

**APPROPRIATE WAGE RATE AND ESTIMATE OF LABOUR AVAILABILITY  
FOR A  
PUBLIC WORKS BASED SAFETY NET  
IN  
CAMBODIA**

**Kirit Vaidya  
Rural Economist**

**for**

**Royal Government of Cambodia      and      International Labour Organization**

**June 2010**

## Contents

Abbreviations .....	4
Exchange rate .....	4
Executive summary .....	5
1. Introduction .....	15
1.1 Study context .....	15
1.2 Issues to be investigated and study outline .....	15
1.3 Report plan .....	17
2 Review of labour market and regulation issues .....	19
2.1 The labour force and economic activities .....	19
2.2 Rural economic activity, poverty and vulnerability .....	24
2.3 Evidence on the living wage.....	26
2.4 Labour laws and minimum wage regulation .....	28
3. Labour supply and wage rate study: Household characteristics and economic activities ....	30
3.1 Study rationale, design and details.....	30
3.2 Evidence from FGDs: Economic activities and household characteristics .....	32
3.3 Characteristics of sample households and economic activities of “adult” household members .....	38
3.3.1 Household size and structure.....	38
3.3.2 Agricultural land distribution and landlessness .....	39
3.3.3 Household consumption expenditure .....	40
3.3.4 Economic Activities of “adult” household members .....	42
4 Wage rates and labour supply: Evidence and analysis .....	50
4.1 Stated acceptable wage rates for public works and some characteristics of respondents.....	50
4.2 Evidence on targeting effectiveness of stated wage rates .....	59
4.3 Differences in labour supply responses between villages and regions .....	66
5 Wage rates, labour availability estimates and programme costs: Conclusions and recommendations.....	74
5.1 Types of programmes and their implications in the Cambodian context .....	74
5.2 Labour intensive and labour-based approaches on the proposed programme: Wage rate differentiation.....	77
5.3 Setting the wage rate: Principles and issues .....	79
5.4 Evidence on relevant wage rates and the recommended wage rate.....	82
6. Labour availability estimates, programme costs and household level welfare impact .....	89
6.1 Wage rates and labour supply response .....	89
6.2 Balancing programme costs and welfare effects .....	94
6.3 Conclusions and recommendations .....	103
References.....	106
Annex I: CARD / ILO Survey Questionnaire .....	108
Annex II: CARD / ILO study FGD discussion topics.....	122

### List of tables

<b>Table ES2: Summary of evidence on wage rates and earnings.....</b>	<b>10</b>
<b>Table 2.1: Employment by sector.....</b>	<b>21</b>
<b>Table 2.2: Daily average earnings of vulnerable workers at current prices (riel) .....</b>	<b>23</b>
<b>Table 2.3: Changes in living standards, 2004 to 2007.....</b>	<b>24</b>
<b>Table 2.4: National poverty lines, 2004 and 2007 (current riel per capita per day) .....</b>	<b>25</b>
<b>Table 3.1: Natural regions in Cambodia: Area and population .....</b>	<b>30</b>
<b>Table 3.2: Villages in which FGDs and household surveys were conducted.....</b>	<b>31</b>
<b>Table 3.3: Summary of selected findings from FGDs .....</b>	<b>34</b>
<b>Table 3.3: Summary of selected findings from FGDs (continued).....</b>	<b>35</b>
<b>Table 3.4: Average household size and household size distribution by region .....</b>	<b>38</b>
<b>Table 3.5: Structure of sample households.....</b>	<b>39</b>

Table 3.6: Male and female headed households .....	39
Table 3.7: Agricultural land per person available to sample households .....	40
Table 3.8: Daily household consumption expenditure per head: Number of persons in households by quintile .....	41
Table 3.9: Male and female headed households by per capita expenditure quintiles .....	41
Table 3.10: Age distribution of persons 15 years and older in sample households.....	42
Table 3.11: Main place of work of the economically active in the sample.....	42
Table 3.12: Economic activities of persons 15 years old or older .....	44
Table 3.13: Distribution of work hours (7 day reference period).....	45
Table 3.15: Number of hours of work and availability for other work.....	47
Table 3.16: Current activities of those available for additional work.....	47
Table 3.17: Daily earnings range for those in paid employment in the past seven days ...	48
Table 3.18: Current earnings of those in paid economic activities.....	49
Table 4.1: Acceptable wage rates for public works, all respondents .....	51
Table 4.2: Acceptable wage rates for public works – one person per household .....	52
Table 4.3: Current place of work and availability for public works.....	53
Table 4.4: Acceptable pay for public works and earnings in current activities .....	54
Table 4.5: Current hours of work and acceptable wage rate for public works.....	56
Table 4.6: Acceptable wage rate and male-female breakdown .....	57
Table 4.7: Acceptable pay for public works employment by age group.....	58
Table 4.8: Acceptable pay for public works by household expenditure quintiles and targeting – village level ranking.....	60
Table 4.9: Acceptable pay for public works by household expenditure quintiles and targeting under one person per household restriction – village level ranking.....	61
Table 4.10: Acceptable pay for public works by household expenditure quintiles and targeting – ranking across whole sample .....	62
Table 4.11: Acceptable pay for public works by access to cultivable land quintiles and targeting – ranking across whole sample .....	63
Table 4.12: Cash earnings during reference period and per capita household expenditure quintiles – ranking across whole sample.....	64
Table 4.13: Cash earnings during reference period by access to cultivable land quintiles and targeting – ranking across whole sample .....	65
Table 4.14: Variations in labour supply response between villages and regions.....	69
Table 4.15: Earnings during reference period by village and Region.....	72
Table 5.1: What kinds of programmes? Objectives and implications for wage rates, balance between objectives and resource commitments.....	75
Table 5.2: Summary of evidence on wage rates and earnings.....	85
Table 5.3: Consumption per head of sample households by village .....	87
Table 6.1: Labour supply response - all respondents - alternative assumptions .....	91
Table 6.2: One per household restricted labour supply as per cent of 15+ population .....	93
Table 6.3: Wage rate, labour supply response and labour cost of programme – all respondents, central assumption.....	96
Table 6.4: Wage rate, labour supply response and labour cost of programme – all respondents, high assumption.....	97
Table 6.5: Wage rate, labour supply response and labour cost of programme – one per household restriction .....	98
Table 6.6: Wage bill cost as per cent of GDP and public sector expenditure: SSN at national level.....	99
Table 6.7: Wage rate and welfare impact on households.....	100
Figure 6.1: Wage rate, labour supply, programme costs and social protection .....	90
Figure 6.2: Labour supply response, stated and revealed .....	93
Figure 6.3: Labour supply response, all respondents and one per household .....	94

## Abbreviations

ADB	Asian Development Bank
CARD	Council for Agriculture and Rural Development
CDCF	Cambodia Development Cooperation Forum
CDRI	Cambodia Development Research Institute
CIDS	Cambodia Institute of Development Study
CSES	Cambodian Social and Economic Survey
Cum	Cumulative
Cumul	Cumulative
ECOSORN	Economic and Social Relaunch of Northwest Provinces
EG	Employment Guarantee
EGPW	Employment Generating Public Works
EGPWP	Employment Generating Public Works Programme
EIC	Economic Institute of Cambodia
FFW	Food for Work
FGD	Focus Group Discussions
GDP	Gross Domestic Product
hh	household
IDP	Internally Displaced Persons
ILO	International Labour Organisation
LB	Labour based
LI	Labour intensive
MEGS	Maharashtra Employment Guarantee Scheme
MoLVT	Ministry of Labour and Vocational Training
MOPS	Moving Out of Poverty Study
NIS	National Institute of Statistics
NREGS	National Rural Employment Guarantee Scheme (India)
RGC	Royal Government of Cambodia
RIIP	Rural Infrastructure Improvement Project
RW	Reservation wage
RWR	Reservation wage rate
SIDA	Swedish Agency for Development Assistance
SSN	Social Safety Net
UNDP	United Nations Development Programme
WFP	World Food Programme
FFW	Food for Work

## Exchange rate

**US\$1.00 = Riel 4215 (end November 2009)**

# Executive summary

## 1. Introduction

Employment generating public works (EGPW) are an important part of Royal Government of Cambodia's (RGC's) strategy being developed through Council for Agriculture and Rural Development (CARD) to develop a comprehensive social safety net (SSN) to provide a measure of protection from shocks for the poor and vulnerable and to contribute to poverty alleviation through short-term unskilled employment. The term EGPW is used in this report as a generic term to encompass labour intensive (LI) and labour-based (LB) approaches. The LI approach is proposed for smaller village level and sub district works (e.g. village roads and communal ponds) and the LB approach for larger rural infrastructure works (e.g. tertiary roads, small scale irrigation and flood protection) requiring more technical input. Both LB and LI approaches and projects have their places in a public works component of an SSN. In setting wage rates for SSN public works, it is necessary to take account of: (a) the nature of benefits they offer (e.g. the balance between employment creation and effective use of labour); (b) the beneficiaries to be targeted, and (c) any adverse impacts on other economic activities.

The purposes of this assignment are: (a) to make recommendations on appropriate wage rates for unskilled casual employment on public works programmes performing the SSN function, and (b) make a broad assessment of the labour supply response to employment opportunities created by EGPW programmes. The latter would help in gauging the scale of such activities required and the amount and type of protection that is feasible within the available resources.

The study has been conducted by the Rural Economist in collaboration with the Cambodia Development Research Institute (CDRI). Following an appraisal of issues and study design, CDRI conducted focus group discussions (FGDs) and a household survey of a sample of households in the Moving Out of Poverty Study (MOPS) database. Table ES1 briefly describes the characteristics of villages representative of the four natural regions in which the study fieldwork was done.

## 2. Cambodian economy and labour market context

The population of Cambodia in 2008 was about 13.4 million of which about 80 per cent was rural. About 34 per cent of the population is under the age of 15 years and about 46 per cent is aged 19 years or less. This demographic profile implies high numbers of young workers entering the workforce in coming years. About 72 per cent of the employed are engaged in the primary sectors of agriculture, forestry and fishing. Levels of open rural unemployment are low, as most persons capable of working and available for work engage in some productive activities to earn a living.

Much of agriculture is on family smallholdings and rural households supplement their livelihoods through harvesting common resources (fishing and forest products) and wage employment locally, in other parts of Cambodia and outside the country. Agriculture on family smallholdings and on commercial farms is characterised by low productivity and slow growth of employment. The rapid growth of Cambodia's economy and related employment generation between 1994 and 2007 were led by garment manufacture, tourism and construction sectors. While these activities are largely urban, they are important for many rural households since incomes from their members' employment in these sectors makes an important contribution to their livelihoods. Because of the global financial crisis, growth in all three sectors slowed down in 2008 with an adverse impact on the rural economy. One

outcome of the rapid economic growth between 1994 and 2007 has been a decline in poverty with the headcount falling from 34.8 per cent in 2004 to 30.1 per cent in 2007. The rural poverty headcount fell from 39.1 per cent to 34.7 per cent but remains higher than the national headcount and 91 per cent of the poor live in rural areas.

**Table ES1: Villages in which FGDs and household surveys were conducted**

Region and Village	Province	Features	Household survey sample size <sup>2</sup>
<b>Tonle Sap</b>			200
<i>Andong Trach</i> <sup>1</sup>	Battambang	Wet season rice. High resettlement of returnees from border camps. 2 km from National Road 5.	52
<i>Krasaing</i>	Battambang	Wet season rice. High emigration. 500 metres from National Road 5.	74
<i>Khsach Chiros</i>	Kampong Thom	Floating rice plus fishing in flooded Tonle Sap. No road access for six months of the year.	74
<b>Mekong Plains</b>			200
<i>Babaong</i> <sup>1</sup>	Prey Veng	Substantial dry season rice. 14 km from Neak Loeang market town.	100
<i>Prek Khmeng</i>	Kandal	Dry season rice and substantial fishing. No road access for six months of the year.	100
<b>Plateau / Mountain</b>			100
<i>Khhan Chor</i> <sup>1</sup>	Kratie	Dry season rice and substantial forest dependence. Improved road access since 2002.	50
<i>Dang Kdar</i>	Kampong Thom	Low yield wet season rice and substantial forest dependence. 20 km from National Road 6.	50
<b>Coastal</b>			100
<i>Kompong Thnaot</i> <sup>1</sup>	Kampot	Low yield wet season rice, coastal fishing and salt panning. On National Road between Kep and Kampot	100

Source: Adapted from Fitzgerald and Sovannarith et al (2007).

Notes:

- 1 - Locations of FGDs.
- 2 - The total sample size was 600 households with 200 households each in Tonle Sap and Mekong regions and 100 each in Plateau / Mountain and Coastal Regions broadly reflecting the relative population sizes in the four Regions.

There are a range of farm and non-farm opportunities locally and further afield and rural workers are responsive to these opportunities. However, there is still substantial underemployment and low productivity employment leading to the high poverty incidence. Because of lack of skills, the poor are less able to pursue more productive non-farm employment opportunities. Thus, land becomes the most critical asset for many rural poor though not all landless are poor. Landlessness (defined as no access to cultivable land) increased from 12.6 per cent in 1997 to 15.8 per cent in 1999 and 19.6 per cent in 2004. The rural poor are those who have to sell all or part of their land because of debt or shocks and therefore have limited or no land and for whom other income opportunities are limited. The public works component of SSN would provide income support through short-term employment in creating or preserving infrastructure assets.

### **3. Setting wage rates for SSN public works: Aspects to be considered**

The aspects which need to be balanced in setting wage rates for public works programmes as SSNs are: (a) targeting poorer sections of the population to the extent possible through the wage rate; (b) minimising adverse impacts on other economic activities; (c) providing an acceptable level of social protection, and (d) ensuring that the wage rate offers incentive to work productively where asset creation and preservation through public works have a high priority.

In order to arrive at recommendations on the wage rate, taking into account the considerations outlined above, available evidence on wage rates in comparable unskilled work (e.g. farm work, other rural economic activities and urban unskilled wage employment accessible to rural households). The prevailing market wage rate for comparable work is a good guide but the conventional recommendation is to set the public works SSN wage rate below the relevant market wage rate. However, if the wage rate is set too low, the consequences are low welfare benefits for participants and poor performance in creating and maintaining assets.

The balance between the objectives of EGPWs of providing social protection and creation of assets varies between programmes. The proposed programme intends to include components which will have differing emphasis on the two objectives. Some components, referred to here as labour-based (LB), will have greater emphasis on using labour combined with appropriate equipment for effective and efficient creation or maintenance of more important rural infrastructure assets. Others, referred to here as labour intensive (LI) will have a greater emphasis on social protection targeted at the poor and people in areas which suffer from economic or natural shocks.

Another aspect to be considered is whether there are any wage regulations which have implications for the wage rate for public works. The only sectors for which a minimum wage has been set are textile, garment and shoe manufacturing. The current minimum wage set in January 2007 is \$50 per month with an additional cost of living allowance of \$6.00 per month from April 2008. For a six day week, the minimum wage and the daily allowance are roughly equivalent to \$2.33 or just over 9,800 riel per day. The average earnings of garment workers are about 25 per cent higher. There is no existing minimum wage rate which would be applicable to public works projects whether as part of a SSN or otherwise.

Public works projects will typically provide employment and earnings at a time when other employment opportunities are limited and households may be suffering food shortages. Therefore, in setting the wage rate, account has to be taken of the contribution earnings from project employment make to the living standards of poor households on an annual basis and whether they make an adequate living wage contribution to household during the period of project employment.

#### **4. Evidence from CARD / ILO FGDs and household survey**

FGDs in the four villages (see Table ES1) support the conclusion that members of most households engage in a range of economic activities and have multiple sources of income. Those with land are typically busy in ploughing and rice planting and transplanting between June and August and harvesting during December to February though there are regional and local variations. Even for households without land there is work in rice fields during these times. Generally people are available for off-farm work between October and April though they may be required for harvesting for some time during this period and there are regional variations.

Economic activities and cash earning opportunities other than in farming vary between the villages reflecting the features of their regions. For members of poor and average households, employment outside farming is essential for supplementing their livelihoods. For

average and better-off households, it provides cash to improve their livelihoods by acquiring livestock, productive assets and stock for trading. Unemployed youth and lack of opportunities for women were identified as problems. Three out of the four villages had experience of public works under the World Food Programme (WFP) in the 1990s. In all four villages, there appeared to be willingness to participate in a public works programme near the village during the slack agricultural season.

According to FGD participants, in Andong Trach (Tonle Sap) and Kompong Thnaot (Coastal), the wage rate for agricultural labour was 10,000 riel per day. In Khhan Chor (Plateau / Mountain), it was in the 10,000 to 12,000 riel range while in Babaong (Mekong), it appeared to be in the 10,000 to 15,000 riel range. In Andong Trach and Kompong Thnaot, wage rates for public works similar to agricultural wage rates and even somewhat lower were thought to be acceptable by FGD participants. In the other two villages (Khhan Chor and Babaong), acceptable wage rates were thought to be somewhat higher partly reflecting labour market conditions and partly the cost of living.

The CARD / ILO survey included questions on the economic activities and cash earnings of “adult” members (persons 15 years or older) of sample households in the seven days prior to the interview. Evidence was also sought on availability for public works employment at specified wage rates. Questions on the characteristics of households of respondents and the economic activity status of household members were also included and for each household matching data on income and expenditure levels and access to land for cultivation were available from the MOPS database.

Of the total 2,333 persons in the 15 years plus age range in the sample households, almost 90 per cent (2,096) were economically active (i.e. had either worked for at least one hour in the week before the interview, were absent from work for valid reasons or were seeking work). Of those in the labour force, 693 (33 per cent of the economically active) had cash earnings during the reference period, either wages or sales revenue net of cost of sales for those engaged in trading. The mean earnings were just over 11,000 riel per day though for 30 per cent, earnings were below 6,000 riel and for 48 per cent they were at or below 9,000 riel. The median earnings level was 10,000 riel.

In total 1074 persons (i.e. 46 per cent of those in the 15 plus years age range) stated that they would be available for public works employment at some wage rate. About 12.5 per cent of the economically active indicated that they would find 9,000 riel acceptable for public works and 22 per cent indicated that 10,000 riel would be acceptable. The wage rate at which a person states that he/she is willing to take up employment is interpreted as the stated “reservation wage” (the lowest wage rate at which a person is willing to take up a given type of employment).

In order to make recommendations on the SSN wage rate, it is necessary to reconcile the evidence on the distributions of actual earnings and stated acceptable wage rates for public works. The lower end of the distribution of earnings may indicate too low a public works wage rate because it may be in activities which are not comparable with public works and actual earnings may also have been low because of the effects of the financial crisis and poor relations with Thailand. On the other hand, the stated acceptable wage rates may be too high because of an element of bargaining and unrealistic expectations.

Limiting participation to one person per household is not being contemplated at present and such a limitation may not be necessary where project labour requirement is high in relation to the local labour availability. Nevertheless, it is useful to examine the labour supply response under the assumption of access to employment on the programme being limited in this way since such a limitation is one option on some LI projects where available resources are not sufficient to meet the local need for social protection or to employ all persons wishing to



participate. The analysis under this assumption also provides insights into the targeting effectiveness of the wage rate, labour supply response and programme costs. At least one person from 73 per cent of households is willing to participate in public works at some wage rate with at least one person from 23 per cent of households indicating 9,000 riel per day as an acceptable wage rate and 38.5 per cent of households had at least one person who found 10,000 riel acceptable.

