainability. SEILA is largely funded by UNDP/CARERE, while CASD is a 5-year program (1996-2000) funded by UNICEF and other international donors. Continued funding by international donors at present levels beyond the current project cycle seems unlikely. Meanwhile, the Cambodian government has made no commitment or provision for the funding of either SEILA or CASD activities beyond the lives of these projects. Both of these projects thus have to address the central issue of rural development financing.

An important aspect of both projects is to implement projects based on village development plans. However, for the latter to be operationalized, there has to be a connection between the plans and the allocation of national resources through the PIP. This does not exist at the present time in Cambodia. Indeed, even provinces in Cambodia -- let alone villages -- receive virtually no money directly from the central government for rural development activities; all they receive is a minimum amount for salaries and operating costs of the provincial administration. All funding for rural development activities comes from line ministry (e.g., Health; Education, Youth and Sports; etc.) programs or directly from bilateral donors and NGOs (Charny, 1999).

The high degree of fiscal centralization in Cambodia is also reflected in the center-provincial shares in total government expenditure. The provinces account for only 14 per cent of total government spending, while the central government accounts for the remaining 86 per cent (World Bank, 1999). This high degree of centralization in public spending extends to most

sectors; for example, nearly two-thirds (62.4 per cent) of the government health budget is distributed at the central level, and the remaining 37.6 per cent to the provinces.

The case of the health sector is particularly instructive. The Ministry of Health (MoH), as well as provincial and district health managers, have very limited authority over budget and expenditure decisions. Although the MoH undertakes budget planning and negotiations for central and provincial levels, it and its provincial managers have no responsibility for accounting and disbursement of funds. The provincial health departments need approval from the Ministry of Economy and Finance (MEF) as well as the provincial governor for any commitment of public funds. Not only does this budgetary system have too many steps and intermediaries, it results in district managers and health center staff not knowing how much national budget they will receive each month. In turn, this makes it difficult for them to plan and prioritize their activities.

The vertical budgetary system, whereby resources flow from the MEF to the provincial governors, means that, although the MoH makes its central and provincial budgets, actual health expenditures, especially at the provincial levels, are often beyond its control. The provincial health department has to depend on the amount approved by the provincial governor from the authorized health budget for that province. There is impressionistic evidence that, until recently (i.e., October 1997), it was common for a Provincial Health Department to receive authorization from the provincial governor for only 70-80 per cent of the budgeted amount, since the former were not aware of the actual budgeted health expenditures for the province. Of course, the main reasons for the big discrepancy between actual and budgeted health expenditures are perpetual revenue shortfalls and military expenditure overruns at the Central level. However, the important point is that the vertical budgetary system results in consistent underutilization of budgeted expenditures because of its cumbersome nature and lack of transparency. For example, in 1996, the MoH was unable to spend 25.6 per cent of its budgeted amount for the provinces and 48.1 per cent of its budgeted amount at the central level. The large amount of unutilized public health funds are a critical constraint on the implementation of health programs and projects in the country. Thus, the high degree of centralization in public health spending decisions in Cambodia limits the effective implementation of health programs in the country.

One of the main aims of programs such as SEILA and CASD is to place resources directly in the hands of provincial (and ultimately village) authorities to support sector and local plans. Both projects have been working with provincial governments in designing a decentralized program management system for rural development. In certain sectors, such as health, there has likewise been a movement toward fiscal decentralization. For instance, the Ministry of Health (MoH) and the Ministry of Economy and Finance (MEF) have recently designed and released a new cash release process (called the Accelerated District Development Program) in

22 districts in the country. Under this program, a new budget line (Chapter 13) has been established by the MEF in order to provide sufficient and regular government for the ADD program.[10] The new system allows cash to be provided to the ADD districts, via the MoH and the Provincial Health Departments, *before* expenditure is incurred and accounted for afterwards.[11] Each district must prepare a budget showing the detailed planned expenditure and this budget has to be approved by the MoH. In addition, monthly reports have to be provided by each district health department which compare actual expenditure to the planned (budget) expenditure.

By reducing the number of administrative layers in the budget disbursement system, the ADD program is expected to speed up disbursements and reduce the discrepancy between budgeted and actual health expenditures at the district level. In addition, it reduces the scope for "leakage" of budgeted funds at successive administrative levels. There is already some evidence that the ADD program is yielding significant results at the ground level. Household survey data indicate that the level of utilization of health services at health centers and referral hospitals is significantly greater in ADD than in non-ADD districts.[12]

It is planned that eventually the ADD program will be extended to all districts in the country. This will be essential as the current budget system is seriously hampering the effective utilization of health funds in the country. So far, the ADD program, limited as it is to only 22 districts, remains only a pilot program.