Comparison of the stated labour supply response with the distribution of earnings (interpreted as revealed labour supply under certain plausible assumptions) for the whole sample and at the local and regional levels indicated that stated acceptable wage rates tend to be high in locations with limited experience of cash earnings. On balance the judgement was that limited reference points for wage rates led to many respondents indicating higher acceptable wage rates and therefore there was a need to adjust for this tendency. Three alternative labour supply “curves” have been proposed to make estimates of the likely labour supply response and the wage bill: (a) the central assumption which is the stated labour supply response with observations from the villages with limited cash earning experience excluded; (b) high estimate (with higher labour supply response at lower wage rates) based on the distribution of cash earnings, and (c) the lower labour supply response with access to public works limited to one person per household.

## **5. Wage rate and targeting effectiveness**

One reason for the conventional recommendation to set the SSN wage rate below the market wage rate is to target poor households. The targeting effectiveness of lower wage rates was examined by comparing the proportion of persons from poor households (those falling in the bottom and bottom two quintiles of consumption expenditure per head) willing to participate in public works at lower wage rates and members of better off households excluding themselves at lower wage rates. In both respects, the evidence indicates very limited targeting effectiveness. As an alternative, the amount of cultivable land per person the household has access to as a proxy indicator of the living standards of households was also used to assess targeting effectiveness. This indicator demonstrates somewhat better but by no means a high level of targeting. About 55 per cent of persons in the bottom two “amount of land per person” quintiles are willing to participate at the wage rate of 9,000 riel. By implication, 45 per cent are in the higher quintiles. Further, only 35 per cent of those in the bottom two quintiles are willing to work for 9,000 riel or less per day.

To provide a cross-check for the stated acceptable wage rates being overstated, the distribution of earnings was also placed in expenditure and cultivable land quintiles. While the bottom quintile proportionally had the largest number of persons earning below 5,000 riel per day, there was a wide distribution of earnings ranges in all quintiles with more than 25 per cent of persons in the top expenditure quintile with earnings of 5,000 riel or less and over 50 per cent of persons in the bottom expenditure quintiles with earnings over 9,000 riel. This evidence supports the conclusion from the assessment of stated responses that a low wage rate by itself is not a deterrent against participation for all persons from better off households and persons from poor households are not limited to very low wage employment.

Problems with data on consumption cannot be ruled out. However, they do not entirely explain the poor targeting through wage rates. Possible explanations are that members of poor households may face more severe time constraints and have higher opportunity costs than some members of better-off households who are willing to work for lower wages to make their contribution to the household budget. There is international evidence to corroborate these findings. The implications are that the wage rate should be set to provide an acceptable level of protection without distorting the labour market but since the wage rate by itself will not be sufficient for targeting poor households, other approaches to targeting poor and vulnerable households and rationing access to the programme will be required.

## 6. Overview of evidence from CARD/ILO study and other sources

**Table ES2: Summary of evidence on wage rates and earnings**

	Source	Wage rates and earnings
1.	CARD / ILO FGD Rural wage rates	Agricultural wage rates in 10,000 to 12,000 riel per day range.
2.	CARD / ILO FGD Acceptable public works wage rate	Wage rate comparable to agricultural wage rates and somewhat below in some villages thought to be acceptable.
3.	CARD / ILO actual earnings (all activities – wage employment, self-employment and subsistence production)	For 48% of those with cash earnings, pay was equivalent to 9,000 riel or lower. Earnings are 9,000 riel per day or less for 15.9% of the economically active. Mean: 11,200 riel. Median: 10,000 riel.
4.	CARD / ILO stated acceptable wage rate for public works employment – all respondents	9,000 riel per day or less acceptable for 12.5% of economically active. 10,000 riel or less acceptable for 22% of economically active. 12,000 riel or less acceptable for 35% of economically active.
5.	CARD / ILO stated acceptable wage rate for public works employment – all respondents – “unrealistic” locations taken out	9,000 riel per day or less acceptable for 18.4% of economically active. 10,000 riel or less acceptable for 26.9% of economically active. 12,000 riel or less acceptable for 31.4% of economically active.
6.	CARD / ILO stated acceptable wage rate for public works employment – restricted to one person per household	9,000 riel per day or less acceptable for 6.6% of economically active and 23% of households. 10,000 riel or less acceptable for 11% of economically active and 38.5% of households. 12,000 riel or less acceptable for 15.2% of economically active and 53% of households.
7.	2008 survey of households cited in World Bank / UNICEF (2010)	Agricultural wage rates in May-June 2008: Transplanting rice: \$2.50 (10,500 riel) per day. Harvesting, weeding and transplanting: \$2.75 (11,600 riel) per day. Land clearing: \$3.25 (13,700 riel) per day. Construction: \$3.38 (14,200 riel) per day.
8.	CDRI vulnerable workers’ surveys	About 10,300 riel per day for rice field workers in the February and May 2009 surveys. Down to 8,800 riel per day in August 2009. Unskilled construction workers (Phnom Penh) 14,400 riel in May, small fall by August 2009.
9.	WFP	Payment in food equivalent to about 10,000 riel per day.
10.	ADB Emergency Food Assistance Project	Payment in cash equivalent to WFP payment.

Evidence summarised in Table ES2 from the CARD/ILO study and other selected sources, notably on agricultural wage rates from the 2008 CSES survey of households and vulnerable workers’ surveys undertaken by CDRI indicates that the benchmark rural wage rate for work comparable to public works is 10,000 riel or higher. There are significant proportions of rural workers with cash earning rates below 10,000 riel though they may not be in activities comparable with public works and earnings rates may also have been low at the time of the CARD / ILO study because of the financial crisis.

The public works component of the proposed SSN is not intended to be simply an instrument for transferring cash to participants but to invest in sound rural infrastructure assets. This will evidently be the case for LB projects. For LI projects, the aim is to strengthen the technical input and implementation practice to improve the quality of output. On LB and LI projects, workers will be expected to work under supervision to good standards and meet productivity targets, usually on task rate basis. Therefore, payment for workers should include an efficiency wage element.

Based on the evidence on wage rates for comparable work and the efficiency wage consideration, a public works wage rate of 10,000 riel seems justified. Even if there is a case for setting different wage rate for LB and LI projects on the basis of different levels of work requirements, such differentiation would be difficult to maintain for projects being implemented under the common SSN umbrella.

## 7. Balancing programme costs and welfare effects

**Table ES3: Labour supply and wage bill for a 100,000 population – all respondents, central assumption**

<b>Population</b>			
Cambodia rural total		100,000	
Cambodia rural 15+		64,300	
<b>Persons willing and able to participate at given wage rate as proportion of 15+ population</b>			
	5000	7.8	
	9000	16.6	
	<b>10000</b>	<b>24.2</b>	
	<b>12000</b>	<b>28.3</b>	
	15000	40.8	
<b>Total available at</b>			
	5000	5,021	
	9000	10,650	
	<b>10000</b>	<b>15,549</b>	
	<b>12000</b>	<b>18,181</b>	
	15000	26,240	
<b>Number of days of employment per person offered<sup>1</sup></b>			
	<b>50</b>		
<b>Exchange rate</b>		<b>4215</b>	
<b>Wage bill at</b>		Riel	US\$
	5000	1,255,292,206	297,815
	9000	4,792,381,697	1,136,983
	<b>10000</b>	<b>7,774,713,018</b>	<b>1,844,535</b>
	<b>12000</b>	<b>10,908,894,204</b>	<b>2,588,113</b>
	15000	19,679,742,328	4,668,978

**Note:**

**1 – 50 days of employment have been used in this table and elsewhere in the report to produce illustrative calculations.**

The combination of the wage rate, the labour supply response and any additional rationing mechanisms used to manage access to the SSN have implications for programme costs and the welfare impact of SSN employment. Some illustrative calculations are provided using 50 days of public works employment. If a public works based SSN is offered in, say, four average sized districts with a total combined population of 100,000 persons, Table ES3 shows that if the wage rate is Riel 10,000, 24 per cent of those in the 15+ age group would participate and the SSN wage bill would be about \$1.84 million. The overall programme costs would be higher since additional non-labour costs are likely to be 30 to 60 per cent of total programme costs depending on types of project and labour intensity.

**Table ES4: Wage rate and welfare impact for households**

<b>Average annual household consumption<sup>1</sup></b>	<b>Riel</b>	<b>US\$</b>
1st quintile (bottom 20%)	4,353,415	1033
2nd quintile (next 20%)	5,925,540	1406
3rd quintile (middle 20%)	7,608,504	1805
4th quintile (above average 20%)	10,073,875	2390
5th quintile (top 20%)	26,600,426	6311
<b>Number of days of employment per person</b>	<b>50</b>	
<b>Pay per day</b>	<b>9,000</b>	

<b><i>PW wage contribution as % of household consumption - 1 hh member</i></b>		
1st quintile (bottom 20%)		10.3
2nd quintile (next 20%)		7.6
3rd quintile (middle 20%)		5.9
4th quintile (above average 20%)		4.5
5th quintile (top 20%)		1.7
<b><i>Pay per day</i></b>		<b>10,000</b>
<b><i>PW wage contribution as % of household consumption - 1 hh member</i></b>		
1st quintile (bottom 20%)		11.5
2nd quintile (next 20%)		8.4
3rd quintile (middle 20%)		6.6
4th quintile (above average 20%)		5.0
5th quintile (top 20%)		1.9
<b><i>Pay per day</i></b>		<b>12,000</b>
<b><i>PW wage contribution as % of household consumption - 1 member</i></b>		
1st quintile (bottom 20%)		13.8
2nd quintile (next 20%)		10.1
3rd quintile (middle 20%)		7.9
4th quintile (above average 20%)		6.0
5th quintile (top 20%)		2.3

**Note:**

- 1 - **Assumptions are average household size in adult equivalent of 4.7. The average consumption per head of Riel 2,528 per person for the 1<sup>st</sup> quintile (bottom 20%), Riel 3,427 per person for the 2<sup>nd</sup> quintile, Riel 4,401 per person for the 3<sup>rd</sup> quintile, Riel 5,827 per person for the 4<sup>th</sup> quintile and Riel 15,386 per person for the 5<sup>th</sup> quintile (top 20%) derived from MOPS data on household consumption.**

If one person from a household participates in public works, the welfare impact at the household level (wages from public works employment) according to Table ES4 would be equivalent to about 11.5 per cent of total household consumption expenditure for an average household in the bottom consumption quintile. The impact for households in higher quintiles will evidently be lower. On average, at least 1 person from 37 per cent of sample households stated availability for public works employment at a wage rate of 10,000 riel per day or lower and for these households, on average just over 2 persons were willing to participate at 10,000 riel per day or lower. Therefore, if there is no restriction on the number of persons from a household participating, on average the welfare effect for public works employment would be about twice as large as that indicated in Table ES4.

During the period when one or more members of a household are participating in a public works project, the contribution to the livelihood of the household would be much higher. The proposed wage rate of 10,000 riel per day is equivalent to about 84 and 62 per cent respectively of the daily consumption of an average sized household in the bottom and second consumption quintiles. For an average sized household on or close to the poverty line (which could be considered to be a very basic living wage in the rural context), the daily wage of 10,000 riel per day is equivalent to 67 per cent of household consumption. Therefore, while one person's daily public works wage would not be sufficient to meet all the needs of a household on the poverty line, it would meet a large proportion of the basic needs. The supplementary income would be especially valuable if public works projects are phased during agriculturally slack periods or coincide with the time of year when many rural households suffer from food shortages.

If the SSN is offered at the national level, at a wage rate of Riel 10,000 and 50 days of employment offered per household, the total cost would be about \$102 million which is equivalent to about 1.1 per cent of GDP and about 7 per cent of public expenditure in 2008. Excel spreadsheets have been developed and supplied to explore programme costs and welfare impact under alternative assumptions.

## **8. Setting the wage rate and related recommendations**

*Recommendations on public works SSN wage rate and related aspects with brief comments are set out here:*

- 1. Balancing the objectives of providing a reasonable level of social protection, targeting poorer sections of the population through the wage rate to the extent possible, minimising adverse impacts on other economic activities, ensuring that the wage rate offers incentive to work productively and practical aspects, a uniform wage rate of 10,000 riel per day across the country is recommended as the public works wage rate.
  - a. Coincidentally, this is roughly equivalent to the current minimum wage rate plus living allowance for garment workers.*
  - b. At a uniform wage rate, there will be differences between localities and regions in the numbers wishing to participate. The programme will have to be responsive to these differences. A uniform wage rate is equitable in that the same amount is paid for similar work as long as variations in living costs are not large.**
- 2. A number of aspects which will need attention at the programme design and early implementation stages have been identified below.*
- 3. About equal numbers of men and women stated willingness to participate at a daily wage rate of 10,000 riel. There should be no discrimination between men and women with respect to access to LI and LB public works employment and men and women should be paid equally for work of equal value.*
- 4. The wage rate by itself is not an effective device for targeting the poor let alone for targeting specific groups. Additional targeting could be:
  - a. geographical, of poor areas and those affected by natural or economic shocks.*
  - b. giving priority to the ID Poor.*
  - c. more specific targeting for the poorest, youth, veterans and IDPs, though elaborate targeting usually requires additional administrative efforts and costs and introduces potential for abuse.**
- 5. Public works employment should be provided in less busy agricultural periods to reduce disruption of other productive activities. This is especially important given the poor targeting effectiveness of the wage rate.*
- 6. A uniform public works wage rate has been proposed for the programme. Issues which require further attention are freedom for contractors in the wage rate they pay and whether to offer a higher wage on projects in locations where labour supply and productivity are inadequate at the standard public works wage rate. For contractors, the public works wage rate will effectively be the minimum wage rate. This wage rate could be too low for some LB projects, notably in areas with low population density, but not for local community based LI projects which will typically be planned to match the local need for SSN support. If a higher than the standard wage rate has to be paid on some projects (under contractor operation or direct labour), it will be necessary to ensure that the rationale for this deviation is clear and is acceptable to participants on other projects who are paid the standard public works wage rate.*
- 7. Limiting the number of days of participation per household is a rationing device though this would require additional administrative effort and expenditure. It will not improve targeting effectiveness but will increase the proportion of households benefiting while facilitating control of the wage bill. An alternative rationing mechanism which is easier to implement administratively and more transparent, though ineffective as a targeting*

*mechanism, is random selection from those wishing to participate. Whether rationing is required and the choice of rationing method will depend on labour supply requirements for projects, the need for SSN support and targeting in relation to available resources and feasibility of implementation.*

- 8. The public works wage rate would need to be revised periodically in response to changes in labour market conditions and cost of living. The wage rate should be reviewed every two years (unless the need for more frequent reviews is apparent because of economic circumstances). The review should be based on monitoring the labour supply response to programme activities, evidence on rural wage rates from the annual CSES surveys being undertaken by NIS and evidence on cost of living.*
- 9. The proposed SSN aims to combine provision of a level of protection through public works during normal times targeted at poor areas and provision of support for the poor and vulnerable in response to shocks. With the latter, public works activities would have to be initiated and their scale determined when the need arises. In order not to disrupt labour supply for other productive activities, if a higher level of support is required because of the severity and duration of the shock, it is preferable to adjust the number of days of employment offered rather than the SSN wage rate.*

*Some important conclusions and recommendations are based on stated responses to hypothetical questions. It will be necessary to review the findings and related recommendations in the light of experience during the early stages of programme implementation. The aspects which would need further investigation are the actual labour supply response and the role of the wage rate in targeting. When implementation starts, there should be a sample survey of participants. Evidence from the survey and monitoring of numbers willing to participate should be used to make adjustments to the wage rate, investigate the targeting effectiveness of the wage rate and investigate additional targeting and rationing rules as necessary.*

# **1. Introduction**

## **1.1 Study context**

The Royal Government of Cambodia (RGC) is in the process of developing a Social Safety Net (SSN) to respond to the overall levels of poverty in the country and to be responsive to intermittent economic shocks and natural disasters to which Cambodia is prone. The process commenced in December 2008 at the Cambodia Development Cooperation Forum (CDCF) where the Government and its development partners discussed the need for a coherent social safety net system. It was recognised that a safety net system was required to provide a level of protection for the poor and vulnerable from: (a) impact of economic events such as the global food price increases between 2005 and 2008, the global financial crisis of 2008-09; (b) natural events such as floods, droughts and crop failures; (c) the enduring poor livelihoods associated with underemployment and low productivity that many Cambodians suffer from, and (d) the risk of slipping into poverty because of events specifically affecting individual households.

The Government assigned to the Council for Agriculture and Rural Development (CARD) the responsibility for managing a number of initial analytical studies, including clarification of terms and concepts with regard to safety net policy; a review of key sources of household vulnerability in Cambodia; an inventory (or “mapping”) of existing safety nets, and an initial outline of policy options to guide strategy development. Over the first half of 2009, CARD convened meetings of a broad set of national stakeholders. This process has helped to build consensus on the meaning of key concepts and the broad direction for policy development. These findings and recommendations were presented and discussed at a National Forum in June 2009.

As part of the process of developing a social safety net policy, RGC requested the ILO to assist in the development of a public works component of the SSN. RGC recognises that significant levels of expertise and experience have been developed in Cambodia from the various public work projects that have been implemented with assistance from the ADB, the WFP and the ILO. The aim is to draw on the national experience and lessons from international experience to develop a nationwide programme which would be capable of responding to intermittent economic and natural shocks and at the same time play a role in alleviating poverty and coping with vulnerability.

ILO is in the process of developing an overall strategy for such a programme. A key element of the definition of this strategy is the identification of appropriate wage rates for workers on the programme. The aims of this study are: (a) to make recommendations on appropriate wage rates for a nationwide rural public works based SSN being developed by RGC, and (b) assess the availability of labour for such a programme which clearly has implications for the scale of public works activities required for a safety net.

## **1.2 Issues to be investigated and study outline**

In brief, the considerations in setting wage rates for public works programmes as SSNs are: (a) targeting poorer sections of the population; (b) minimising adverse impacts on other economic activities; (c) providing an acceptable level of welfare support, and (d) ensuring

that the wage rate offers incentive to work productively where asset creation and preservation through public works have a high priority.<sup>1</sup>

In order to arrive at recommendations on the wage rate, taking into account the considerations outlined above, it is necessary to review available evidence on wage rates in comparable unskilled work (e.g. farm work, other rural economic activities and urban unskilled wage employment accessible to rural households) including any variations between regions. Other aspects included in the terms of reference for this study are consideration of:

- any relevant minimum wage regulations and current and proposed systems and procedures to regulate wage rates and their implications for public works wage rates, and
- the minimum acceptable level of SSN support to be provided through public works taking account of poverty lines, the ILO mission to address the plight of the working poor, the ILO Decent Work criteria and the concept of a “living wage” to the extent that it applies in the rural household economy context.

Another important consideration is whether and to what extent wage rates can be used to target certain preferred beneficiaries, i.e. the poorest of the poor, women, youth, veterans, IDPs and other vulnerable groups and what other targeting mechanisms may be required if the wage rate by itself is not sufficient. The importance of targeting specific groups should take account of the other components of the SSN including conditional and unconditional cash transfer schemes.

The recommendations are also required to include suggestions on a mechanism for regular review and revision of the SSN wage rate<sup>2</sup> so that it can remain responsive to the criteria and considerations as identified above and identification of other possible benefits for persons taking up public works employment.

In setting up a public works based SSN, it is clearly necessary to have an estimate of the scale of public works required to meet the demand for support offered by the safety net. This “demand” for participation in public works which has been referred to here as “labour availability”<sup>3</sup> in turn will depend on the wage rate, the nature of work, the conditions under which it is offered and its location. The estimate of labour availability and how responsive it is to the wage rate are important for estimating the financial and economic resource requirements as well as assessing the institutional and technical capacity necessary for the scale of public works activities required and any further rationing necessary to make the SSN feasible and affordable.

The study was designed to be conducted in a number of phases by the Rural Economist in collaboration with a Cambodian research institute. During the first phase, which was exploratory and preparatory, the Rural Economist:

- briefly reviewed the available information on wage rates and labour availability in Cambodia;
- made an initial appraisal of available information on the “living wage” representing sufficient income to meet basic needs and expenses taking account of living costs and its implications for the study;
- set out the terms of reference for the research institute to undertake the data collection and analysis;

---

<sup>1</sup> These are clearly core considerations in making recommendations on wage rates and have been considered in more detail in later sections. They have been stated briefly here to set the context for the study design.

<sup>2</sup> The term “SSN wage rate” has been used in this report to refer to the wage rate for the public works component of the proposed SSN.

<sup>3</sup> This is effectively the supply of labour.



- participated in the evaluation of the proposals put forward by the research institutes and selected the institute to collaborate in the study, and
- designed the economic activities and wage rate study to be undertaken by the research institute in a number of sample rural locations representative of the range of the main socio-economic and livelihood characteristics in rural Cambodia.

Cambodia Development Research Institute (CDRI) was selected to be the collaborating institute because of its expertise and experience in undertaking surveys and qualitative studies in rural areas in Cambodia, especially concerned with poverty and vulnerability. More specifically, CDRI has conducted a number of investigations under its Moving Out of Poverty Study (MOPS) of the dynamics of changes in the rural standards of living and in particular the factors which contribute to rural households moving in and out of poverty. A distinctive feature of the studies is that they are based on a sample of households representing the main agro-ecological regions in Cambodia (Tonle Sap plains, Mekong plains, Plateau / Mountains and Coastal) for which CDRI has data over a number of years. The CARD / ILO wage rate and labour supply study has been based on a survey of a sub-sample of households in the MOPS database and has therefore benefited from existing data on these households.

The second phase (separated into two sub-phases) was the conduct of the economic activities and wage rate study by CDRI in two sub-phases<sup>4</sup>. During the first sub-phase, the main tasks were: (a) conduct of focus group discussions (FGDs) to obtain qualitative insights for finalising the survey questionnaire and for interpreting the survey results, and (b) preparations for the household survey (pilot testing and finalising the survey questionnaire, selecting the locations and samples for the household survey and making initial field visits).

Under the second sub-phase, the main activities were the conduct of the household survey and coding and checking the data from the survey and to prepare it for analysis. The household survey collected information from 600 households in eight of the nine MOPS villages representing the four regions. The households selected for the study were a sub-sample of the 1000 households in CDRI's MOPS database. For the analysis, data collected for the CARD/ ILO study for the households were matched with selected existing MOPS data for the households, notably on household expenditure, income and access to land for farming.

The third phase, undertaken by the Rural Economist in collaboration with CDRI was the analysis and synthesis of survey data and the broader labour market context to make recommendations on wage rates and to assess the likely labour supply response.

### **1.3 Report plan**

The next section reviews the broad economic and labour market context and regulations influencing employment and wage rates and examines some available evidence on wage rates for unskilled labour. Section 3 summarises evidence from the FGDs and findings from the survey on characteristics of households and economic activities of household members. Section 4 examines FGD and survey evidence on wage rates and labour supply and relates it to the considerations to be taken into account in setting wage rates for public works programmes including labour supply response to a range of wage rates and targeting effectiveness.

---

<sup>4</sup> See CDRI reports on the two phases of their inputs for details.

Section 5 starts by addressing the aspects to be considered in setting the wage rate, summarises the evidence for wage setting and proposes a SSN wage rate for Cambodia. Section 6 examines the labour supply response and the level of social protection (through supplementary household income) provided by the proposed wage rate and alternative wage rates in combination with the number of days of public works employment and makes final recommendations on the SSN wage rate and related aspects.

## 2 Review of labour market and regulation issues

### 2.1 *The labour force and economic activities*

The broad context for examining wage rates and labour availability for public works programmes is: (a) the size and growth of the labour force; (b) the activities the labour force is engaged in and levels of unemployment and underemployment; (c) wages and earnings in relevant economic activities, and (d) their links with poverty and vulnerability. Other relevant aspects considered are minimum wage and other labour market regulations.

The population of Cambodia in 2008<sup>5</sup> was about 13.4 million persons with just over 80 per cent living in rural areas. About 34 per cent of the population is under the age of 15 years and about 46 per cent is aged 19 years or less. This demographic profile implies high numbers of young workers entering the workforce in coming years. Economic Institute of Cambodia (EIC) (2009) reports that according to the 2004 Cambodia Socioeconomic Survey (CSES), the total labour force or the economically active population<sup>6</sup> was about 7.5 million persons, or 56 per cent of the total population, with about 250,000 persons entering the labour market every year. The definitions of employment and unemployed used in making the above estimates of the labour force were the conventional ones. Persons who had worked for at least one hour in a reference period of seven days were considered to be employed and economically active. Persons who had not worked for a minimum of one hour but had been actively seeking employment during the reference period of seven days were identified as unemployed but economically active (i.e. part of the labour force).

Using the 2004 CSES<sup>7</sup> estimate of the size of the labour force, EIC (2009) projects that Cambodia's total labour force was an estimated 8.4 million in 2007 and likely to have reached about 8.6 million in 2008 and 8.8 million in 2009, of which about 20 per cent are under 18 years old. It should be noted that the estimate of the size of the labour force or the economically active population in the 2008 Population Census is lower, about 7.05 million. The discrepancy is most probably explained by differences in the definition of the economically active population between the two sources. In the 2008 Census, questions about economic activities refer to activities during the last six months. Those undertaking very limited activities (e.g. occasional paid or unpaid work for very short periods of time) might not have considered them to be significant enough to be reported as work<sup>8</sup>. The economically active totals in CSES 2004 and the 2008 Population Census include working children. In assessing labour availability for public works, children have been excluded.

Morris (2007) notes that while there has been rapid growth and reduction in poverty since the mid-1990s, Cambodia's GDP has grown faster than employment opportunities implying a low employment elasticity of economic growth. Productivity in agriculture and services has been low and its growth slow, resulting in inadequate incomes for large numbers of Cambodian

---

<sup>5</sup> National Institute of Statistics (NIS) (2008) *General population census of Cambodia*, Ministry of Planning, Phnom Penh. This reference is referred to as Population Census 2008 in this report.

<sup>6</sup> The terms "labour force" and "economically active population" have been used interchangeably in the report.

<sup>7</sup> NIS undertakes frequent socio-economic surveys (Cambodia Socio-economic Surveys or CSESs) of households which form a basis for the analysis of changing living standards and the poverty profile and provide information on a range of aspects including demography, economic activities, access and ownership of assets. At the time of the study, some data from CSES 2007 were available but economic activity data had not been fully analysed. Limited use of CSES 2007 data on economic activity has been made in the report.

<sup>8</sup> The differences in methodology and estimates between the two sources do not have a significant bearing on the broad conclusions on economic activities and this study.

workers since these two sectors together employ over 80 per cent of the labour force (see Table 2.1).

In 2004 Cambodia's labour force participation rate was 80 per cent<sup>9</sup> for the population aged 15 years or older, with higher rates for men than women. A larger proportion of the rural population was economically active. Three-fifths of workers relied on agriculture for employment and income and large majority of Cambodians were employed as own-account workers or unpaid family workers. Only 20 per cent were paid employees. Many Cambodians had more than one job and worked long hours to earn enough for basic needs.

According to CSES 2004, the unemployment rate for those aged 15 years and over was only 1.1 per cent in 2004. EIC estimates that the unemployment rate in 2007 derived from CSES 2007 was even lower at 0.9 per cent though World Bank (2009a) arrives at an alternative estimates of 3.5 per cent. While levels of open unemployment overall are low, urban youth unemployment is a concern. CSES 2004 showed that unemployment rates in Phnom Penh were 6.2 per cent for teenagers (aged 15–19 years) and 7.8 per cent for young adults (aged 20–24 years) with youth accounting for 72 per cent of the total unemployed in the city.

On a broader definition of unemployment (including those not working or looking for employment, but available for work), the unemployment rate was significantly higher and quite alarming for young people in Phnom Penh, at 20.1 per cent in 2004 (27.8 per cent for teenagers aged 15–19 years and 16.6 per cent for young adults aged 20–24 years). Youth unemployment and underemployment is also a rural issue (see section 3.2 which reports on FGDs undertaken as a part of this study).

Open unemployment is low in rural areas but levels of underemployment are high. Virtually all economically active persons in rural households are assumed to be engaged in farming even if the amount of work they do is small and there are large seasonal variations in work requirements. Evidence from CSES 2004 indicates that large numbers of Cambodians are available for additional employment. A larger proportion of workers in rural areas than in urban were available for additional employment, partly reflecting low incomes in their existing employment and partly the seasonal nature of agricultural work. More men than women wanted more work in 2004. According to Morris (2007), data from household surveys show a steady increase in the share of paid employment in rural areas. This partly reflects a rise in landlessness and partly the emergence of off-farm jobs.

Agriculture will continue to be the main source of employment and income for some time to come for the majority of households. Most employment in agriculture is in rice production, and much of this is subsistence farming that relies on traditional techniques. Freshwater fishing has also been significant for livelihoods. Given the reliance on primary activities for livelihoods, the underemployment and low productivity and incomes from them and the natural shocks such as floods and droughts affecting production, there will be a need to provide a safety net for the rural poor and vulnerable for some time to come.

Internal mobility and international migration are important labour market issues. Migration within the country has been increasing in recent years, with most movement from one rural area to another. However, Phnom Penh and the port area around Krong Preah Sihanouk have the greatest concentration of migrants. Recent migration rates for young people are very high, especially for youth in their twenties. Many migrants move for employment-related reasons or to follow their families. Others have returned to their homes after being displaced by conflict or disaster. In the past decade, many young women from rural areas have found jobs in the garment factories of Phnom Penh. However, more than half of the female migrants in the urban labour force in 2004 were employed in sales and other services.

---

<sup>9</sup> An estimate based on CSES.

**Table 2.1: Employment by sector**

	<b>All</b>	<b>Male</b>	<b>Female</b>
<b>Number of employed persons</b>	6,934,891	3,392,400	3,542,491
<b>Sectoral distribution of employed</b>	All (%)	Male (%)	Female (%)
<b>Agriculture, forestry and fishing</b>	72.3	69.4	75.1
<b>Manufacturing</b>	6.2	4.2	8.2
<b>Construction</b>	2.0	3.5	0.6
<b>Wholesale and retail trade</b>	7.6	5.8	9.6
<b>Transportation and storage</b>	2.2	4.2	0.4
<b>Public administration</b>	2.7	4.8	0.7
<b>Other</b>	7.0	8.1	5.4
<b>Total</b>	100.0	100.0	100.0

Source: Population Census 2008.

Table 2.1 shows that over 70 per cent of employed persons are engaged in the primary activities of agriculture, forestry and fishing. The proportion of persons employed in manufacturing, construction and services remained small in 2008 in relation to the primary activities. Recent developments in Cambodia's economy and the international context have important implications for the labour market, wage rates and poverty incidence. Cambodia's economy grew by more than 8 per cent per year between 1994 and 2007. However, growth of employment in agriculture remained low indicating underemployment in traditional self-employed farming and slow growth of employment in the commercial farming sector contributing to migration to Phnom Penh and other urban areas and across the border in search of jobs that require low skills. Garment manufacture, tourism and construction were the sectors which generated the largest amount of employment during this period of rapid growth. While these activities are largely urban oriented, they are important for the rural economy since for many rural households incomes from their members taking up unskilled employment in these sectors makes an important contribution to their living standards.

Because of the global financial crisis of 2007/9, growth in all three sectors slowed down in 2008 with an adverse impact on the rural economy. EIC (2009) estimated that while in 2007 the growing non-rural economy could absorb 71 per cent of those joining the labour force, in 2008 only 44 per cent of the addition to the labour force could be absorbed and in 2009, only about 26 per cent of those joining the labour force were expected to have found employment with adverse impacts on rural households. Another factor with adverse impact on rural households is the recent deterioration of relations between Cambodia and Thailand with reduced and less favourable employment prospects in Thailand.

Kimsun, Chan Hang and Socheth (2009) show that for a sample of 90 rural households, there was a substantial decline in average per capita real income of 31 per cent and average per capita real consumption of 23 per cent between March 2008 and May 2009. There were drops on average of between 45 and 50 per cent in off-farm income (e.g. from petty trading and wage income from employment). Two aspects of note from Kimsun, Chan Hang and Socheth (2009) are: (a) the importance for rural households of off-farm income which includes wage employment in the locality and further afield, and (b) the diversity of livelihood sources which enables households to spread risk. Another aspect of relevance for this study is that the evidence collected for this study on economic activities and earnings in October / November 2009 could represent an element of distress resulting from the adverse conditions. If this is the case, allowances has to be made when making recommendations on SSN wage rates.

In summary, the rural economy and labour market are characterised by:

- a range of subsistence and cash earning primary activities (farming and harvesting common resources) supplemented by petty trading and wage employment locally and further afield;
- seasonality of labour requirement in farming and the need for off-farm employment in the slack agricultural season to supplement livelihoods;
- increasing reliance of rural households, especially those with no or very little land, on income from unskilled wage employment locally and further afield;
- poverty being associated with underemployment and low productivity in primary activities and limited other livelihood opportunities, and
- the vulnerability of rural livelihoods to household specific and broader economic and natural shocks.

The slow growth in employment opportunities has implications for earnings, especially of those engaged in unskilled work. A brief review of trends in earnings of some categories of vulnerable workers based on CDRI's periodic sample surveys is provided here. Evidence from the CARD / ILO<sup>10</sup> survey and other sources on relevant rural wage rates and earnings is provided in later sections before making recommendations on SSN wage rates.

CDRI has conducted surveys of earnings of ten groups of workers (Table 2.2) since 2000. The total sample is 480, 120 garment workers and 40 in each of the other nine groups. The evidence shows that there was a large rise in average earnings in nominal terms between November 2004 and November 2008, a period of rapid economic growth<sup>11</sup>. Excluding taxi drivers, the daily earnings range in November 2008 was 19,400 riel (about \$4.60)<sup>12</sup> for construction workers and cyclo drivers (19,275 riel, about \$4.60) at the top end to 6,285 riel (about \$1.6) for waitresses. Some of the rise in wages from 2006 reflects higher food prices. In this respect, it is noteworthy that rice field workers had one of the highest increases over this period most probably reflecting the high rice prices<sup>13</sup>. Table 2.2 shows that growth in nominal earnings has wavered since November 2008 with large falls for some groups, notably vegetable traders, cyclo drivers and rice field workers.

---

<sup>10</sup> The household survey conducted as a part of this study is referred to as the CARD / ILO survey. See section 3.1 for more details and later sections for results.

<sup>11</sup> The impact of the global financial crisis was not felt in Cambodia until about the middle of 2008. CDRI (2009a) provides a comparison of changes in earnings in real terms and makes an assessment of the effects of the financial crisis on the earnings of vulnerable workers and Kimsun and Dorina (2009) report on two further rounds of the survey to include data for May and August 2009.

<sup>12</sup> November 2009 exchange rate at Riel 4215 = \$1.00 has been used throughout this report, \$ refers to US\$.

<sup>13</sup> The explanation of wage increases for rice field workers is probably a combination of the willingness and ability of farmers to more because of higher rice prices and the impact of higher rice prices on the cost of living of workers.

**Table 2.2: Daily average earnings of vulnerable workers at current prices (riel)**

	Nov-04	Nov-05	Nov-06	Nov-07	Nov-08	Feb-09	May-09	Aug-09
<b>Cyclo drivers</b>	6,200	9,598	8,902	12,388	19,275	12,525	12,890	11,738
<b>Porters</b>	5,570	8,050	8,483	11,675	13,744	15,375	14,950	12,375
<b>Vegetable traders</b>	7,386	11,732	9,250	10,950	15,150	11,175	14,146	12,625
<b>Scavengers</b>	4,400	6,573	4,700	7,333	7,100	7,588	9,615	10,750
<b>Waitresses</b>	4,576	4,541	5,350	5,945	6,605	6,285	6,296	6,938
<b>Rice field workers</b>	4,313	5,535	6,920	8,228	13,275	10,338	10,235	8,775
<b>Garment workers</b>	8,855	8,719	9,346	9,269	10,004	9,913	9,694	11,240
<b>Motor taxi drivers</b>	9,500	11,400	10,098	15,200	23,950	17,100	17,600	14,514
<b>Unskilled construction workers</b>	6,525	7,805	6,338	9,958	13,400	8,975	14,425	14,325
<b>Skilled construction workers</b>	13,200	13,125	12,300	14,450	19,400	17,275	19,831	18,078
<b>Weighted mean (1)</b>	7353	8710	8365	10328	13493	11365	12423	11987

Source: CDRI

(1) The mean has been weighted to take account of garment workers' sample being 120 (i.e. three times the size of samples of 40 for all other categories of workers).

Kimsun and Dorina (2009) include comparison of earnings in real terms at November 2000 prices. This is of course entirely appropriate and necessary to make valid comparisons of changes over time. The comparison in real terms shows that between May and August 2009, earnings of all but three groups (scavengers, waitresses and garment workers) fell by an average of over 10 per cent. These falls are reflected in the nominal figures in Table 2.2. Kimsun and Dorina (2009) convert the earnings at November 2000 prices into \$ equivalents at the nominal exchange rate. This clearly gives a misleadingly low estimate of current wage rates and may cause confusion. The trends in wage rates in nominal terms and their conversion to \$s at the nominal exchange rate have been used as comparators in this report. An important qualification in using this evidence is that the survey samples are small and therefore some of the large fluctuations in earnings may be due to specific circumstances affecting the small samples and may not reflect the general situation.

The only rural workers in the sample are rice field workers in two villages, one in Kandal province, a relatively better off province close to Phnom Penh in the Mekong Plain region, the other in Kampong Speu, one of the poorer provinces in the Plateau / Mountain region. Arguably, rice field workers' and unskilled construction workers' wage rates could be considered to be reasonable comparators for rural public works wage rates because of the nature of work involved though the sample of unskilled construction workers is from Phnom Penh. The August 2009 round shows a sharp drop in rice field workers' wage rate to riel 8,800 which may be a sign of distress because of the impact of the financial crisis though unskilled construction workers' wages rose sharply in May 2009 with a small fall in August 2009. Earnings rates for these two groups have been used as some of the comparators in section 5 in making recommendations on the SSN wage rate.

## 2.2 Rural economic activity, poverty and vulnerability

As an outcome of the economic growth Cambodia enjoyed between 1994 and 2007, there has been a decline in poverty with the headcount falling from 34.8 per cent in 2004 to 30.1 per cent in 2007 though the decline in food poverty incidence was slower because of the higher food price inflation (World Bank, 2009b). Poverty gap and severity have also fallen<sup>14</sup>. The improvement can be seen in increases in consumption in real terms of more than 10 per cent for the poorest 40 per cent of the population as ranked by per capita consumption (i.e. households in the bottom two quintiles for consumption per head). This conclusion is supported by increase in ownership of consumer durables such as TVs, bicycles and motorbikes by households in the bottom two consumption quintiles and increase in the size and improvement in quality of their houses.

**Table 2.3: Changes in living standards, 2004 to 2007**

	Mean per capita consumption of goods and services (riel per day, constant 2004 prices)		
	2004	2007	Per cent change
<b>Cambodia</b>	3,804	4,616	21.3
<b>Phnom Penh</b>	8,067	10,592	31.3
<b>Other urban</b>	4,929	6,275	27.3
<b>Rural</b>	3,218	3,649	13.4
<b>Richest quintile</b>	8,990	11,723	30.4
<b>Poorest quintile</b>	1,377	1,524	10.7

Sources: Conway T and Samsen N (2009) and World Bank (2009).