One problem related to the funding of rural development at the grassroots level is the capacity of local governments, including VDCs, to be able to appropriately manage finances. There is concern that resources will be lost to graft and fraud without proper monitoring and control at the local levels. UNICEF has minimized the problem of mismanagement of funds in CASD projects by providing inputs to CASD projects solely in the form of commodities. However, the longer-term problem of building capacity within local governments to manage funds appropriately needs to be addressed.

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[10]Chapter 13 pays for the various administrative and running costs normally covered by Chapter 11 (O&M) plus overtime payments for night duty. But it does not cover the cost of basic salaries (Chapter 10), social allowances (Chapter 31) or investment in major new equipment or buildings (Chapter 50).

[11]Under the old system, provincial health departments would only be reimbursed by the provincial governor for expenditures already incurred.

[12]See The Report of the 19th Health Congress, 1997, Ministry of Health, 3-5 December 1997.

C. Political Decentralization

One of the most exciting developments to take place in democratic decentralization recently in Cambodia is the discussion, and possible passage, of a new Commune Administration Law. If this bill is passed by the National Assembly, it will fundamentally change the hierarchical and centralized system of administration that has been in place in Cambodia for the last 130 years. It will effectively establish a new tier of government at the commune level. In Cambodia, communes have been and are territorial or geographical units, but with no administrative function. The commune chief is typically nominated and his/her role has been to serve as a representative of the central government at the local level.

Under the proposed law, all communes in the country will have to hold elections every 4-5 years, beginning possibly as early as next year, to elect a Commune Council, composed of 5-11 members (Roome, 1998). The person with the largest number of votes will become the commune chief. The chief will have two deputies working under him/her. To ensure proportional representation of women, each commune will be required to have a minimum number of women standing for election to the Commune Council.

The Commune Administration Law recognizes the unique role of the village in this framework. Villagers will also elect a Village Committee, headed by a chairperson. Unlike the Commune Council, the Village Committee will be an advisory – but not legislative – body. The Commune Council will be required to consult Village Committees on budgetary and development plans for their villages. It will also be required to report back annually to the Village Committee on execution and implementation of village plans during the past year. However, in order to prevent the paralysis that could occur if the Commune Council could not see eye to eye on every topic with every Village Committee, the Law assigns the Commune Council with the ultimate power of governance.

In addition to making and implementing development plans, the Commune Council will have responsibility for delivering services, including social services, to the villages and communes under it. This does not necessarily mean that the Commune Council will have to act as service provider – only that it will need to be the facilitator (including purchaser) for the provision of services, from whatever best provider or sources these services are available.

Box 5: Village Decentralization in India

One exciting development in India has been the devolution of power to local governments. An innovative and unprecedented opportunity to empower local communities to control the important resources that affect them was offered by Parliament in the 73rd and 74th constitutional amendments -- viz., the local government or Panchayati Raj Act of 1992. The Act gives control to elected village and urban councils ("panchayati raj institutions" or PRIs) over a wide range of social and developmental activities of governments, including education, health care, nutrition, and safe drinking water and sanitation. This is a revolutionary effort to reestablish the primacy of locally elected bodies in the affairs of the state by giving them constitutional authority. PRI members are elected. To redress historical inequities, the Act requires a third of PRI members to be women, who need to have a similar representation in PRI leadership positions. Scheduled castes and tribes are also required to have a representation on PRI councils in proportion to their population. The PRIs are funded by 'block grants' from the state and central government budgets as well as from local taxes which they have the authority to levy.

In some states in India, village panchayats are already successfully organizing their communities to make better use of existing services, for example, by arranging transport to health units for medical emergencies, particularly for women in labor, maintaining hand-pumps and improving the village environment, and maintaining volunteer posts for village supply of ORS packets and contraceptives. In these states, village panchayats also ensure that the village school is adequately maintained, that teachers turn up for work, and that children attend schools regularly.

The Government of India, with the assistance of multilateral organizations like UNICEF, has embarked upon a large national training program to equip the 800,000 women members of the village panchayats to manage local government effectively and transform them into effective agents of social change. The training programs highlight the role they can plan in achieving goals like universal primary education, assurance of sanitation and safe drinking water, eradication of malnutrition, and full immunization coverage.