The rural poverty headcount fell from 39.1 per cent to 34.7 per cent between 2004 and 2007 but evidently remains higher than the national headcount. While the rapid economic growth between 2004 and 2007 has contributed to poverty reduction it is also associated with rising inequality. Table 2.3 shows that real per capita expenditure growth between 2004 and 2007 was much higher in the richest quintile and in urban areas (especially Phnom Penh) than in the remaining quintiles and rural areas. Because of the higher rural poverty incidence and the high proportion of population being rural, poverty remains primarily a rural phenomenon. In 2004, 91.6 per cent of the poor were rural. In 2007, 92.7 per cent of the poor were rural.

Table 2.4 shows urban and rural poverty lines at current prices. With inflation adjustment, the estimated household consumption in Table 2.3 and the poverty lines in Table 2.4 will be compared with the consumption estimates for sample households and earnings from public works. However, these estimates should be seen as approximations. The mean consumption levels for the richest and poorest quintiles in Table 2.3 are somewhat different from the NIS (2009) estimates, 1,608 riel for quintile 1 (i.e. the poorest quintile), 2,407 riel for quintile 2, 3,227 riel for quintile 3, 4,710 riel for quintile 4 and 12,889 riel for quintile 5.

<sup>14</sup> Poverty gap is a measure of the average depth of poverty. It is calculated as the sum of the difference between the poverty line consumption and the actual consumption of those below the poverty line divided by the number of the poor. Poverty severity is the mean sum of the square of the poverty gap which gives greater weight to deeper poverty.



**Table 2.4: National poverty lines, 2004 and 2007 (current riel per capita per day)**

		<b>2004</b>	<b>2007</b>
<b>Phnom Penh</b>	<b>Poverty line</b>	2351	3092
	<b>Food poverty line</b>	1785	2445
<b>Other urban</b>	<b>Poverty line</b>	1952	2704
	<b>Food poverty line</b>	1568	2274
<b>Rural</b>	<b>Poverty line</b>	1753	2367
	<b>Food poverty line</b>	1389	1965

Source: Conway T and Samsen N (2009) and World Bank (2009).

For the rural poor, the most important assets are labour and land. Because of limited human capital and lack of skills, the poor are less able to make use of their labour to pursue more productive non-farm employment opportunities. Thus, land becomes the most critical asset for many rural poor. Landlessness<sup>15</sup> increased from 12.6 per cent in CSES 1997 to 15.8 per cent in CSES 1999 to 19.6 per cent in CSES 2004. However, not all landless are poor since some become landless by choice in order to pursue better income opportunities through migration and wage employment. For a large proportion of rural households relying on farming for their livelihoods, the amount of land available for farming is small. According to the European Union supported project Economic and Social Relaunch of Northwest Provinces (ECOSORN) in Siem Reap, Battambang and Banteay Meanchey, the size of poor farmers' land in the ECOSORN project area ranges between 0.5 and 2.0 ha with the poorest owning less than 0.5 ha, a size which is "not sufficient to produce enough food to feed a family" (ECOSORN, 2007).

The rural poor are those who have had to sell all or part of their land because of debt or shocks and therefore have limited or no land and for whom other income earning opportunities are limited, though as noted above, not all landless are poor. Other sources of poverty are external economic or natural shocks that affect communities or individuals. Many households which may not be poor are pushed into poverty by natural or economic shocks which affect the whole community or particular households.

The quotes in FitzGerald and So (2007) from Cambodian rural families demonstrate the role of access to land for poor livelihoods:

*The poor have no land or other assets to rely on ... no capital to invest in alternative businesses ... Most poor here take a new loan to repay an outstanding loan, meet food shortages or cure sick household members ... If someone falls into this vicious poverty, it is almost impossible for them to escape (Trapeang Prey village, Kampong Speu)*

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

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

According to World Bank (2006), while poverty incidence has declined in recent years, a significant proportion of the non-poor remain vulnerable to risks that could push them back

<sup>15</sup> The rural landless are defined as households without any access at all to land for cultivation.

into poverty. Nearly 7 per cent of households fell within a 10 per cent band above the poverty line. Therefore, if the per capita consumption of these households were to decline by just 10 per cent, the poverty rate would increase by 7 per cent from 35 percent to 42 percent. The same source also identifies the variety of risks which can, individually or in combination, push even relatively wealthy households into poverty, and poor households into destitution. Covariant shocks include natural calamities such as extreme floods and droughts and economic events such as the financial crisis. Idiosyncratic or individual-specific shocks include illness, loss of job, crime or life cycle events such as weddings, deaths, or births. Vulnerability to these shocks is exacerbated by: (i) the limited asset base and savings of poor households; (ii) the underdevelopment of financial markets for saving, borrowing or insurance; (iii) the lack of diversification in many rural households (and communities); (iv) heavy reliance on common property resources as either part of normal livelihood strategies or as safety nets, when access to or productivity of these resources is in decline, and (v) a lack of justice in conflicts between the poor and wealthier or more powerful actors.

For a large proportion of rural households, for some time to come, given the limited access to land and constraints on productivity improvement in agriculture, off-farm employment for household members, either close to home or further afield is the principal route out of poverty and protection from economic, natural or household specific shocks. Growth of productive employment through economic development will take some time to evolve. In the meantime, a rural public works based SSN, especially during the agricultural slack season, would offer additional income opportunities to supplement poor livelihoods and to support the vulnerable during episodes of shocks. Such a SSN component would be appropriate for poor and vulnerable households with able bodied members who can participate in public works. For households who do not meet these criteria, a different form of support is needed.

### **2.3 Evidence on the living wage**

One component of the Rural Economist's TOR is to "assess the available information on the minimum level of the cost of living, which reflects a household economy with sufficient income to meet basic needs and expenses". This is concerned with examining evidence to determine whether the recommended SSN wage rate would provide an adequate level of social protection. A related aspect is the implications of any current or proposed minimum wage regulations for the public works wage rate considered in section 2.4.

A living wage is defined as a wage that provides for decent living for a worker and his/her dependents, within regulated working hours (not including overtime) from the one income source, and should allow for some savings to cope with contingencies. The notion of the "living wage" was conceived to examine the adequacy of waged employment to provide an adequate standard of living especially in circumstances in which there is a concern that workers may be exploited because of labour market conditions. This is likely to be the case where livelihood opportunities are severely limited and competition for the available wage employment drives down the wage rate. Poor working conditions are also often an associated concern. A recent study (Cambodia Institute of Development Study (CIDS), 2009) has investigated whether workers in Cambodia are paid an adequate living wage.

CIDS (2009) attempted to assess whether garment workers in Phnom Penh and surrounding suburbs were earning an adequate "living wage". A total of 353 garment factory workers (91% female and 9% male) from 47 factories in Phnom Penh and surrounding suburbs were interviewed. The average age of interviewees was 24 years, the youngest being 15 years and the oldest 47 years. Seven out of ten of the interviewees were single, 20 per cent married and roughly 9 per cent widowed. Ninety-six per cent were migrants, typically from Kampong Cham and Prey Veng provinces. More than half of the interviewees (51 per cent)

worked as sewers. On average, interviewees had worked at the current factory for 3.1 years and had 3.5 years of work experience. Interviewees typically come from 4-member households, of which 2 people (including the interviewee) are income earners. The other income earner is typically a farmer.

The minimum wage for garment workers, after a probationary period of three months, was \$50 per month supplemented by an allowance of \$6 per month since April 2008. However, interviewees earned an average of \$79 per month (based on earnings in the four months before the interview)<sup>16</sup> from their garment factory employment. The earnings included the basic wage and all allowances (attendance bonus, seniority bonus, overtime, living support allowance, specialization premiums and allowances for food and transport). Interviewees were typically contracted to work a six-day 48 hour week. The average level of pay is roughly equivalent to 12,800 riel per day assuming a six day working week and riel 11,800 assuming a seven day working week. Both these estimates are rather high in comparison with the CDRI vulnerable workers' survey estimate for November 2008 in Table 2.2. Possible explanations are differences in the period of the survey (CIDs collected information over the previous four month period while CDRI data are for a shorter period) and differences in data collection method and sampling.

The CIDS study concluded that average earnings were not an adequate living wage since, after deducting the living costs on average of about US\$1.90 per day per worker, the amount each worker could contribute to the household's budget fell far short of the amount required. However, it should be noted that garment factory workers were largely young (average age 24 years), female (91 per cent female) and single (70 per cent). They came from households in which, typically there was at least one other income earner who was normally a farmer implying that many garment workers are migrants. There was also evidence of rural households supporting migrant household members through supply of food and cash when pay in urban jobs was adversely affected by the economic situation. Garment workers predominantly appeared to have links with rural households. The profile of garment workers supports the observation made earlier about urban-rural economic linkages and income from garment manufacture and other urban employment being one of the livelihood sources for many rural households.

CIDS (2009) applies the living wage concept to garment workers on the assumption that households are urban. The study also highlights the interdependence between urban and rural economies, typically with remittances from young garment workers to rural households supplementing rural household incomes. When urban jobs are limited or pay in them is reduced, e.g. as a result of the economic crisis, urban migrant workers relying on support (in kind and monetary) from rural households.

The application of the living wage concept to rural households has to be adapted to take account of the diversity of income sources for most rural households and contribution of subsistence production (farming and harvesting common resources) for rural livelihoods. SSN public works employment should be seen as making a contribution to the livelihoods of rural households, especially rural poor households and those adversely affected by shocks. Therefore the better approach in determining the wage rate is whether SSN earnings, which depend on the wage rate and the number of days of employment, make a sufficient contribution to the livelihoods of poor and vulnerable households. This is especially the case since SSN public works are not being contemplated as offering year round employment and an important contribution of SSN public works is to provide support during crises.

Public works projects will typically provide employment and earnings at a time when other employment opportunities are limited and households may be suffering food shortages.

---

<sup>16</sup> The survey was conducted in December 2008 and January 2009.

Therefore, in setting the wage rate, account has to be taken of the contribution earnings from project employment make to the living standards of poor households on an annual basis and whether they make an adequate living wage contribution to household during the period of project employment.

## **2.4 Labour laws and minimum wage regulation**

A further issue to be considered is the relevance of any minimum wage and other regulations for SSN employment and wage rate and their possible implications for the public works component of the proposed SSN. The framework currently in place on labour market policies was initiated in the 1993 Constitution and later elaborated by the 1997 Cambodian Labour Law which provides a legal framework for the protection of employees and employers. The Labour Law provides for a standard legal workweek of 48 hours, not to exceed 8 hours per day and stipulates additional pay at higher pay for overtime work. The law also stipulates health and safety standards. There are shortfalls in the capacity to enforce the labour laws but the larger registered garment factories and other large formal sector enterprises by and large comply with the Labour Law.

The Labour Law includes provision for the Ministry of Labour and Vocational Training (MoLVT) to set guaranteed minimum wage rates which may vary by region. The Labour Advisory Committee with representatives from MoLVT and employers' and workers' organisations makes recommendations on the minimum wage rate. The considerations in setting the minimum wage rate include the cost of living and the basic needs of workers and their families, prevailing wage rates in the economy, economic development and maintaining a high level of employment, achieving adequate productivity and meeting development objectives (ILO, 2009).

To date, a statutory minimum wage rate has been set for workers in the textile, garment and shoe manufacturing sectors. The rate was raised from \$45 to \$50 per month in January 2007 with an additional cost of living allowance of \$6.00 per month from April 2008. While there is provision for regional variation in the minimum wage rate, no such variation exists at present. There is no set time period for the adjustment of the minimum wage rate which is adjusted from time to time in accordance with the evolution of economic conditions and the cost of living. For a six day week, the minimum wage and the daily allowance are roughly equivalent to \$2.33 or just over riel 9,800 per day<sup>17</sup>.

The actual average earnings of garment workers are higher than the minimum wage rate. As noted in section 2.3, CIDS (2009) found that in the second half of 2008 average earnings for garment sector workers were US\$79 per month. GIPC / USAID (2007) estimated average earnings per worker almost identical to CIDS (2009). Making allowances for the longer hours worked including overtime, GIPC / USAID estimated that the daily wage rate was equivalent to \$2.71 or about 11,400 riel (hourly rate of \$0.34 or about 1,430 riel assuming an eight hour day). By contrast the latest report on the CDRI surveys of wage rates of vulnerable workers (Kimsun and Dorina, 2009) shows somewhat lower average earnings for their sample (see Table 2.2) – 10,000 riel (about \$2.4) per day in November 2008, somewhat lower in February and May 2009, reflecting the impact of the financial crisis, but 11,240 riel (or about \$2.7) in August 2009.

The present minimum wage rate was set just under two years ago and a revision of the minimum wage rate is under negotiation with a trade union bid to raise the rate to \$93 per month which the unions claim is necessary because of the rising cost of living. Such a sharp increase appears to be unrealistic and unlikely to be agreed especially in the fragile market

---

<sup>17</sup> The daily equivalent wage rate has been calculated on the basis of six days per week being equivalent to about 24 days per month.

conditions garment manufacturers face. Nevertheless, actual earnings being substantially higher than the minimum wage and the pressure for increase in the minimum wage are indicative of the current minimum wage setting a base for wage rates in the sector rather than putting pressure to push the wage rate above the market rate.

Using evidence from NIS 2006 handbook and other earlier sources Almazan (2008) concludes that in the construction sector, wage rates for unskilled workers are at about the minimum wage level though as noted above the minimum wage rate does not apply in the construction sector. In a case study of a labour contractor engaged in a project to build apartments in Phnom Penh in Almazan (2008), male unskilled workers were paid 12,000 riel per day and women 10,000 riel per day.

This section has provided some evidence on prevailing wage rates for unskilled labour in a number of activities which provide a part of the context for setting the rural public works wage rate. The living wage concept also introduces the notion of providing a basic level of support for poor households. Other than the textile, garment and shoe manufacture sectors, wage rates are set in the market. Hence, there is no existing minimum wage rate which would be applicable to public works projects whether as part of a SSN or otherwise. An additional consideration is that the public works wage rate and scheduling of works do not disrupt other economic activities.

### 3. Labour supply and wage rate study: Household characteristics and economic activities

#### 3.1 Study rationale, design and details

The above brief review of available information and analysis identifies the main issues relating to the labour force, employment and underemployment and the relationship between employment and poverty. The review demonstrates a need for a SSN and the possible contribution of a public works based component of the proposed SSN to address rural poverty and vulnerability. The study was designed to collect and analyse the more specific information needed on variations in rural wage rates between locations with different socioeconomic and agro-ecological characteristics, willingness to participate in public works and response to alternative levels of wage rates to make recommendations on appropriate wage rates and assess labour availability.

As noted in section 1.2, a sub-sample of 600 households of CDRI's MOPS sample was used in the study. The four broad natural and agro-ecological regions in Cambodia are represented in the sample. Table 3.1 shows that Mekong Plains (henceforth Mekong) and Tonle Sap are the most populous regions. The table includes urban and rural population. The population density is much higher in the Mekong region though the differences between population densities are accentuated by the inclusion of Phnom Penh in this region. Broadly reflecting the differences in rural population, the sample sizes for the more populous regions of Tonle Sap and Mekong are twice as large as those for the Plateau / Mountain and Coastal regions.

**Table 3.1: Natural regions in Cambodia: Area and population**

Natural regions	Area (km <sup>2</sup> )	Population	Population density (per km <sup>2</sup> )
<b>Mekong Plains</b>	25,069.00	6,547,953.00	261
<b>Tonle Sap</b>	67,688.00	4,356,705.00	64
<b>Plateau / Mountain</b>	68,061.00	1,530,544.00	22
<b>Coastal</b>	17,237.00	960,480.00	56
<b>Cambodia</b>	181,035.00	13,395,682.00	74

Source: Population Census 2008

Mekong is agriculturally the most fertile of the regions with rain-fed and dry season rice production being the most important agricultural activities. The region's proximity to Phnom Penh and other urban areas and overall high population density offer market opportunities for livestock products and high value perishable crops such as vegetables and fruit. Proximity to Phnom Penh also offers employment opportunities in industrial and service sectors. Tonle Sap is also a large rice producing region but there are differences in livelihoods between people living on or close to the lake and further afield. For those close to the lake, fishing and fishing related activities are important though there is now concern about the depletion of this resource. There is also floating and deepwater rice cultivation by the lake but possibilities of diversification into other crops and livestock are limited. There is more conventional wet and dry season rice cultivation further away from the lake. Other employment opportunities are work in farms along the Thailand-Cambodia border or migration deeper into Thailand.

In the Plateau / Mountain region, farming includes upland rice cultivation, non-rice crops such as maize, cassava and fruit and livestock. In addition, the forested areas offer timber and non-timber products. There are also employment opportunities on plantations growing industrial and export crops such as rubber and coffee. In the Coastal region, livelihoods based on traditional farming are supplemented by marine fishing and fishing related activities and panning for salt. Krong Preah Sihanouk and other urban and industrial areas also offer employment opportunities.

**Table 3.2: Villages in which FGDs and household surveys were conducted**

Region and Village	Province	Features	Household survey sample size <sup>2</sup>
<b>Tonle Sap</b>			200
<i>Andong Trach</i> <sup>1</sup>	Battambang	Wet season rice. High resettlement of returnees from border camps. 2 km from National Road 5.	52
<i>Krasaing</i>	Battambang	Wet season rice. High emigration. 500 metres from National Road 5.	74
<i>Khsach Chiros</i>	Kampong Thom	Floating rice plus fishing in flooded Tonle Sap. No road access for six months of the year.	74
<b>Mekong Plains</b>			200
<i>Babaong</i> <sup>1</sup>	Prey Veng	Substantial dry season rice. 14 km from Neak Loeang market town.	100
<i>Prek Khmeng</i>	Kandal	Dry season rice and substantial fishing. No road access for six months of the year.	100
<b>Plateau / Mountain</b>			100
<i>Khhan Chor</i> <sup>1</sup>	Kratie	Dry season rice and substantial forest dependence. Improved road access since 2002.	50
<i>Dang Kdar</i>	Kampong Thom	Low yield wet season rice and substantial forest dependence. 20 km from National Road 6.	50
<b>Coastal</b>			100
<i>Kompong Thnaot</i> <sup>1</sup>	Kampot	Low yield wet season rice, coastal fishing and salt panning. On National Road between Kep and Kampot	100

Source: Adapted from I Fitzgerald and So Sovannarith et al (2007) *Moving out of poverty: Trends in community well-being and household mobility in nine Cambodian villages*, CDRI, Phnom Penh.

Notes:

- 1 - Locations of FGDs.
- 2 - The total sample size was 600 households with 200 households each in Tonle Sap and Mekong Plains Regions and 100 each in Plateau / Mountain and Coastal Regions broadly reflecting the relative population sizes in the four Regions. The samples in the villages in each Region add up to the total sample size for the Region.

Before undertaking the survey, four focus group discussions (FGDs), one in each region, were conducted to obtain qualitative information which was used to finalise the survey questionnaire and has contributed important insights to complement the findings of the survey. Table 3.2 summarises information on the study locations, including where the FGDs were conducted, and sample sizes for the CARD / ILO household survey. The FGDs were conducted in the middle of October and the surveys during the first half of November.

The main focus of the survey was on the economic activities and availability for employment of household members fifteen years or older. Therefore, the questionnaire included a set of questions typical in labour force surveys (see Annex I for the questionnaire in English) on types of economic activities and the main place of work, wage rates and earnings which

could be compared with economic activity and labour force data from other sources. Based on standard ILO definitions, the labour force is defined as the economically active population between 15 to 64 years. Since persons aged below 15 years will not be offered public works employment in compliance with Cambodian Labour Code under which children under 15 years are not permitted to undertake wage employment, the survey did not collect information about the economic activities of children. However, all “adults”<sup>18</sup> including persons older than 64 years were asked about their economic activities and availability for employment because many persons beyond the age of 64 continue to be economically active and may wish to take advantage of the public works component of the proposed SSN.