While this experiment at political decentralization is timely and laudable and in keeping up with what other countries are attempting (see Box 5), its success depends on several factors. First, there is great heterogeneity in the size of communes in Cambodia at present. There are some communes that have a population of 100 persons, while others have a population of 50,000 persons. There may be a need for redrawing commune boundaries and consolidating smaller communes, so that there is greater uniformity in commune size and the total number of communes in the country (which is more than 1,500 at the present time) is reduced. This will make the commune administration task somewhat more manageable.

Second, the traditional lines of reporting will pose new problems. For instance, it would be odd for democratically-elected commune councils to report to centrally-nominated provincial

governors or district chiefs. It is appropriate for an elected body like the Commune Council to report directly to the (elected) national government. Of course, in the long run, it is inevitable that democratic decentralization will need to be extended to districts and provinces, so that district chiefs and provincial governors will themselves be elected.

Third and most importantly, the success of political decentralization depends greatly on the financial decentralization that accompanies it. Communes should have the right to levy local taxes and raise revenues locally, and to retain these revenues for implementing commune and village plans. In addition, communes should be entitled to a share of national income under a revenue-sharing formula. The granting of political rights and administrative powers to communes will be meaningless until the communes have the financial wherewithal to implement local development plans.

VII. CONCLUDING REMARKS

The goal of the *Cambodia Human Development Report* is not to make specific policy recommendations but to instead describe the state of human development in the country, focusing particularly on the socioeconomic situation of Cambodia's villages and on inter-village disparities in economic and social infrastructure. Hopefully, this will trigger a national dialogue on human development in Cambodia's villages, which in turn will define the issues and priorities for action. This section merely highlights some broad findings on the village economy and rural poverty in Cambodia that emerge from this report.

Cambodia has among the worst human development indicators in Asia. For instance, its HDI score is the lowest in East and Southeast Asia after Laos. While HDI scores are strongly correlated with per capita income and Cambodia is among the poorest countries in Asia, the analysis in this report indicates that Cambodia's HDI score is even lower than what should be expected for a country at its level of per capita income. Cambodia does not fare much better in terms of other human development indicators, such as the Gender-related Development Index, the Gender Empowerment Measure or the Human Poverty Index. It is clear, therefore, that human development needs to be one of Cambodia's top priority for the future. The success of countries such as Sri Lanka, China and Vietnam in achieving excellent human development indicators even at low levels of per capita income portends well for Cambodia; it suggests that it should be possible for Cambodia to improve its human development record despite its low per capita income.

The vast majority of Cambodia's population lives in its 13,000 villages. Thus, successful human development in Cambodia effectively implies developing the social, economic and human conditions in these villages. The analysis in this report indicates three priority areas for developing Cambodia's villages: economic infrastructure, social infrastructure, and community organization and participation.

Economic infrastructure encompasses a range of economic underpinnings -- roads, electricity, access to credit and agricultural markets, agricultural extension services -- that can improve agricultural and nonfarm productivity, incomes, and the quality of people's lives. In Cambodia, fewer than half of the households have access to electricity. While access to roads is better, the quality of these roads is poor. Access to economic services is even poorer; only 14 per cent of villages in the country have a permanent market, and 11 per cent have a bank or credit organization. Agricultural extension workers, who can help farmers in adopting new seed technologies and cultivation practices, are rarer still, with only 4 per cent of villages having one. Slightly fewer than 10 per cent of villages have a shop selling manure, fertilizer and agro-

chemicals.

Indeed, these figures mask the enormous disparity in economic infrastructure among villages. Among the poorest 20 per cent of villages in the country, only 9.3 per cent of households have access to electricity. Average distance to the nearest bank or loan cooperative is a staggering 27 kms. for the poorest 20 per cent of villages, while it is merely 6 kms for the richest 20 per cent of villages. Likewise, an agricultural extension worker is much farther away from the poorest villages as compared with the poorest villages (25 versus 11 kms). Thus, the poorest villages in the country are severely disadvantaged in terms of their access to economic infrastructure that could improve productivity, incomes and living standards.

Social infrastructure encompasses health and education facilities and personnel, among other things. In Cambodia, the situation with regard to the availability of social infrastructure is even worse than that with regard to economic infrastructure. The Khmer Rouge period (1975-79) saw the systematic destruction of much of the educational and intellectual infrastructure of the country. There was a deliberate destruction of schools, equipment and books during this period, as formal schooling was abolished. It is estimated that 75-80 percent of teachers and secondary students fled or died during these years. As a result, Cambodia has a severe shortage of school facilities and teachers. Fewer than half of the villages in the country have a primary school, while merely 5.4 per cent and 2 per cent of villages have a lower and upper secondary school, respectively. On average, the nearest lower secondary school is 4.1 kms away from a village, while the nearest upper secondary school is 8.3 kms away. In the absence of widely available public transportation across villages, these distances are unduly long for a student to commute on a daily basis. This may help explain the unusually low enrollment rates at the secondary level in the country (relative to those in the rest of the Asia-Pacific region).

As in the case of economic infrastructure, there are large disparities in access to schooling, so that the availability of schools and teachers is significantly worse in the poorest villages than in the better-off villages. Indeed, the analysis in this report suggests that not only is the *availability* of schools lower in poor villages than in better-off villages, the *quality* of schools (as indicated by teacher/pupil ratios and the availability of textbooks) is significantly worse.

The situation with regard to health infrastructure is equally grim. More than three decades of war and conflict had left many health facilities around the country destroyed or dilapidated. In addition, the long period of civil strife had also driven out much of the country's health workers. As a result, there is a serious shortage of health facilities and health workers in Cambodian villages. Cambodia has the lowest ratio of physicians to population (one per 6,400

persons) in the region -- lower than even Laos (one per 4,450) and Bangladesh (5,220). Only 16 per cent of villages in the country have a *khum* (or commune health) clinic, and 15.6 per cent have a private clinic.

As in the case of educational infrastructure, there are large disparities in the availability of health infrastructure across poor and rich villages, so that access to health services in the poorest villages is much worse than is indicated by the average numbers cited in the preceding paragraph. Even the availability of public health infrastructure – such as safe drinking water and sanitation facilities – is significantly worse in the poor villages than in the better-off villages. For instance, 90 per cent of the population in the poorest 20 per cent of villages in the country report having no toilet facilities of any type.

Interestingly, the data reviewed in this report suggest that greater availability and improved quality of social infrastructure improves the utilization of social services and human development outcomes, such as school enrollment and child mortality. This underscores the importance of improving social infrastructure in Cambodia's villages. In part, the success of countries such as Sri Lanka and Vietnam in improving their schooling and health indicators can be attributed to their establishment of a vast network of school and health facilities throughout the rural areas, thereby improving access to schooling and health services for their large rural populations.

The data on economic infrastructure likewise show a strong correlation between village living standards on the one hand and access to markets, economic services and economic infrastructure on the other hand. Of course, in this case, the causality probably runs in both directions. The poorest villages are probably poor in the first place because they lack access to important services and markets that can increase productivity and incomes. At the same time, the location of markets and economic services is probably also endogenous with respect to living standards in a village. For example, banks (especially private ones) are more likely to be situated near villages in which there is a demand for their services, and demand for banking is likely to be greater in villages having higher levels of agricultural and nonagricultural output and higher incomes.

Community Organization and Participation. While the building of economic and social infrastructure in Cambodia's villages is clearly a high priority, experience in other parts of the world has shown that the process by which village infrastructure (and indeed village development) is created is equally important. When economic development, economic infrastructure and social infrastructure are imposed on villages from the top (i.e., by central authorities), they are rarely sustainable. When they arise from the bottom up -- with the initiation and participation

of villagers themselves -- they are longer-lasting and sustainable. But for village development to occur from the bottom up, there needs to be social solidarity and cohesion among village residents.

Some researchers have questioned whether Cambodian society has the strong social cohesion or community solidarity that is needed for community organization of development activities. These researchers argue that, for unique cultural reasons, each household in rural Cambodia is like an island – living self-sufficiently and without the rich social and moral ties to other households that are found in other parts of rural Asia. However, other researchers have challenged this view, and offered evidence of mutual assistance, solidarity and social cohesion among rural Cambodian households. For instance, a great many social, religious and welfare activities in the village are organized around the pagoda. Labor exchange in rice cultivation is common, and, while it is based on the principle of reciprocity, there is often no strict accounting of work done on someone else's farm. It is also common for households to borrow rice, and even cash, from other households without interest until the following harvest. It is not unusual to see neighbors and friends in villages help build houses for one another, take care of each other's livestock, and inform each other of opportunities in migrant labor. At community events, such as religious and wedding celebrations, villagers not only make offerings to the monks and listen to Buddhist teachings, but they also make cash and kind contributions for the upkeep of the pagoda and for village welfare activities.