Economically active persons are either currently employed or unemployed. The former include those who worked in the last week for at least one hour as well as those who did not work in the last week but have a job<sup>19</sup> but could not work during the reference period because of illness, circumstances such as bad weather or non-work commitments. The unemployed are defined as those who did not work in the last seven days, did not have a job and were looking for work or were waiting for the busy agricultural season. The population out of the labour force comprises those who were neither employed nor unemployed during the last week. They represent those who were not economically active for a variety of reasons including attendance at an educational institution, engagement in household duties, retirement, old age or disability. They also include “discouraged” workers who are unemployed and available for work but not actively seeking employment.

The questionnaire also included general questions about the characteristics of households and their members to relate participation in economic activities and willingness to participate in public works to household and personal characteristics. Questions on income and expenditure would have provided important information especially to make an assessment of the targeting effectiveness of the SSN. However, they were excluded because the survey had to be conducted over a short period of time and obtaining reliable income and expenditure data is generally more difficult and requires more interview time with households and repeat visits. Further, income and expenditure data were available for the sample households from the MOPS database. Data from the last round of the survey in late 2008 on income and expenditure were matched with the data from the CARD / ILO survey for the analysis. In addition, data from the MOPS database on availability of land for cultivation, as an indirect indicator of the living standards of households, were used to describe household characteristics and assess targeting effectiveness.

There were also specific questions on availability for public works and acceptable wage rates for such work. More details on these questions and responses to them are set out in section 4. The geographical spread of the sample locations makes it possible to arrive at reasonably robust conclusions at the national level. In the following analysis, some observations on samples from different locations representing geographical regions have been made. However, these should be treated with caution since samples in each region are small and from clusters of households in a small number of villages. Therefore, any differences between samples may not necessarily represent differences between regions but the specific features of sample localities.

### **3.2 Evidence from FGDs: Economic activities and household characteristics**

As noted earlier, the purposes of the FGDs were to: (a) assist in finalising the household survey questionnaire, and (b) provide a qualitative context and insights for interpreting the

---

<sup>18</sup> The term “adult” has been used in connection with the analysis of economic activity in this report to represent all persons 15 years old or older.

<sup>19</sup> The term “job” here includes self employment.



results of the household survey. Since the aim of the study is to make an assessment of the appropriate wage rate and labour availability for public works employment, the FGDs sought broad understanding of the importance of unskilled waged employment and other sources of cash income for households in the village, including differences between poor, average and better off households on sources of cash income and how it is used. This also required some discussion of the characteristics which distinguish between poor, average and better off households.

Other aspects discussed were:

- types and location of unskilled wage employment available and taken up by people from the village and any exchange of labour arrangements between households;
- wage rates and payment arrangements;
- seasonality of labour requirement in farming and availability for off-farm work;
- local experience of public works employment and views of participants on public works;
- acceptable wage rates and employment conditions for public works;
- how households accommodate some members taking up waged employment and the pros and cons of employment locally and further away, and
- female participation and participation by the young in wage employment and public works.

The rest of this sub-section and Table 3.3 summarise findings from the FGDs which were undertaken in four villages, one in each region (see Table 3.2) in October 2009. Further details of FGD topics are set out in Annex II and the detailed reports of FGDs are in CDR1 (2009b).

The FGDs support the earlier conclusion in Section 2 that members of most households engage in a range of economic activities and have multiple livelihood sources. Those with land are typically busy in ploughing and rice planting and transplanting between June and August and harvesting during December to February. Even for households without land there is work in rice fields during these times in their own villages or in nearby villages. Generally people are available for off-farm work between October and April though there are some variations between villages as Table 3.3 indicates. Notably, in Babaong village in the Mekong region, dry season rice is cultivated between October and April which makes this the busiest time of the year.

Economic activities and cash earning opportunities other than in farming vary between the villages reflecting the features of their regions. In Andong Trach, the alternatives are fishing, work in vegetable plantations along the border with Thailand and urban jobs. In Babaong, they are local jobs in rice cultivation, carrying rocks and as security guards, small businesses (e.g. shops and battery charging) and urban jobs (housemaids and garment factory workers in Phnom Penh). In Khhan Chor, the alternatives are work in rubber plantations, forestry, carpentry and construction as well as urban jobs further afield. In Kampong Thnaot, they are sea fishing and work in salt pans.

**Table 3.3: Summary of selected findings from FGDs**

Region	Tonle Sap	Mekong Plain	Plateau / Mountain	Coastal
Village	Andong Trach	Babaong	Khhan Chor	Kompong Thnaot
<b>Economic activities (sources of cash income)</b>	<p><i>Wage employment:</i></p> <ul style="list-style-type: none"> <li>• Migrant workers in farms and market gardens along Thai border (about 30% of households).</li> <li>• Rice field workers (rice transplanting and harvesting) in the village and nearby villages (within 4-5km)</li> <li>• Young women working as housemaids in Battambang and Phnom Penh – mostly young women (15-25 year-old).</li> </ul> <p><i>Other income sources:</i> Farming including livestock, fishing and small businesses.</p>	<p><i>Wage employment:</i></p> <ul style="list-style-type: none"> <li>• Rice field workers.</li> <li>• Maize harvesting in Thailand.</li> <li>• Portering.</li> <li>• Rock transporting.</li> <li>• Urban jobs (in garment factories, restaurants, security).</li> </ul> <p><i>Other income sources:</i> Small businesses (battery recharging, tire fixing, coffee shops, trading), fishing, farming including rearing and selling livestock.</p>	<p><i>Wage employment:</i> Rubber plantations. Rice field workers. Wood processing and carpentry. Domestic service.</p> <p><i>Other income sources:</i> Farming including livestock, fishing and small businesses.</p>	<p><i>Wage employment</i></p> <ul style="list-style-type: none"> <li>• Rice field workers (rice transplanting and harvesting) – 10 to 20% of households rely on this heavily.</li> <li>• Salt field worker (about 5% of households)</li> <li>• Migrant workers (fishing, very few)</li> <li>• Young women working as housemaids in Phnom Penh (very few).</li> </ul> <p><i>Other income sources:</i> Farming (staple crops, livestock and a few growing peanuts, corn and watermelon), seafood fishing (80% of total households but mostly men) and small businesses (mainly women, very few).</p>
<b>Unskilled wage employment and wage rates</b>	<p>Migrant workers along the Cambodian – Thai border and rice field workers within and nearby villages are paid 10,000 riel per day.</p>	<p>In the village and other villages nearby, people can earn between 10,000 and 15000 riel per day as rice field workers depending on the season.</p> <p>Wages in other employment: maize harvesting in Thailand - 15,000 to 20,000 riel per day; construction - 15000 riel a day; garment factories - minimum wage \$50 a month, average earnings \$70 per month; rock transporting - 15,000 to 30,000 riel per day; rice portering - between 20,000 and 40,000 riel per day; security guards – \$50 to 60 per month; restaurant waiters – \$50 a month plus food.</p>	<p>Unskilled workers earn between 10,000 and 12,000 riel plus food. Workers on rubber plantations earn 150,000 riel per month plus 10kg of rice.</p> <p>Unskilled workers can earn up to \$1000 per month in Korea and household workers can earn \$160 in Malaysia while in Cambodian villages, household workers can only make 150,000 riel per month.</p> <p>Men’s earnings are higher than women’s because of higher productivity, for example, in land clearing for rubber plantations, men can earn 15,000 riel while women typically earn 12,000 riel per day.</p>	<p>The payment arrangements for salt field workers are based on the amount of work done. On average, each worker can earn 10,000 riel per day (work from 3 – 7 am).</p> <p>Rice field workers are paid 10,000 riel per day. However, if workers ask for advance payment from rice farmers (about 3 – 6 months in advance), they could earn only 5,000 – 7,000 riel per day. Both women and men work and are paid equally.</p> <p>Migrants go to Kampong Soam and Koh Kong to work as fishermen and usually return home once a month (15 – 28 days) with 3,000 to 5,000 Thai Baht.</p>

**Table 3.3: Summary of selected findings from FGDs (continued)**

<b>Region</b>	<b>Tonle Sap</b>	<b>Mekong Plain</b>	<b>Plateau / Mountain</b>	<b>Coastal</b>
<b>Village</b>	<b>Andong Trach</b>	<b>Babaong</b>	<b>Khhan Chor</b>	<b>Kompong Thnaot</b>
<b>Seasonality in labour requirements in farming</b>	<p>Labour requirements for rice cultivation are heavy for:</p> <ul style="list-style-type: none"> <li>• Ploughing: June – July</li> <li>• Transplanting: July – October</li> <li>• Harvesting: December – February</li> </ul> <p>Fishing is during September to December and workers are required on farms along the border with Thailand during August to September and November to December.</p>	<p>Labour requirement in farming is heavy during the dry season (October to April) for dry season rice.</p>	<p>People in the village are very busy during the rainy season in preparing for rice planting (June – July). October to November in transplanting rice seedlings and transporting wood and harvesting rice in January.</p> <p>Available for more wage employment to supplement household livelihoods at other times.</p>	<p>Labour requirements for rice cultivation are heavy for</p> <ul style="list-style-type: none"> <li>• Ploughing: June – July</li> <li>• Transplanting: Mid July – Mid August</li> <li>• Harvesting: Mid December – Mid January</li> </ul> <p>Other requirements are whole year round for seafood fishing and work in salt fields during October to April.</p>
<b>Acceptable wage rates in public works</b>	<p>If public works employment is available in or near the village, especially during the dry season (May – June), villagers would be willing to participate at a wage rate slightly lower than in farming (i.e. below 10,000 riel per day).</p> <p>Payment in cash is preferable to payment in kind.</p>	<p>The acceptable wage rate for public works indicated by participants was higher than the agricultural wage rate - between 15000 and 20000 riel per day given the current high prices of essentials.</p> <p>The best time for public works is May to October. Preference is for payment in kind, mainly rice between October and February because of shortage of rice stock during that period but payment in cash at other times.</p>	<p>Participants made a distinction between wage rates for men and women. For men, the wage rates were in the 20,000 to 30,000 riel range. For women, the wage rates were 12,000 riel (with food) to 15000 riel (without food).</p> <p>The participants from well-off and average household prefer payment in cash while participants from poor households prefer in-kind payment, especially rice.</p>	<p>All participants in the FGD claimed that if public works are available in the village, especially after the rice harvesting season (April – June), villagers would be willing to participate and would prefer the payment in kind (information on acceptable wage rates was not obtained).</p>

**Table 3.3: Summary of selected findings from FGDs (continued)**

Region	Tonle Sap	Mekong Plain	Plateau / Mountain	Coastal
<b>Village</b>	<b>Andong Trach</b>	<b>Babaong</b>	<b>Khhan Chor</b>	<b>Kompong Thnaot</b>
<b>Wage employment and implications for other activities</b>	<p>Participants claimed that wage employment does not burden other family members since workers return home during the busiest agricultural season to help in rice transplanting and harvesting. They send money to hire labour if necessary if they are not able to return.</p> <p>Local employment is preferred because of lower travel costs and possibility of combining wage employment with other commitments.</p>	<p>During the busy season (October – April) participants prefer wage employment within the village so they can participate in harvesting and other farming activities.</p> <p>However, even during the busy season, people would be willing to take on wage employment if the wage rate is high enough and hire others to help with farm work.</p> <p>In the agricultural slack season (May – October), the burden on the rest of the household of wage employment by some members is low.</p> <p>There is preference for working near the village but there is willingness to go further afield for higher wages. There are also concerns about safety and vulnerability when household members, especially women, have to work away from home.</p>	<p>The participants preferred employment in the village to work away from it because they can stay close to the family and save money required to travel and rent accommodation if jobs are further away.</p> <p>All participants said that villagers had a need for wage employment to supplement their livelihoods.</p>	<p>Waged employment undertaken by most villagers is in the village. Working in the village saves the cost of transport and leaves time for household activities.</p> <p>Participants stressed that earnings from working in the village were similar to earnings from work further away. There is also fear of being cheated, getting sick away from home and the cost of travelling and living away from home.</p>
<b>Participation by women and young</b>	<p>Women are willing to participate in wage employment and public works in or near the village. Young women thought that there were no barriers against their participation in public works and other employment opportunities.</p> <p>Young people of both sexes expressed their desire to stay in their own village, rather than leave.</p>	<p>Women participants felt that they have the same opportunities in obtaining jobs and self-employment as men. Women are willing to join any project to earn money. However, they feel that some jobs such as excavation are too heavy for them.</p> <p>With regard to youth employment, the deputy chief of the village said that around 70 per cent of the young are unemployed. Some have to go to urban areas for jobs.</p>	<p>All female participants revealed that all women in the village want to and are able to work for waged public works or other employment. Also, all young men and women just need to work to survive because there are very few jobs in the village outside the harvesting season.</p>	<p>Women participants in the FGD claimed that they are willing to participate in wage employment and public works in or near the village. They do not have enough job opportunities and do not go fishing. Married women can combine housework with other employment.</p>

There has been a tradition of labour exchange between households in rural areas but recently there has been preference for working for payment in cash or kind. In Andong Trach and Kompong Thnaot, the wage rate for agricultural labour was riel 10,000 per day. In Khhan Chor, it appears to be in the riel 10,000 to 12,000 range while in Prey Veng, it appeared to be in the riel 10,000 to 15,000 range. Other local work opportunities and proximity to Phnom Penh are possible explanations for the somewhat higher wage rates in Babaong (Mekong region). In Khhan Chor (Plateau / Mountain region), there are opportunities in commercial farms (rubber plantations), timber haulage processing and other forestry related activities.

For members of poor and average households, employment outside farming is essential for supplementing their livelihoods. For average and better-off households, it provides cash to improve their livelihoods by acquiring livestock and productive assets (e.g. for the farm or fishing) and buying stock for trading. Unemployed youth and lack of opportunities for women were also identified as problems. Three out of the four villages (the exception being Khhan Chor in Kratie Province, Plateau / Mountain region) had experience of public works under the World Food Programme (WFP) in the 1990s. In all four villages, there appeared to be willingness to participate in a public works programme offering employment near the village during the slack agricultural season.

In Andong Trach and Kompong Thnaot, wage rates for public works similar to agricultural wage rates were thought to be acceptable by FGD participants. In the other two villages, acceptable wage rates were thought to be somewhat higher partly reflecting labour market conditions and partly the cost of living. In Khhan Chor, the participants thought that public works wage rates for men would have to be significantly higher than for women, possibly reflecting higher earnings of men in alternative activities. On public works projects, whether they perform a safety net function or not, there should be no discrimination in access to projects and pay between men and women. Administrative and practical obstacles against women's participation should be avoided and the principle of "equal pay for work of equal value" should be applied<sup>20</sup>.

In all four villages, the main features distinguishing poor, average and well-off households were ownership and amount of land owned, ownership and quality of productive assets (e.g. fishing boats) and operation of businesses. Members of poorer and landless households rely on wages from unskilled labour near their homes and further away while better off households rely more on farming and businesses.

There is preference for local jobs because such jobs can be combined with other chores in the home and on the farm. However, there is also migration, especially by the young to seek jobs away from home. Younger people migrating to Phnom Penh to work in the garment sector was commonly cited, though its importance varied between villages. Other urban jobs were security guards and working as waiters and waitresses. Unemployed youth and lack of opportunities for women were identified as problems. Local employment opportunities during the slack agricultural season were considered to be important for women and the young but were in short supply.

---

<sup>20</sup> Tajgman and de Veen (1998) provide further details on policies and practices for ensuring equal opportunities and pay.

### 3.3 Characteristics of sample households and economic activities of “adult” household members

#### 3.3.1 Household size and structure

This section presents evidence on some characteristics of sample households (size and structure of households, access to land for cultivation, income and consumption levels) followed by findings on economic activities of household members 15 years old and older.

**Table 3.4: Average household size and household size distribution by region**

	<b>Number of hhs</b>	<b>Mean size</b>	<b>Minimum</b>	<b>Maximum</b>
<b>Region</b>				
<b>Tonle sap</b>	200	5.7	1	12
<b>Mekong plain</b>	200	5.5	1	11
<b>Plateau</b>	100	5.4	1	9
<b>Coastal</b>	100	5.7	1	11
<b>Total</b>	600	5.6	1	12

Table 3.4 shows the average size of households by regional samples and for the whole sample. The average of 5.6 persons for all regions exceeds the mean rural household size in CSES 2007 (4.9 persons) and the mean of 4.6 persons in Population Census 2008. Apart from any sampling errors, the most likely explanation for this difference is the definition of the household in the questionnaire which is “defined as a group of persons who commonly live together and would take their meals from a common kitchen unless the need to be away from the household for work prevented any of them from doing so”. This definition probably led some intermittently migrant workers to be included as household members while the more stringent requirements for household membership of a common kitchen or food budget in CSES and given number of nights spent in the home during a specified period (Population Census 2008) led to the exclusion of intermittent migrant workers. While it would have been desirable to have a household definition more consistent with that in CSES 2007 and Population Census 2008, the differences in household size do not cause any problems for the analysis in this study. Arguably, the possible inclusion of household members who may be temporarily absent for work is preferable since some of them may prefer to work on a public works project near home instead of seeking employment further afield as evidence from the FGDs (section 3.2) indicates.

Table 3.4 shows the structure of sample households, notably the relationship of members of households 15 years or older to the household head. This information is of relevance if rationing of public works employment to one member per household is an option because of resource limitations. Such rationing disadvantages large or communal households and rules to permit more than one participant from larger households may be required. Table 3.5 shows that most households are nuclear with relatively small number of households with relatives other than spouse and children. Household size is in the range 1 to 12 persons (Table 3.4) and therefore a rule based on additional participation from a household with size

exceeding a certain number of persons may be appropriate to lessen the disadvantage faced by larger households if participation per household is going to be limited<sup>21</sup>.

**Table 3.5: Structure of sample households**

Relationship with hh head	Number	Per cent
Household head	600	25.7
Husband / wife	462	19.8
Sister / brother (in-law, legal, adopted)	39	1.77
Son / daughter (legal, adopted)	1,032	44.2
Son / daughter-in-law	85	3.6
Grandchild	25	1.1
Parent	66	2.8
Grandparent	2	0.1
Niece/Nephew	8	0.3
Others	14	0.6
Total	2,333	100

**Table 3.6: Male and female headed households**

	Male headed		Female headed		Total
	Number	%	Number	%	
Tonle sap	159	79.5	41	20.5	200
Mekong Plain	150	75.0	50	25.0	200
Plateau/Mountain	76	76.0	24	24.0	100
Coastal	73	73.0	27	27.0	100
Whole sample	458	76.3	142	23.7	600

Table 3.5 shows the percentages of male and female headed households. The whole sample percentage is below the national average of 25.6 per cent but of a similar order of magnitude and the difference between the sample and population percentages is not statistically significant at 95 per cent confidence level. World Bank (2006) and World Bank (2009) based on analysis of CSES 2003/4 and CSES 2007 respectively show that female headed households on the whole are not necessarily poorer households. In contrast, National Institute of Statistics (2007) using evidence from CSES 2003/4 found that female headed households had a higher incidence of food deprivation than male headed households. Some female headed households with remittances from migrant workers (spouses or children) and low dependency ratios are among the better off while those with no such income sources, limited land and ability to earn from hiring out labour are likely to be among the poor and suffering from food deprivation.

### 3.3.2 Agricultural land distribution and landlessness

Evidence from FGDs and other sources shows that access to land for cultivation is an important determinant of the living standards of rural poor households though, as noted earlier, it is not the sole determinant since some become landless by choice in order to pursue better income opportunities through migration and wage employment.

<sup>21</sup> NREGS (National Rural Employment Guarantee Scheme) in India rations the employment guarantee to one person per household. The proposed solution to more equitable access to NREGS for larger and communal households is to define a household to be a nuclear household for the purpose of the programme, i.e. the entitlement is for each nuclear household defined as parent(s) and children who are not adults living together.

The rural poor are those who have to sell all or part of their land because of debt or shocks and therefore have limited or no land and for whom other income earning opportunities are limited. However, FGDs in all four locations consistently identified households who had no land, especially if they had been compelled to sell land, because of hardship as being among the poorest. Therefore, landlessness and having access to small amount of land per household member have been included as criteria for examining effectiveness of the wage rate as a targeting device.

**Table 3.7: Agricultural land per person available to sample households**

Region	Agricultural land per person - number of households					All hhs
	No land	<0.5ha	0.51-1ha	1.1 - 2.5 ha	>2.5ha	
Tonle sap	42	96	45	17	0	200
Mekong plain	61	85	38	14	2	200
Plateau	16	33	38	13	0	100
Coastal	7	86	6	0	1	100
<b>Total</b>	126	300	127	44	3	600
<b>% of total</b>	21.0	50.0	21.2	7.3	0.5	100.0

Source: MOPS database.

Table 3.6 shows access to agricultural land per household member for sample households. As noted earlier, the data on agricultural land were not collected during the CARD / ILO survey but during the late 2008 of the MOPS round of data collection. In order to calculate agricultural land per household member, the standard convention of children (persons younger than 15 years) as half of adults was used<sup>22</sup>. The table shows that 21 per cent of households have no access to land for cultivation. Access to land for cultivation for another 50 per cent of households is 0.5 hectares or less per person.

### 3.3.3 Household consumption expenditure

As noted earlier, data on household consumption and income were not collected during the survey but those collected during the round of data collection in late 2008 as a part of MOPS have been matched with the CARD / ILO survey data. Expenditure is the generally preferred measure of living standard because data on expenditure tend to be more reliable than income and consumption expenditure is smoother than income. Data were collected using the recall method which raises issues of accuracy and quality. However, this method is compatible with the CSES approach used to date and the categories of expenditure used in MOPS are similar to CSES. Following convention, children 14 years old and younger are counted as half in calculating the per capita expenditure. Table 3.8 shows the mean per capita expenditure by quintile and the upper and lower limits of the quintiles.

The quintiles are not all precise 20 per cent of the total partly because of adjustments at the margin and partly because the quintiles are at the household level while the table shows the number of persons 15 years and older in households by quintile. Information is required in this form for comparison with the headcount measures of poverty and to examine the targeting effectiveness of the programme at different wage rates in later sections. The 2007 rural poverty line is 2367 riel per day (see Table 2.4). Adjusting for inflation at about 20 per

<sup>22</sup> This convention has also been used in calculating per capita income and consumption per household.



cent<sup>23</sup> between the time of the CSES (during 2007) and MOPS (late 2008) surveys, the level in late 2008 would be 2,840 riel. This is at about the same level as the lower limit of the second quintile. Since the rural headcount poverty rate in 2007 was 34 per cent, the comparison suggests that poverty incidence is lower for the sample household than the national rural average though it is likely that the national headcount has fallen somewhat since 2007. The mean expenditure levels for the bottom and top quintiles in CSES 2007, adjusted for inflation, are also somewhat lower than in the CARD / ILO sample.

**Table 3.8: Daily household consumption expenditure per head:  
Number of persons in households by quintile**

Consumption expenditure per head quintiles	Number of persons	Per cent of persons	Mean household expenditure	Lower limit	Upper limit
<b>Very Poor (bottom 20%)</b>	440	18.9	2127	1141	2742
<b>Poor (21 to 40%)</b>	481	20.6	3179	2749	3659
<b>Middle (41 to 60%)</b>	478	20.5	4121	3660	4713
<b>Above average (61 to 80%)</b>	476	20.4	5595	4738	6655
<b>Top 20 per cent (81 to 100%)</b>	458	19.6	16432	6753	161597
<b>All persons (15+ years)</b>	2333	100.0	6268	1141	161597

The issue of whether female headed households are at a disadvantage was discussed earlier. Table 3.9 shows a breakdown of female headed and male headed households by per capita expenditure quintiles. The table shows that the proportion of female headed households in the bottom two quintiles is significantly higher than the average and the proportion of female headed households is strikingly lower than average in the top quintile. The evidence supports the view that proportionally more female headed households are poor and may have greater need for social protection. Ensuring access for women in general and members of female headed households will be an important consideration at the planning and implementation stages.

**Table 3.9: Male and female headed households by per capita expenditure quintiles**

Expenditure quintiles	Male headed households		Female headed households		All households	
	Number	%	Number	%	Number	%
1	86	68.3	40	31.7	126	21.1
2	84	71.8	33	28.2	117	19.6
3	92	79.3	24	20.7	116	19.4
4	91	77.1	27	22.9	118	19.7
5	103	85.1	18	14.9	121	20.2
Total	456	76.3	142	23.7	598	100.0

<sup>23</sup> The inflation adjustments used in Kimsun and Dorina (2009) assume inflation rates of 9.5 per cent between November 2006 and November 2007 and 15.7 per cent between November 2007 and November 2008. Based on this information, inflation from mid-2007 to end of 2008 amounts to just over 20 per cent.

### 3.3.4 Economic Activities of “adult” household members

To make an assessment of the labour supply response to a rural public works based SSN, it is clearly necessary to have an understanding of rural economic activities. The focus is on the economic activities of persons 15 years and older since children are excluded from public works employment. Table 3.10 shows the age distribution of the 2333 persons 15 years or older in the 600 sample households. About 38 per cent are in the 15 to 24 year age range and nearly 60 per cent in the 15 to 40 years age range. This high proportion of population in the young adult age range forming part of the labour force is broadly consistent with the national demographic profile. This “youth bulge” and the corresponding rapid growth in the labour force in Cambodia are explained by the baby booms in the early 1980s and early 1990s (World Bank 2009a). Normally the 65+ age group is excluded from the labour force. As noted earlier, they have been included here because a number of them remain economically active on family farms and available for off-farm employment.

**Table 3.10: Age distribution of persons 15 years and older in sample households**

Age range	Number	Per cent	Cum. Per cent
15-24 years	893	38.3	38.3
25-39 years	484	20.8	59.1
40-49 years	399	17.1	76.2
50-59 years	276	11.8	88.0
>60 years	281	12.0	100.0
<b>Total</b>	<b>2,333</b>	<b>100.0</b>	

On current economic activities, information was sought on the main place of work of each “adult” member of respondent households. Table 3.11 shows that just over 72 per cent of the economically active consider subsistence production to be their main economic activity. This broadly corresponds with the national average derived from Population Census 2008 (see Table 2.1) though the latter includes activities of urban and rural people and the economically active below 15 years old. The proportions of those engaged in employment and self-employment are somewhat higher in Mekong and Coastal regions and therefore the proportions engaged in subsistence are somewhat lower, indicating availability of more off-farm economic activities either near the village or further away in these two regions. Based on the response to this question, 1875 persons (or 80 per cent) in the 15+ age group are economically active though an alternative more inclusive estimate of the numbers economically active has been preferred and used in the rest of this report (see below).

The survey also included a more precise question on economic activities undertaken during the seven days prior to the interview and follow up questions on the number of hours of work during the past seven days and reasons for economic inactivity during the reference period. Of the total of 2333 “adult” persons, 1954 had been economically active in the seven day reference period (i.e. having engaged in an economic activity for at least one hour during that period). Possible explanations of the number of “economically active” in the previous seven days exceeding the persons who indicated their main place of work (Table 3.11) are that the response to the question on the main place of work probably excluded some of those who had engaged in unpaid work for household enterprises and very short periods of work (as little as 1 hour). The proportion of men and women among the economically active defined as those engaged in an economic activity for at least one hour during the seven day reference period was reasonably well balanced with just under 51 per cent men and just over 49 per cent women.

**Table 3.11: Main place of work of the economically active in the sample**

	Tonle Sap		Mekong Plain		Plateau / Mountain		Coastal		Whole sample	
	No.	%	No.	%	No.	%	No.	%	No.	%
<b>Government / UN / NGO employment</b>	5	0.8	11	1.9	4	1.3	14	4.0	34	1.8
<b>Other employment</b>	103	16.3	103	17.5	36	11.8	71	20.1	313	16.7
<b>Self-employment</b>	30	4.8	75	12.8	37	12.2	27	7.6	169	9.0
<b>Subsistence (farming, fishing, hunting, gathering)</b>	489	77.5	397	67.6	227	74.7	240	68.0	1353	72.2
<b>Looking for work</b>	4	0.6	1	0.2	0	0.0	1	0.3	6	0.3
<b>Total</b>	631	100.0	587	100.0	304	100.0	353	100.0	1875	100.0

Of the 379 persons not economically active during the seven day reference period, 142 were normally economically active but had not worked in the reference period because of a variety of reasons, the most important being own illness, caring for others and bad weather (the three explanations accounting for 80 per cent of all the reasons given). If the persons who were in work but had not worked during the reference period are included in the labour force, 2096 persons (see last row in Table 3.12) are economically active in the sample household.

The definition of economically active which includes those who engaged in an economic activity for at least one hour during the reference period of seven days or were normally in work but had not been able to work for legitimate reasons or were actively looking for work has been used in the rest of this report. On this basis, there are an estimated 2096 economically active persons in the CARD / ILO sample households out of a total of 2333 persons in the 15+ years age range. Therefore, just under 90 per cent of the population in the 15+ years age range is economically active. This is broadly consistent with the labour force participation rate of 87 per cent estimated from CSES 2007 (World Bank, 2009a).

The remaining 237 persons (10.2 per cent) were economically inactive and not normally part of the labour force for a variety of reasons. About 37 per cent were scholars and preferred not to work, about 33 per cent were “too young or too old to work”, about 18 per cent were ill, invalid or disabled and just over 6 per cent were homemakers. The discrepancy between the number of persons who indicated their main place of work in Tables 3.11 and the numbers economically active for at least one hour during the reference period of seven days (Table 3.12) may include some persons marginally economically active. For example, young people at school, home workers and older persons help out occasionally in household economic activities and take up casual work if opportunities arise but are not considered to be economically active in the sense of having a “main place of work” (Table 3.11).

Table 3.12 shows the main economic activities in the last seven days which broadly reflect Table 3.11. The percentages in Table 3.12 represent the number of persons engaged in a given activity as a proportion of the economically active. The percentages for each region and the whole sample add up to more than 100 per cent because a significant proportion of the economically active are engaged in more than one activities. It should also be noted that some of the activities may be for very limited number of hours. As would be expected, farming and harvesting common resources (fishing, hunting and gathering) are the dominant economic activities. Notable differences are the much lower paid employment in the Tonle Sap region and the much higher paid employment in the Plateau / Mountain and Coastal regions than indicated by Table 3.11. The most probable explanations are specific seasonal labour requirements and local characteristics. The smaller percentage of persons in paid employment in Tonle Sap region is probably partly because the FGDs were conducted in the second half of October while labour requirement in farms along the Cambodia – Thailand

border is heaviest in August, September, November and December. The poor relations between Cambodia and Thailand and the impact of the financial crisis may also have affected this part of Cambodia more severely. In the Plateau / Mountain and Coastal regions, Table 3.3 shows evidence of a range of off-farm activities in October though October is also a busy period in farming in the Plateau / Mountain region.

**Table 3.12: Economic activities of persons 15 years old or older**  
(Persons engaged in one or more activities for at least one hour during the reference week.)

	Tonle Sap		Mekong Plain		Plateau / Mountain		Coastal		Whole sample	
	Number	%	Number	%	Number	%	Number	%	Number	%
<b>Own or family business</b>	107	15.9	109	15.6	47	14.1	47	12.0	303	14.5
<b>Paid employment</b>	84	12.5	140	20.1	101	30.4	125	31.7	443	21.1
<b>Unpaid help in household business</b>	23	3.4	86	12.3	18	5.4	30	7.7	163	7.8
<b>Farm work including tending livestock</b>	358	53.4	303	43.5	239	71.7	216	54.7	1120	53.4
<b>Construction / repair work - house, business, farm</b>	15	2.3	16	2.2	0	0.0	9	2.2	47	2.2
<b>Fishing, hunting or gathering (household use or sale)</b>	251	37.5	249	35.7	69	20.7	129	32.8	700	33.4
<b>Sum</b>	838	124.9	902	129.3	474	142.4	556	141.1	2776	132.5
<b>Economically active</b>	671		698		333		394		2096	

The open unemployment rate is small. Only 14 persons indicated that they were looking for work (6) or were not looking but available for work (8)<sup>24</sup>. However, there is some evidence that the economically inactive include some persons who are available for work but had withdrawn from employment seeking. The level of unemployment does not adequately reflect the level of underemployment and associated low earnings. Workers who usually do not earn much from one job desire to have additional jobs. Typically, the rural economically active engage in farming and one or more additional activities – harvesting common forest and fish resources, working as wage labourers or running small businesses. The additional activities are more prominent in the less busy part of the farming year.

There is however substantial underemployment which can be defined on the basis of employed persons wishing to work for longer hours in their present job or in another job or low number of hours worked by the employed at present. The latest available figure for underemployment based on the economically active wishing to work longer hours is from a labour force survey in 2001 when the rate was estimated at 38 per cent. Another dimension of underemployment is the very low returns from current economic activities and therefore the need to supplement or displace current activities even by those who are working long hours but for low rewards. The question on whether economically active persons would be

<sup>24</sup> This is about 0.7 per cent of the labour force.

willing to take on another job was included in the questionnaire and the responses are discussed below.

Table 3.13 shows the distribution of the number of hours of work of the economically active in the reference period and provides evidence on the number of hours worked as a basis of defining underemployment. The table shows that for quite a large number of the economically active, the stated number of hours of work is low. Just under 18 per cent claimed to work for less than 10 hours and more than a third work for less than 20 hours. At the other end, almost 38 per cent claimed to be working more than 40 hours with the average number of hours worked by the economically active being 34 hours implying very long hours worked by many of the economically active. This result is consistent with the conclusions drawn by Morris (2007).

**Table 3.13: Distribution of work hours (7 day reference period)**

	<b>No.</b>	<b>Per cent</b>	<b>Cum. No.</b>	<b>Cum. per cent</b>
<b>1-5 hours</b>	158	8.1	158	8.1
<b>6-10 hours</b>	192	9.8	350	17.9
<b>11-15 hours</b>	211	10.8	561	28.7
<b>16-20 hours</b>	100	5.1	661	33.8
<b>21-30 hours</b>	358	18.3	1019	52.1
<b>31-40 hours</b>	199	10.2	1218	62.3
<b>41+ hours</b>	736	37.7	1954	100.0
<b>Total</b>	1954	100.0		

The apparent slack depicted by the low number of hours worked by a substantial proportion of economically active is partly because the survey was undertaken in the second half of October which agriculturally is a less busy season in most localities<sup>25</sup> and partly possibly because of the impact of the financial crisis on off-farm employment opportunities (Kimsun, Chan Hang and Socheth, 2009). Table 3.14 shows the distribution of hours of work by type of activity. As would be expected, the distribution is dominated by subsistence production since for 72 per cent of the economically active, subsistence is the main activity.

<sup>25</sup> FGD findings (Table 3.3) show that in the villages in Tonle Sap and Coastal regions, October is the slack period though in the village in the Mekong region with dry season rice and the Plateau / Mountain region it is not.

The CARD / ILO survey also included a question on the response of the economically active to take on “a suitable job at acceptable pay” if such a job became available. The two reasons for including this question were to: (a) obtain indications of underemployment and level of satisfaction with current economic activities, and (b) provide a cross-check for the later more precise questions on availability for public works employment. In all 1544 persons, 66 per cent of all persons in the 15 years plus age range, indicated availability for a new “suitable job” (see last two rows in Table 3.15). Availability for a new job is shown as a proportion of all persons 15 years and above and not as a proportion of the economically active because a significant number, about 40, of the economically inactive were available for a new job. Of these, about 60 per cent were students with homemakers being the next largest category.

Table 3.15 presents evidence to compare the willingness to accept a new job to the number of hours worked during the reference week. The table does not produce a very clear picture on the relationship between underemployment as indicated by the number of hours of work and availability for other work. High proportions of those working very few hours would be expected to be available for additional work. Table 3.15 shows that about 58 to 59 per cent of those working 1 to 10 hours are available for other work. However, the proportions available for work are even higher for those working more than 11 hours reaching the highest percentage for those working between 31 and 40 hours. The per cent of those working 41 or more hours willing to take on additional work is 66 per cent, i.e. higher than that for those working less than 10 hours. Two inferences can be drawn from this evidence. The first is that a large proportion of those working long hours are engaged in work offering poor reward. Therefore, they are either looking for other work to supplement their incomes or to displace their current work. The second is that many of those who are working for small number of hours are content with their level of activity or unable to increase it because of other commitments.

**Table 3.14: Number of hours of work by main place of work**

Main place of work	1 - 5 hours	6 - 10 hours	11 - 15 hours	16 - 20 hours	21 - 30 hours	31 - 40 hours	41+ hours	Total
<b>Government (including police, military, teacher)</b>	2	1	2	5	2	4	13	29
<b>UN organization</b>	0	0	0	0	0	0	1	1
<b>NGO (paid or voluntary)</b>	0	0	0	0	0	0	2	2
<b>Employment in private</b>	4	16	14	10	18	21	196	279
<b>Self-employment</b>	6	11	8	12	26	15	75	153
<b>Subsistence (farming, fishing, hunting etc)</b>	90	126	148	57	269	149	429	1268
<b>Looking for work and available to start work</b>	1	0	0	1	1	0	0	3
<b>Other</b>	55	38	38	15	42	9	19	216
<b>Total</b>	158	192	210	100	358	198	735	1951
<b>Per cent</b>	8.1	9.8	10.8	5.1	18.3	10.1	37.7	100.0

**Table 3.15: Number of hours of work and availability for other work**

		Accept suitable job if offered		Total
		Yes	No	
<b>Hours worked in reference period</b>				
<b>0 hours</b>	<b>Number</b>	137	242	379
	<b>%</b>	36.1	63.9	100.0
<b>1 - 5 hours</b>	<b>Number</b>	93	65	158
	<b>%</b>	58.9	41.1	100.0
<b>6 - 10 hours</b>	<b>Number</b>	111	81	192
	<b>%</b>	57.8	42.2	100.0
<b>11 - 15 hours</b>	<b>Number</b>	145	66	211
	<b>%</b>	68.7	31.3	100.0
<b>16 - 20 hours</b>	<b>Number</b>	71	29	100
	<b>%</b>	71	29	100.0
<b>21 - 30 hours</b>	<b>Number</b>	258	100	358
	<b>%</b>	72.1	27.9	100.0
<b>31 - 40 hours</b>	<b>Number</b>	156	43	199
	<b>%</b>	78.4	21.6	100.0
<b>41+ hours</b>	<b>Number</b>	573	163	736
	<b>%</b>	77.9	22.1	100.0
<b>Total</b>	<b>Number</b>	1544	789	2333
	<b>%</b>	66.2	33.8	100.0

**Table 3.16: Current activities of those available for additional work**

Current activities	Region				Whole sample	Per cent
	Tonle Sap	Mekong Plain	Plateau / Mountain	Coastal		
<b>No activities or paid work at present</b>	11	27	10	26	74	4.8
<b>Combine new employment with current activities</b>	274	203	168	63	708	45.9
<b>Give up current paid employment</b>	183	161	32	143	519	33.6
<b>Other family members to do more household chores and work on farm</b>	59	75	50	33	217	14.1
<b>Another family member to take up current paid employment</b>	6	7	5	8	26	1.7
<b>Total</b>	533	473	265	273	1544	100.0

A follow-up to the question on availability for a new job was what would happen to work and other activities respondent were currently doing if they take up the new job. Table 3.16 summarises the responses. Less than 5 per cent of those who would take up other work were not engaged in paid work. Nearly 46 per cent of those who would take up other work would combine it with their current activities. This is consistent with the general characteristics of the rural labour market in which the economically active combine a number of activities, typically farming with off-farm employment, to supplement their livelihoods. A substantial proportion (over one-third) would give up their current activity to take up paid employment, indicating that their current activity is not sufficiently attractive in length of time and / or reward.