Indeed, some development programs, such as SEILA and CASD, have already taken advantage of this community solidarity and cohesion to introduce participatory, grassroots rural development to Cambodia's villages. The idea behind these programs is to not only involve the ultimate stakeholders (viz, village communities) in the process of their economic development but to make them take on a larger advocacy role with respect to central and provincial governments, international donors and the private sector. The advocacy role could include demanding a fair share of national resources for their village. Experience from other countries suggests that the quality of development decision-making improves by shifting decision-making and accountability closer to individuals, households and communities. Moving the responsibility of decision-making to villages and communities implies redistributing power from central bureaucrats to village councils, households and individuals, who presumably have a greater stake in the content and quality of development. Granting of power and authority to these stakeholders will make development more responsive to the needs of local communities, and will more fully exploit the knowledge, creativity, and initiative of agents at the community level.

However impressive their goals, the SEILA and CASD programs can be viewed as only pilot programs at this time because of their very limited coverage. They cover fewer than 5 per

cent of the population in the country. There is, however, another development that may bring democratic decentralization in one swoop to all of Cambodia's villages and communes. This is the new Commune Administration Law currently under discussion for possible presentation to the National Assembly. If this bill is passed by the National Assembly, it will effectively establish a new tier of government at the commune level, thereby fundamentally changing the hierarchical and centralized system of administration that has been in place in Cambodia for the last 130 years. Under the proposed law, all communes in the country will have to hold elections every 4-5 years, beginning possibly as early as next year, to elect a Commune Council, composed of 5-11 members. The Commune Council will be responsible for making and implementing village and commune development plans, as well delivering services, including social services, to the villages and communes under it. Villages, too, will have elections to select a Village Committee, which will be an advisory – but not legislative – body.

The Commune Administration Law is a revolutionary effort to establish the primacy of villages and communes in the affairs of the state by giving them constitutional authority. Of course, the success of this effort at political decentralization will depend greatly on the financial decentralization that accompanies it. Unless communes have the right to levy local taxes, raise revenues locally, and obtain a share of national income as an entitlement under a revenue-sharing formula, the granting of political rights and administrative powers to communes will have little relevance.

ANNEX TABLES

Annex Table 1: Human Development Index, by Population Subgroups, Cambodia, 1997

Group or subgroup	% children 0-5 years severely stunted	Avg. life expectancy at birth (years)	Life expectancy index	Adult literacy rate (%)	Combined 1st, 2nd, & 3rd level gross enrollment rate (%)	Educational attainment index	Real per capita (in PPP$)	Adjusted income index	HDI
Cambodia	33.1	54.42	0.490	65.86	51.62	0.611	1,290	0.427	0.509
Rural	33.8	53.84	0.481	62.91	48.85	0.582	1,087	0.398	0.487
Urban	27.8	58.70	0.562	76.70	62.35	0.719	2,071	0.506	0.596
Poorest 20%	36.1	51.95	0.449	57.29	45.32	0.533	480	0.262	0.415
Second 20%	36.2	51.86	0.448	62.55	49.79	0.583	702	0.325	0.452
Third 20%	33.6	54.00	0.483	64.03	53.12	0.604	927	0.372	0.486
Fourth 20%	29.5	57.31	0.538	68.62	52.03	0.631	1,293	0.427	0.532
Richest 20%	27.2	59.20	0.570	74.36	58.78	0.692	3,049	0.570	0.611

Notes: Average life expectancy at birth for different subgroups is derived by taking a single national figure of life expectancy (54.42 years), and scaling it for different subgroups in the same ratio as their severe child stunting figures (shown in column 1). Likewise, real per capita income for different subgroups is derived by taking a single national figure of real per capita income (in PPP$), obtained from UNDP (1999), and scaling it for different subgroups in the same ratio as their real per capita consumption expenditures (in Riels).

Source: UNDP (1999) and CSES (1997).