The survey included questions on wage rates and earnings for the economically active since the range of earnings provides a useful comparator for public works wage rates. Table 3.17 shows that 693 of the economically active (33 per cent) had some cash earnings during the seven day reference period. The distribution of daily pay rates shown in the table is derived from the actual pay received for those in employment and the revenue net of direct costs for those in self-employment.<sup>26</sup> The table shows that 25 per cent of earnings being in the 9,000 to 12,000 riel range, though for 30 per cent in the sample, earnings were below riel 6,000 and for 48 per cent they were 9,000 riel or below.

Table 3.18 shows that mean daily earnings for the whole sample are 11,230 riel with substantial variations between regions. The mean daily earnings rates are the highest in Plateau / Mountain region which is consistent with evidence from FGDs but somewhat unexpected since Plateau / Mountain and Tonle Sap (which has the second highest mean earnings rates) were the regions with very high poverty incidence according to the last region level poverty assessment based on CSES 2003/4 (World Bank, 2006). Possible explanations and implications are considered in section 4.3 where the regional distribution of acceptable wage rates for public works and earnings rates considered.

**Table 3.17: Daily earnings range for those in paid employment in the past seven days**

Riel per day	Number	Per cent of total with earnings	Cum per cent of total with earnings	Per cent of economically active	Cum per cent of economically active
<b>1-3000</b>	58	8.4	8.4	2.8	2.8
<b>3001-5000</b>	116	16.7	25.1	5.5	8.3
<b>5001-9000</b>	159	22.9	48.1	7.6	15.9
<b>9001-10000</b>	131	18.9	67.0	6.3	22.1
<b>10001-12000</b>	43	6.2	73.2	2.1	24.2
<b>12001-15000</b>	58	8.4	81.5	2.8	27.0
<b>15001-20000</b>	70	10.1	91.6	3.3	30.3
<b>20001 – 25000</b>	19	2.7	94.4	0.9	31.2
<b>25001-30000</b>	17	2.5	96.8	0.8	32.0
<b>More than 30000</b>	22	3.2	100.0	1.0	33.1
<b>Total</b>	693	100.0			
<b>Economically active</b>	2096				

<sup>26</sup> Figures quoted for periods other than per day were converted to the daily rate. Daily earnings from self-employment are gross earnings less direct inputs such as cost of stock for shops and energy and other materials for services. Investment costs are not deducted.



**Table 3.18: Current earnings of those in paid economic activities**

<b>Region</b>	<b>Mean daily wage rate (Riel)</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Standard deviation</b>
<b>Tonle Sap</b>	11529	1333	70000	7688
<b>Mekong Plain</b>	9441	833	100000	7956
<b>Plateau / Mountain</b>	16719	1000	100000	21403
<b>Coastal</b>	9990	833	50000	7255
<b>Whole sample</b>	11231	833	100000	10348.04

Economic activities of “adult” members of sample households portray a broad picture representative of the situation in rural Cambodia. Subsistence production is the most important economic activity but employment and self-employment make increasingly important contributions, especially because of increasing land pressures with one-third of the economically active engaged in cash earning employment of some form. There is very little open unemployment but substantial underemployment, though many working short hours are not willing to take on additional work. This is probably explained by many people combining work with other commitments.

A higher proportion of those working longer hours would be willing to take on other work with some displacement of current work. Over one-third of those who indicated that they would take up another job at acceptable pay stated that they would give up their current activity. These respondents may be dissatisfied with the rewards from their present work or the nature of work or simply demonstrating an economically rational response that they would take up employment with better pay and conditions if it became available. This finding is of some importance in setting the public works wage rate since the aim is not to disrupt other economic activities. If public works employment is for limited periods during the slack agricultural season, the risk of disrupting other economic activities will be limited.

## **4 Wage rates and labour supply: Evidence and analysis**

### **4.1 Stated acceptable wage rates for public works and some characteristics of respondents**

The previous section outlines evidence from the CARD / ILO survey on household characteristics and economic activities. This section sets out evidence on the more specific questions on the willingness to undertake public works employment. The first of these questions asked, for each person in the 15+ age range in the household, whether he/she was available for “manual work in road improvement, such as digging earth or hauling” if such work is offered at a wage rate of 5,000 riel per day. If the person stated unwillingness to work for 5,000 riel per day, a further question was asked to inquire whether the person would be available at 9,000 riel per day<sup>27</sup>.

While a reasonable response may be expected if the question is repeated once with a higher wage rate, i.e. 5,000 riel followed by 9,000 riel, it was thought that repeating the same question with higher wage rates would introduce an element of bargaining with the respondent speculating how far the enumerator was willing to go. Therefore if the response to the question on willingness to work for 9,000 riel was negative, the follow-up inquiry was the minimum acceptable pay for manual work. The choice of 5,000 riel and 9,000 riel per day was partly based on evidence on distribution of rural wage rates and earnings from other sources (Kimsun and Dorina, 2009, evidence on distribution of rural wage rates from CSES 2007) and partly on evidence from pilot testing of the questionnaire.

A stated willingness to work at 5,000 riel by a member of a respondent household would indicate that the stated reservation wage rate<sup>28</sup> (RWR) of the person is 5,000 riel or lower and if the answer is positive for 9,000 riel, the stated RWR is between 5,000 and 9,000 riel. The open question on the wage rate at which the person would be willing to work if 9,000 riel was too low was intended to provide data on a subjectively stated RWR above 9,000 riel. There are clearly problems associated with a subjective statement of the willingness to work for a given wage rate since there may be discrepancies between a stated intention and actual conduct. Therefore the evidence on stated acceptable wage rates has been compared with evidence on actual wage rates and earnings of respondents and evidence from other sources in arriving at recommendations on SSN wage rates and estimating the labour supply response. Account has also been taken of the impact of the financial crisis on wage rates and earnings of “adult” members of households and living standards of households in making recommendations.

Since the option of limiting access to the public works SSN to one person per household is being considered, the evidence has been presented on the response of all persons in the 15+ age range in the sample (Table 4.1) and on at least one person per household responding (Table 4.2). For the latter, if more than one person declares availability for public works employment, the person indicating the lowest acceptable wage rate is included. If more than one person per household indicates the same wage rate which is the lowest for the household, the person with the lowest number of hours of economic activity has been included and where there are more than one persons with the lowest wage rate and same number of working hours, the person with the lowest earnings per day was chosen. If these criteria applied in that order did not identify a single for a household, the youngest person fulfilling the above criteria was chosen.

---

<sup>27</sup> This is very similar to the approach applied in a recent study for determining wage rates for the EGPWs in Timor Leste (see Vaidya, 2008).

<sup>28</sup> Defined as the lowest wage rate at which a person is willing to take up a given type of employment.

According to Table 4.1, in total 1074 persons (i.e. 51 per cent of the labour force and 46 per cent of those 15 years or older) stated that they would be available for public works employment at some wage rate. Since at least one person from 437 out of 600 households indicated availability for public works employment (see Table 4.2 and related discussion below), on average 2.3 persons per household from the 437 participating households are available for public works. The evidence in Table 4.1 indicates that if there is no limit on the number for participants from a household, for 11.5 per cent of those indicating availability for public works at some wage rate, riel 5,000 would be acceptable while for a further 12.9 per cent, riel 9,000 would be acceptable and so on. It is reasonable to interpret the wage rate at which a person states that he/she is willing to take up employment as the stated reservation wage (RW). Column 6, which shows availability for public works as per cent of persons in the 15+ age range, is the labour supply response at a given wage rate as per cent of the 15+ population<sup>29</sup>.

**Table 4.1: Acceptable wage rates for public works, all respondents**

(1) Minimum acceptable pay for public works (riel per day)	(2) Number of respondents	(3) % of respondents "available" for public works	(4) Cum numbers "available" for public works	(5) Cum % "available" for public works	(6) Cum % of economically active available for public works	(7) Cum % of all in 15+ age range in sample households	(8) Average supply elasticity
5000	124	11.5	124	11.5	5.9	5.3	
9000	139	12.9	263	24.5	12.5	11.3	1.26
10000	202	18.8	465	43.3	22.2	19.9	5.27
12000	258	24.0	723	67.3	34.5	31.0	2.39
15000	259	24.1	982	91.4	46.9	42.1	1.37
20000	85	7.9	1067	99.3	50.9	45.7	0.29
25000	5	0.5	1072	99.8	51.1	45.9	0.02
30000	2	0.2	1074	100.0	51.2	46.0	0.01
<b>Total</b>	1074						
<b>Total labour force in sample</b>	2096						
<b>Total population 15+ years in sample</b>	2333						

The evidence on labour supply response has also been used to estimate average labour supply elasticities<sup>30</sup>. The supply elasticity of nearly 5.3 for an increase in the wage rate from riel 9,000 to riel 10,000 indicates that a 10 per cent increase in the wage rate would lead to a more than 50 per cent increase in the labour supply. On the one hand, the high elasticity implies that at the higher wage rate the wage bill would be higher if all those available to work are employed. On the other, the high elasticity demonstrates a strong demand for employment in response to a relatively small increase in the wage rate. The supply elasticity is also high for an increase in the wage rate between riel 10,000 and riel 12,000. Above riel 12,000, the labour supply response diminishes and we also have wage rates which are well above comparable market wage rates in most regions. There are significant regional variations in the stated labour supply response. These have been outlined and discussed in the next section.

<sup>29</sup> Strictly speaking, the labour supply should be represented as a proportion of the economically active. It has been represented here as the proportion of the total population in the 15+ age group because some persons who were not economically active have indicated willingness to participate in public works.

<sup>30</sup> Labour supply elasticity is a measure of the response of labour supply to change in the wage rate. It is defined as (% change in labour supply)/(% change in the wage rate).

As noted earlier, labour supply response if access to public works is limited to one person per household has also been estimated. In practice, when such a restriction is imposed, access is not strictly limited to one specific person from a household. More than one person per household could participate as long as the total number of days of employment per household is limited to a given number of days. The first rule (specified above) applied in relating a household's labour availability to the lowest wage rate at which a member of a household is willing to work is reasonable. The remaining rules if more than one person indicates availability at the lowest wage rate (i.e. including persons with fewer hours of economic activity, lower earnings and age) are somewhat arbitrary and may not represent the actual labour supply response. For example, a person with a low number of hours of economic activity may have other non-economic commitments. Therefore another person in the household with more hours of economic activity may be more likely to participate.

**Table 4.2: Acceptable wage rates for public works – one person per household**

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Minimum acceptable pay for public works (riel per day)	Number of households with at least one person available for public works	% of households with at least one person available for public works	Cum numbers "available" for public works	Cum % "available" for public works	Cum % of all households available for public works	Average supply elasticity
5,000	73	16.7	73	16.7	12.2	
9,000	64	14.6	137	31.4	22.8	1.1
10,000	85	19.5	222	50.8	37.0	4.5
12,000	91	20.8	313	71.6	52.2	1.9
15,000	91	20.8	404	92.4	67.3	1.1
20,000	30	6.9	434	99.3	72.3	0.3
30,000	3	0.7	437	100.0	72.8	0.0
Total	437	100.0				

Table 4.2 shows that at least one person from 437 out 600 households (73 per cent) indicated availability for public works at some wage rate. Column 6 shows that for at least one person in 12.2 per cent of all sample households, riel 5,000 would be acceptable while for 22.8 per cent, riel 9,000 or less would be acceptable and for 37 per cent, 10,000 riel would be acceptable. As for Table 4.1, it is reasonable to interpret the wage rate at which a person states that he/she is willing to take up employment as the stated reservation wage. However, the one person per household restriction limits the number of participants. Labour supply under this restriction as a proportion of the total population in the 15+ age range is clearly smaller (5.9 per cent at 9,000 riel or less and 18.7 per cent at some wage rate). The comparison between the two labour supply responses has been made in the next section prior to making recommendations on wage rates.

Labour supply elasticity calculations in column 7 are broadly similar to those for labour supply with no restriction in Table 4.1. The supply elasticity is highest for an increase in the wage rate from riel 9,000 to riel 10,000. The high elasticity demonstrates a strong demand for employment in response to the increase in the wage rate and a much higher wage bill.

In the rest of section 4.1, stated availability for public works is related to current economic activities and demographic characteristics for all respondents indicating availability for public works at some wage rate. Similar evidence was also examined for respondents where

access was limited to one person per household. The findings under the one person per household restriction were broadly similar to those for all respondents. The main differences were that persons available for public works under the one per household restriction were willing to work for lower wage rates, tended to be younger or older persons and with higher representation of women. The lower acceptable wage rates are to be expected because of the selection rule applied to identify one person only from a household. The demographic characteristics of the available are also likely to be related to the lowest wage rate selection rule. To avoid repetition detailed evidence for the one per household available has not been presented in the report.

Almost 96 per cent of those who indicated availability for public works had also indicated that they would be willing to take up a job if pay was acceptable. However, only two-thirds of those available for a new job found public works acceptable. Table 4.3 shows the current place of work of those who would be available for public works employment. The proportion of those engaged in subsistence activities is somewhat higher, nearly 76 per cent, in comparison with the proportion for whom subsistence is the main activity (72 per cent in Table 3.11). Nevertheless, less than 60 per cent of those engaged in subsistence would be willing to undertake public works. The remainder presumably have a balance of subsistence and other activities which engage them fully. They may also be unwilling to change the balance of activities and relationships with employers for proposed public works which may be seen as short-term and temporary in nature. Smaller proportions of those in other employment and self-employment (44 and 35 per cent respectively) would find public works employment acceptable at some wage rate.

**Table 4.3: Current place of work and availability for public works**

Acceptable wage rate	Government	Other employment	Self-employment	Subsistence (farming, fishing, hunting, gathering)	Other	Total
5000	1	16	5	91	8	121
9000	0	30	7	99	3	139
10000	0	22	14	147	13	196
11000	0	0	0	18	1	19
12000	0	10	6	210	11	237
13000	0	0	0	22	0	22
14000	0	1	0	4	0	5
15000	5	38	21	151	15	230
17000	0	0	0	1	0	1
18000	0	1	0	2	0	3
20000	1	17	6	52	1	77
25000	0	0	0	5	0	5
30000	0	2	0	0	0	2
<b>Total</b>	7	137	59	802	52	1,057

Table 4.4 shows the relationship between daily earnings in the reference period of seven days for those who had activities which yielded cash earnings and acceptable pay for public works. Of the 1074 persons in the sample available for public works, 304 (or 28 per cent) had cash earnings. The expectation would be for those with low pay in current activities to be willing to work for lower wages and those with higher current earnings to only take on public

works employment at higher wages. There is a positive correlation coefficient of 0.31 between current earnings and the wage rate at which respondents are willing to work.

One would expect the correlation coefficient to be higher. If other considerations such as the nature and amount of work and its location are not relevant, it makes no sense for a person earning between 15,000 to 18,000 riel to find 9,000 riel acceptable and somewhat unrealistic for persons earning between 3,000 to 6,000 riel to demand between 13,000 and 15,000 riel for public works employment. With the latter, i.e. those with low earnings asking for more, possible answers are an element of bargaining, very low current earnings because of the financial crisis or the combination of activities of the respondent which may make it difficult to accommodate public works employment. With the former, possible explanations are the nature and location of the type of work the person was engaged in which may render it unattractive and the earnings may have been for temporary or very short-term activities.

**Table 4.4: Acceptable pay for public works and earnings in current activities**

Earnings per day in last week	Acceptable pay for public works					Total
	5000 riels	9000 riel	10000-12000 riel	13000-15000 riel	>15000 riel	
0-3000	4	4	4	1	1	14
3001-6000	12	13	22	18	5	70
6001-9000	5	21	4	11	5	46
9001-12000	11	18	27	28	7	91
12001-15000	2	3	4	17	2	28
15001-18000	1	2	4	3	3	13
18001-21000	0	3	3	6	4	16
21001-24000	0	0	0	0	1	1
24001-27000	0	0	2	5	1	8
27001-30000	0	0	0	0	4	4
>30000	0	1	3	2	7	13
<b>Total</b>	35	65	73	91	40	304

Table 4.5 attempts to identify any relationship between the number of hours of work during the reference period and the level of wage rate acceptable. Those working fewer hours would generally be expected to find lower wage rates acceptable if fewer hours of economic activity represents underemployment. Those working longer hours would hold out for higher wage rates because of the higher opportunity cost of their time. There appears to be some discernible relationship at the bottom end of acceptable wage rates. On average 11.5 per cent of the sample available for public works at some wage rate would find 5,000 riel acceptable. For those working 10 hours or less, the percentages are over 15 per cent (18 per cent of those with no economic activity during the reference period). For those who worked more than 40 hours, the proportion finding 5,000 riel acceptable is much lower (7.4 per cent). For those working between 1 and 10 hours, acceptance of a wage rate of 9,000 riel or lower is above average while acceptance of 9,000 riel is below average for those who worked more than 40 hours. However, the picture is not consistent overall as Table 4.4 shows and the overall correlation between number of hours worked and level of acceptable public works pay is weak.

The overall conclusion from tables 4.3 to 4.5 and their discussion is that participation in the labour markets and willingness to take on additional activities, even if they are intended to offer a safety net appear to be dependent on a complex interaction of household and individual characteristics which cannot be easily explained by looking at the effects of individual variables on availability for public works at specified wage rates. Two implications

are that: (a) multivariate analysis would be required to form a better understanding of the complex relationships at work, and (b) more importantly for making recommendations on the wage rate, its effectiveness in targeting the poor may have limitations.

Before going on to the evidence on targeting, the basic aspects of declared participation by women and by age groups are outlined. Table 4.6 shows the breakdown by sex of those stating availability for public works employment at some wage rate. While the proportion of women in the 15+ age range is somewhat higher than that of men, a smaller proportion of women (43 per cent) than men are available for public works employment at some wage rate. However, the proportion of women who find the lower wage rates acceptable is higher as shown by the percentages. A wage rate of 10,000 riel, would be acceptable to 48.7 per cent of women<sup>31</sup> available for public works while it would be acceptable to 39.2 per cent of men. As a consequence, if the stated responses are reflected in actual participation, at the wage rate of 10,000 riel the proportion of women participating would be 48 per cent.

The willingness of women to work at lower wage rates is consistent with international evidence. There would of course be no discrimination in pay between men and women who would be paid on the basis of equal pay for work of equal value. However, in setting the wage rate, an important aspect is the balance of men and women on projects since some work may be considered to be too heavy by some women.

---

<sup>31</sup> Adding the availability percentages for 5,000 to 10,000 riel.