Annex Table 2: Gender-Related Development Index, by Population Subgroups, Cambodia, 1997

Indicator	Cambo-dia	Rural	Urban	Per capita expenditure quintile				
				Poorest	Second	Third	Fourth	Richest
% males 0-5 years severely stunted	35.4	36.4	28.0	40.0.	38.8	37.7	30.8	25.2
% females 0-5 years severely stunted	30. 8	31.2	27.6	32.2	33.6	29.7	28.2	29.0
Adjusted male life expectancy (years)	50.30	49.52	56.04	46.74	47.68	48.50	53.88	58.24
Adjusted female life expectancy (years)	58.62	58.26	61.31	57.39	56.21	59.57	60.79	60.11
Equally-distributed life expectancy index	0.491	0.481	0.561	0.448	0.449	0.480	0.540	0.567
Male adult literacy rate (%)	78.50	76.17	86.94	70.24	75.69	77.41	81.55	85.18
Female adult literacy rate (%)	55.34	51.91	68.03	46.89	51.85	52.41	57.97	65.16
Combined first, second and third level enrollment rate for males (%)	58.09	55.07	69.95	51.65	54.22	59.37	59.26	66.99
Combined first, second and third level enrollment rate for females (%)	45.26	42.73	55.00	39.10	45.57	46.48	45.38	50.58
Equally-distributed educational attainment index	0.598	0.568	0.709	0.520	0.571	0.588	0.617	0.679
Real per capita income (in PPP$)	1,290	1,087	2,071	480	702	927	1,293	3,049
Male share of total population (%)	0.476	0.477	0.472	0.483	0.471	0.486	0.467	0.473
Female share of total population (%)	0.524	0.523	0.528	0.517	0.529	0.515	0.533	0.527
Ratio of female to male nonagricultural wage	0.740	0.629	0.726	0.536	0.672	0.692	0.779	0.745
Male share of economically-active population (%)	0.484	0.475	0.528	0.469	0.478	0.486	0.484	0.502
Female share of economically-active population (%)	0.516	0.525	0.472	0.531	0.522	0.514	0.516	0.498
Equally-distributed income index	0.423	0.390	0.496	0.246	0.318	0.366	0.424	0.565
GDI	0.504	0.480	0.589	0.405	0.446	0.478	0.527	0.604

Notes: See notes to Annex Table 1.
Source: UNDP (1999) and CSES (1997).

Annex Table 3: Human Poverty Index, by Population Subgroups, Cambodia, 1997

Population subgroup	% of children under 5 severely stunted	% of pop. not surviving to age 40 years	% of adult population illiterate	% of pop. with no access to safe water	% of pop. with no access to health services	% of children under 5 moderately or severely under-weight	HPI
Cambodia	33.07	31.90	34.14	63.34	30.51	49.33	42.53
Male	35.40	34.50	21.50	63.34	29.21	51.10	38.31
Female	30.78	29.61	44.66	63.34	31.57	47.60	49.22
Rural	33.79	32.57	37.09	71.87	32.85	50.25	44.91
Urban	27.81	28.99	23.30	30.47	20.37	42.51	34.19
Rural males	36.40	37.94	23.83	71.87	31.29	52.27	41.94
Rural females	31.21	27.92	48.09	71.87	34.15	48.26	51.61
Urban males	28.03	29.21	13.06	30.47	19.52	42.56	31.11
Urban females	27.60	24.69	31.97	30.47	20.99	42.47	37.00
Per capita expenditure quintile:							
Poorest	36.11	34.80	42.71	70.67	40.82	53.81	50.16
Second	36.22	34.91	37.45	71.04	34.38	51.67	46.49
Third	33.60	32.38	35.97	69.71	30.58	47.20	43.90
Fourth	29.53	28.46	31.38	61.67	28.35	47.43	38.74
Richest	27.19	26.21	25.64	43.62	23.57	43.91	33.66
Per capita expenditure quintile and sex:							
Poorest quintile males	39.97	41.66	29.76	70.67	37.46	57.69	47.35
Second quintile males	38.77	40.41	24.31	71.04	34.17	51.85	44.11
Third quintile males	37.72	39.31	22.59	69.71	30.66	49.47	42.55
Fourth quintile males	30.80	32.10	18.45	61.67	25.59	49.69	35.34
Richest quintile males	25.20	26.26	14.82	43.62	21.94	43.03	29.02
Poorest quintile females	32.22	28.83	53.11	70.67	43.91	49.90	56.32
Second quintile females	33.62	30.07	48.15	71.04	34.56	51.49	52.44
Third quintile females	29.65	26.53	47.59	69.71	30.52	45.03	50.66
Fourth quintile females	28.22	25.24	42.03	61.67	30.68	45.09	45.46
Richest quintile females	29.02	25.96	34.84	43.62	24.74	44.72	39.84

Notes: Figures on percentage of population not surviving to age 40 have been derived by taking a single national figure of percentage of population not surviving to age 40 (31.9), and scaling it for different subgroups in the same ratio as their severe child stunting figures (shown in column 1).

Source: CSES (1997).

GLOSSARY OF TERMS

Adult literacy rate is the percentage of people aged 15 and above who can read or write.

Annual medical contacts per capita is the annual number of outpatient and inpatient visits recorded by all health facilities in a region divided by the number of inhabitants in the region.

Economically-active population is the number of persons who supply labor for the production of economic goods and services, as defined by the UN System of National Accounts, during a specified time period (a week, month or year), whether for the market, for barter or for own-consumption.

Enrollment ratio (gross and net) The gross enrollment ratio is the number of students enrolled in a level of education – whether or not they belong in the relevant age group for that level – as a percentage of the population in the relevant age group for that level. The net enrollment ratio is the number of students enrolled in a level of education who belong in the relevant age group, as a percentage of the population in that age group. The age groups corresponding to the primary, lower secondary and upper secondary levels in Cambodia are 6-11 years, 12-14 years, and 15-17 years.

Gender Empowerment Measure (GEM) is a measure of the relative participation of women and men in political and economic spheres of activity. It is a composite measure of the representation of women in legislative (parliament) bodies, in administration and management, and in the technical-professional field relative to their representation in the general population. In addition, it includes a measure of income, but (like the GDI) discounts real per capita GDP on the basis of the relative disparity in the male and female shares of earned income.

Gender-Related Development Index (GDI) is similar to the HDI but adjusts the average attainment of each country in life expectancy, educational attainment and income in accordance with the disparity in achievement between men and women.

Gross domestic product (GDP) is the total output of goods and services for final use produced by an economy, by both residents and non-residents, regardless of the allocation to domestic and foreign claims. It does not include deductions for depreciation of physical capital or depletion and degradation of natural resources.

Health services access The percentage of the population that can reach appropriate local health services on foot or by local means of transport in no more than one hour.

Human Development Index (HDI) is a composite measure of longevity, as measured by average life expectancy at birth; educational attainment, as measured by a combination of adult literacy and combined primary, secondary and tertiary enrolment ratios; and standard of living, as measured by real GDP per capita (expressed in purchasing power parity-adjusted exchange rates).

Human Poverty Index (HPI) measures deprivation in three essential elements of human life -- longevity, knowledge and a decent standard of living. It is a composite measure of the percentages of people who are not expected to survive to age 40, who are illiterate, and who have no access to safe water and health services, as well as the percentage of moderately and severely underweight children under 5 years of age.

Infant mortality rate is the annual number of deaths of infants under one year of age per 1,000 live births.

Per capita expenditure quintiles are obtained by ranking all individuals in the CSES 1997 sample on the basis of their monthly consumption expenditure per capita, and then dividing the sample population into five equally-sized groups. The poorest quintile thus represents the poorest 20 per cent of the Cambodian population, while the richest quintile represents the richest 20 per cent of Cambodians. To obtain real per capita consumption expenditures, nominal expenditures were deflated using the food poverty lines for Phnom Penh, Other Urban and Rural Areas (MoP, 1998).

Real per capita GDP (PPP$) is the GDP per person of a country converted into US dollars on the basis of the purchasing power parity of the country's currency.

Safe water access The percentage of the population with reasonable access to safe water supply, including treated surface water or untreated but uncontaminated water such as that from springs, sanitary wells and protected boreholes.

Sex ratio is the number of men in a population per 100 women.

Stunting (moderate and severe malnutrition) The percentage of children under five who are below minus two standard deviations from the median height for age of the reference population. The reference standards are typically those developed by the United States

National Center for Health Statistics (NCHS).

Total fertility rate is the average number of children that would be born alive to a woman during her lifetime, if she were to bear children at each age in accord with prevailing age-specific fertility rates.

Underweight (moderate and severe malnutrition) The percentage of children under five who are below minus two standard deviations from the median weight for age of the reference population. The reference standards are typically those developed by the United States National Center for Health Statistics (NCHS).

Wasting (moderate and severe malnutrition) The percentage of children under five who are below minus two standard deviations from the median weight for height of the reference population. The reference standards are typically those developed by the United States National Center for Health Statistics (NCHS).

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