**Table 4.5: Current hours of work and acceptable wage rate for public works**

Acceptable wage rate	Hours worked in the reference week											
	None		1-5 hours		6-10 hours		11-15 hours		16-20 hours		21-30 hours	
	Number	Cum %	Number	Cum %	Number	Cum %	Number	Cum %	Number	Cum %	Number	Cum %
5000	11	18.0	9	15.3	11	15.3	11	9.6	7	15.9	29	15.8
9000	4	24.6	9	30.5	12	31.9	11	19.1	7	31.8	22	27.7
10000	14	47.5	11	49.2	9	44.4	16	33.0	11	56.8	43	51.1
12000	7	59.0	6	59.3	8	55.6	41	68.7	8	75.0	53	79.9
15000	17	86.9	19	91.5	23	87.5	30	94.8	6	88.6	27	94.6
20000	8	100.0	5	100.0	8	98.6	6	100.0	5	100.0	10	100.0
25000	0	100.0	0	100.0	1	100.0	0	100.0	0	100.0	0	100.0
30000	0	100.0	0	100.0	0	100.0	0	100.0	0	100.0	0	100.0
<b>Total</b>	61		59		72		115		44		184	

**Table 4.5: Current hours of work and acceptable wage rate for public works (continued)**

Acceptable wage rate	Hours worked in the reference week					
	31-40 hours		41+ hours		Total	
	Number	Cum %	Number	Cum %	Number	Cum %
5000	15	12.6	31	7.4	124	11.5
9000	15	25.2	59	21.4	139	24.5
10000	25	46.2	73	38.8	202	43.3
12000	24	66.4	111	65.2	258	67.3
15000	31	92.4	106	90.5	259	91.4
20000	9	100.0	34	98.6	85	99.3
25000	0	100.0	4	99.5	5	99.8
30000	0	100.0	2	100.0	2	100.0
<b>Total</b>	119		420		1074	



**Table 4.6: Acceptable wage rate and male-female breakdown**

Acceptable wage rate	Male		Female		Total	
	Number	%	Number	%	Number	%
5000	60	9.8	64	13.9	124	11.5
9000	76	12.4	63	13.6	139	12.9
10000	104	17.0	98	21.2	202	18.8
12000	136	22.2	122	26.4	258	24.0
15000	171	27.9	88	19.0	259	24.1
20000	61	10.0	24	5.2	85	7.9
25000	2	0.3	3	0.6	5	0.5
30000	2	0.3	0	0.0	2	0.2
<b>Total</b>	612	100.0	462	100.0	1074	100.0
<b>Per cent of "acceptable pay"</b>		57.0		43.0		100.0
<b>Per cent in 15+ age range</b>		47.8		52.2		100.0

Table 4.7 shows the age breakdown of persons willing to undertake public works at some wage rate. The proportion of persons in the 15 to 24 age group willing to work at some wage rate is marginally higher and statistically not significantly different from their representation in the sample households. The proportions of persons in the 25 to 39 and 40 to 49 age groups willing to work at some wage rate were significantly higher than in the sample. Persons older than 49 years are under-represented among those available for public works. Both these are to be expected since persons in the 25 to 49 age range are the most active participants in the labour force while many older persons (more than 49 years old) may find public works employment too arduous.

The relationship between age and acceptable wage rate appears to be complex though there are some discernible patterns. Higher than average proportion of those in the older age groups (40 years and older) find a wage rate of 5,000 riel per day acceptable presumably representing a low opportunity cost of taking up such work and the expectation of undertaking light work. By implication, fewer of those in the younger age groups (15 to 39 years) find 5,000 riel acceptable. Somewhat higher than average proportions in the 15 to 39 age group find 9,000 riel acceptable.

Wage rates in the 9,000 to 12,000 riel per day range are acceptable for just under 56 per cent of those available for public works employment. Proportions who find this wage range acceptable is somewhat higher in the 15 to 24 age range and the 50 to 59 age range. In the 25 to 39 age range, the proportions finding this wage range acceptable is lower with higher percentages holding out for wage rates of 15,000 riel or above. Those who indicate availability at higher wage rates have either higher opportunity costs or require higher pay because of the nature of the work.

The "Other" column in Table 4.3 and corresponding data on labour availability under the one per household restriction indicates that small numbers of those in the "too young or scholar" and "too old or infirm" categories are willing to undertake manual work. If young people choose to work on public works projects to earn cash as an alternative to pursuing education, this could be a cause for concern. Many older people continue to engage in subsistence production and as long as they are physically able and provision could be made for their participation, they could be accommodated on LI projects.

**Table 4.7: Acceptable pay for public works employment by age group**

<b>Acceptable pay</b>	<b>15-24 years</b>		<b>25-39 years</b>		<b>40-49 years</b>		<b>50-59 years</b>		<b>&gt;60+ years</b>		<b>Total</b>	
<b>5000</b>	41	9.7	27	9.6	34	14.2	14	14.6	8	24.2	124	11.5
<b>9000</b>	60	14.2	37	13.1	28	11.7	11	11.5	3	9.1	139	12.9
<b>10000</b>	85	20.0	43	15.2	50	20.9	20	20.8	4	12.1	202	18.8
<b>12000</b>	114	26.9	63	22.3	44	18.4	26	27.1	11	33.3	258	24.0
<b>15000</b>	91	21.5	72	25.5	67	28.0	22	22.9	7	21.2	259	24.1
<b>20000</b>	30	7.1	37	13.1	15	6.3	3	3.1	0	0.0	85	7.9
<b>25000</b>	3	0.7	1	0.4	1	0.4	0	0.0	0	0.0	5	0.5
<b>30000</b>	0	0.0	2	0.7	0	0.0	0	0.0	0	0.0	2	0.2
<b>Total</b>	424	100.0	282	100.0	239	100.0	96	100.0	33	100.0	1074	100.0
<b>Age group as % of "acceptable pay"</b>		39.5		26.3		22.3		8.9		3.1		100.0
<b>Age group as % of all in sample</b>		38.3		20.8		17.1		11.8		12.0		100.0

## **4.2 Evidence on targeting effectiveness of stated wage rates**

As noted earlier, the survey did not collect information on household income or expenditure but data from the late 2008 round of MOPS for the households in the sample were combined with data from the CARD / ILO survey to examine any relationship between the stated willingness to work at different wage rates and household expenditure levels. This is an important relationship to examine since if the wage rate is used as a targeting device, members of poorer households would be expected to be willing to participate at lower wage rates.

All sample households and therefore persons belonging to them were placed in expenditure quintiles for this purpose (see Table 3.8 and related discussion in the previous section). Households and persons in them were placed in quintiles under two alternative rules. The first was “village level ranking” under which each household was placed in a quintile within its village. Therefore, each quintile at the whole sample level includes all households in that quintile in all villages. The second was the more straightforward ranking across the whole sample. The pros and cons of these two approaches for examining the relationship between an acceptable wage rate for public works and the standard of living of households are considered later in this section.

Table 4.8 presents evidence on the number of persons stating availability for public works at a given wage rate (Table 4.1) and the expenditure per head quintile in which the person’s household falls. Table 4.9 presents similar evidence if access to public works is limited to one person per household. The top part of Table 4.8 shows the evidence followed by some calculations of indicators of targeting effectiveness within quintiles and relative targeting across quintiles. If targeting within a quintile is effective, a high proportion of those in the very poor category would find low wage rates acceptable and a low proportion of those in the better off quintiles would find low wage rates acceptable. Relative targeting across quintiles presents evidence on targeting effectiveness for one or more quintiles relative to the total number of persons (or households in the one per household cases) in all quintiles for a range of wage rates.

Starting with targeting within quintiles in Table 4.8, the numbers and percentages of persons willing to work for 9,000 riel or lower and 10,000 riel or lower in the first quintile are 28.8 and 51.1 per cent respectively. This implies that nearly 50 per cent of the “Very poor” would not undertake public works for less than 12,000 riel. Comparison with the higher quintile suggests very weak targeting since somewhat lower per cent of “Poor”, “Middle” and “Above average” than the “Very poor” indicated 9,000 riel per day acceptable. However, the per cent of the “Top 20%” finding 9,000 riel per day acceptable is almost the same as that for the “Very poor”.

Evidence on targeting across quintiles also shows weak targeting. In the “Very poor” column, 25.6 per cent in the “Quintile 1 up to 9,000 riel as per cent of all up to 9,000 riel” row is the number of persons who find 9,000 riel or less acceptable for public work employment (i.e. 32+35 in the “Very poor” column) as a per cent of all persons who find such work acceptable at this or lower wage rate (i.e. 123+139 in the “Total” column). Clearly, the higher this percentage is, the more effective the targeting. For example, if 9,000 riel or lower is only acceptable to those in the poorest quintile, 100 per cent of persons would be in this category. Since this is very far from the case, a targeting effectiveness index has been calculated. The “No targeting if % at or below” of 21.7 per cent in the same row is the total

number of very poor who are available for public works at some wage rate (233 persons) as per cent of all who are available for public works at some wage rate (1073 persons<sup>32</sup>).

**Table 4.8: Acceptable pay for public works by household expenditure quintiles and targeting – village level ranking**

Willingness to work at a given wage rate (riel per day)	Quintiles of consumption per head by village aggregated to total					Total
	Very Poor	Poor	Middle	Above average	Top 20%	
5000	32	17	20	17	37	123
9000	35	23	39	23	19	139
10000	52	46	54	22	28	202
12000	55	59	36	62	46	258
15000	37	50	66	46	60	259
20000	22	24	10	14	15	85
25000	0	0	0	5	0	5
30000	0	0	1	1	0	2
<b>Total</b>	<b>233</b>	<b>219</b>	<b>226</b>	<b>190</b>	<b>205</b>	<b>1073</b>
<b>Targeting within quintiles</b>						
Total 9,000 riel or below	67	40	59	40	56	262
9,000 riel or below as % of total	28.8	18.3	26.1	21.1	27.3	24.4
Total below 10,000 riel	119	86	113	62	84	464
10,000 riel or below as % of total	51.1	39.3	50.0	32.6	41.0	43.2
<b>Relative targeting across quintiles</b>						<b>Targeting index</b>
Quintile 1 up to 9,000 riel as % of all up to 9,000 riel	25.6	No targeting if % at or below			21.7	117.8
Quintile 1 up to 10,000 riel as % of all up to 10,000 riel	25.6	No targeting if % at or below			21.7	118.1
Quintiles 1 & 2 up to 9,000 riel as % of all up to 9,000 riel	39.8	No targeting if % at or below			42.1	94.6
Quintiles 1 & 2 up to 10,000 riel as % of all up to 10,000 riel	40.8	No targeting if % at or below			42.1	96.9
Quintiles 1 to 3 up to 9,000 riel as % of all up to 9,000 riel	56.1	No targeting if % at or below			63.2	88.8
Quintiles 1 to 3 up to 10,000 riel as % of all up to 10,000 riel	63.4	No targeting if % at or below			63.2	100.3

There is some degree of targeting if the per cent of the “Very poor” accepting 9,000 riel or lower wage rate is greater than 21.7 per cent. The targeting index (25.6 per cent as a per cent of 21.7 per cent in this case) is 117.8 indicates some level of targeting. A similar calculation for wage rates up to 10,000 riel also indicates some level of targeting of persons in the lowest expenditure quintile. However, similar calculations of targeting effectiveness for quintiles 1 and 2 (“Very poor” and “Poor”) for 9,000 and 10,000 riel indicate no targeting or even somewhat negative targeting since the targeting indices are below 100. This implies that there is a higher representation of persons from the three upper quintiles for wage rates of 9,000 and 10,000 riel or below and a similar result for the bottom three quintiles. Arguably, at the lowest wage rate of 5,000 riel, there would be a higher representation of the “Very

<sup>32</sup> The total number of persons available for public works at some wage rate is 1074. The total here is 1073 because of a missing value.

poor”. While the proportion of the “Very poor” is significantly higher at this wage rate, there are substantial numbers of those persons in the higher expenditure quintiles willing to work for 5,000 riel and the number of persons from the highest quintiles is higher than that from the lowest.

Table 4.9 shows the targeting evidence on the assumption that access to the public works based SSN is restricted to one person per household (see Table 4.2 and the related discussion). The table shows a moderate level of targeting broadly reflecting Table 4.8.

**Table 4.9: Acceptable pay for public works by household expenditure quintiles and targeting under one person per household restriction – village level ranking**

Willingness to work at a given wage rate (riel per day)	Quintiles of consumption per head by village aggregated to total – one per household					Total
	Very Poor	Poor	Middle	Above average	Top 20%	
5000	16	12	12	14	18	72
9000	15	16	18	9	6	64
10000	24	21	19	11	10	85
12000	18	20	15	19	19	91
15000	13	13	23	19	23	91
20000	6	8	3	8	5	30
30000	0	0	1	2	0	3
Total	92	90	91	82	81	436
<b>Targeting within quintiles</b>						
Total 9,000 riel or below	31	28	30	23	24	136
9,000 riel or below as % of total	33.7	31.1	33.0	28.0	29.6	31.2
Total below 10,000 riel	55	49	49	34	34	221
10,000 riel or below as % of total	59.8	54.4	53.8	41.5	42.0	50.7
<b>Relative targeting across quintiles</b>						<b>Targeting index</b>
Quintile 1 up to 9,000 riel as % of all up to 9,000 riel	22.8	No targeting if % at or below			21.1	108.0
Quintile 1 up to 10,000 riel as % of all up to 10,000 riel	24.9	No targeting if % at or below			21.1	117.9
Quintiles 1 & 2 up to 9,000 riel as % of all up to 9,000 riel	38.9	No targeting if % at or below			41.7	93.2
Quintiles 1 & 2 up to 10,000 riel as % of all up to 10,000 riel	43.4	No targeting if % at or below			41.7	103.9
Quintiles 1 to 3 up to 9,000 riel as % of all up to 9,000 riel	55.6	No targeting if % at or below			62.6	88.7
Quintiles 1 to 3 up to 10,000 riel as % of all up to 10,000 riel	65.4	No targeting if % at or below			62.6	104.5

As noted above, the location of households in quintiles for tables 4.8 and 4.9 has been determined at the village level and then aggregated to produce the quintiles at the whole sample level. This approach is appropriate if there are differences in the cost of living between villages and the living standards of households in relation to others in the village are more important in influencing their participation in public works than the position of a household in the overall ranking of all sample households. Table 4.10 shows evidence on targeting effectiveness where households of persons willing to participate are placed in an overall ranking of all sample households. Arguably, this ranking is more appropriate unless there are variations in the cost of living between villages which seriously distort the ranking

across locations. Table 4.10 indicates very poor targeting of the poor at the lower wage rates with all the targeting indices being well below 100 implying more effective targeting of the persons from households in the better off households at wage rates of 9,000 and 10,000 riel. The outcome is similar under the one per household restriction.

**Table 4.10: Acceptable pay for public works by household expenditure quintiles and targeting – ranking across whole sample**

Willingness to work at a given wage rate (riel per day)	Quintiles of consumption per head ranked across whole sample					Total
	Very Poor	Poor	Middle	Above average	Top 20%	
5000	23	23	22	22	33	123
9000	13	25	35	51	15	139
10000	61	39	35	52	15	202
12000	91	64	41	17	45	258
15000	49	46	68	45	51	259
20000	17	23	18	18	9	85
30000	1	1	5	0	0	7
<b>Total</b>	<b>255</b>	<b>221</b>	<b>224</b>	<b>205</b>	<b>168</b>	<b>1073</b>
<b>Targeting within quintiles</b>						
Total 9,000 riel or below	36	48	57	73	48	262
9,000 riel or below as % of total	14.1	21.7	25.4	35.6	28.6	24.4
Total below 10,000 riel	97	87	92	125	63	464
10,000 riel or below as % of total	38.0	39.4	41.1	61.0	37.5	43.2
<b>Relative targeting across quintiles</b>						<b>Targeting index</b>
Quintile 1 up to 9,000 riel as % of all up to 9,000 riel	13.7	No targeting if % at or below			23.8	57.8
Quintile 1 up to 10,000 riel as % of all up to 10,000 riel	20.9	No targeting if % at or below			23.8	88.0
Quintiles 1 & 2 up to 9,000 riel as % of all up to 9,000 riel	37.4	No targeting if % at or below			44.4	84.3
Quintiles 1 & 2 up to 10,000 riel as % of all up to 10,000 riel	32.1	No targeting if % at or below			44.4	72.3
Quintiles 1 to 3 up to 9,000 riel as % of all up to 9,000 riel	55.3	No targeting if % at or below			65.2	84.7
Quintiles 1 to 3 up to 10,000 riel as % of all up to 10,000 riel	53.8	No targeting if % at or below			65.2	82.5

Given the apparent poor targeting effectiveness of poverty measured on the basis of household expenditure level per head, targeting effectiveness of access to land for cultivation as a proxy indicator for household standard of living has been examined<sup>33</sup>. Table 4.11 shows the number of persons stating availability for public works at a given wage rate (Table 4.1) and quintiles of cultivable land that the person's household has access to. The bottom quintile includes persons from landless households. The targeting indices being well in excess of 100 in the table show clear evidence of a level of targeting especially with respect to a wage rate of 9,000 riel and the targeting of the bottom two quintiles. However, at 9,000 riel, based on stated availability for public works, nearly 19 per cent of participants will

<sup>33</sup> See section 2.2 for discussion of the importance of access to land for cultivation for rural livelihoods.

be from households in the top two quintiles. The one per household table is not shown here but indicates broadly similar targeting effectiveness.

**Table 4.11: Acceptable pay for public works by access to cultivable land quintiles and targeting – ranking across whole sample**

Willingness to work at a given wage rate (riel per day)	Quintiles of cultivable land access per head for whole sample					Total
	Lowest 20% including landless	Next 20%	Middle 20%	Above average 20%	Highest 20%	
5000	22	34	35	19	14	124
9000	38	51	34	10	6	139
10000	40	29	40	52	41	202
12000	19	34	34	92	79	258
15000	60	39	48	63	49	259
20000	19	22	12	20	12	85
25000	0	0	5	0	0	5
30000	0	0	1	1	0	2
<b>Total</b>	198	209	209	257	201	1074
<b>Targeting within quintiles</b>						
Total 9000 or below	60	85	69	29	20	263
9000 or below as % of total	30.3	40.7	33.0	11.3	10.0	24.5
Total below 10000	100	114	109	81	61	465
10,000 or below as % of total	50.5	54.5	52.2	31.5	30.3	43.3
Total in each quintiles	471	470	459	499	434	2333
<b>Relative targeting across quintiles</b>						<b>Targeting index</b>
Quintile 1 up to 9,000 riel as % of all up to 9,000 riel	22.8	No targeting if % at or below			18.4	123.7
Quintile 1 up to 10,000 riel as % of all up to 10,000 riel	21.5	No targeting if % at or below			18.4	116.7
Quintiles 1 & 2 up to 9,000 riel as % of all up to 9,000 riel	55.1	No targeting if % at or below			37.9	145.5
Quintiles 1 & 2 up to 10,000 riel as % of all up to 10,000 riel	46.0	No targeting if % at or below			37.9	121.4
Quintiles 1 to 3 up to 9,000 riel as % of all up to 9,000 riel	81.4	No targeting if % at or below			57.4	141.9
Quintiles 1 to 3 up to 10,000 riel as % of all up to 10,000 riel	69.5	No targeting if % at or below			57.4	121.1

The evidence on targeting discussed above poses a puzzle. Based on expenditure level indicators the targeting is poor. This may be because of deficiencies in household expenditure data<sup>34</sup> or economically rational decision making at the household level within the context of specific labour market conditions. Given that access to cultivable land as an indirect indicator of household living standard shows moderate effectiveness of targeting, deficiencies in data on household expenditure or on stated availability at given wage rates cannot be ruled out.

<sup>34</sup> A cross-tabulation between acceptable wage rates and household income per capita was also examined. Targeting effectiveness was no better than for expenditure per capita.

**Table 4.12: Cash earnings during reference period and per capita household expenditure quintiles – ranking across whole sample**

Earnings during the reference period (riel per day)	Quintiles of consumption per head - whole sample					Total
	Very Poor	Poor	Middle	Above average	Top 20%	
1-3000 Riel	8	13	8	11	18	58
3001-5000 Riel	27	14	25	23	25	114
5001-9000 Riel	13	33	27	37	48	158
9001-10000 Riel	24	24	27	27	24	126
10001-11000 Riel	0	1	1	3	3	8
11000-12000 Riel	8	5	6	7	4	30
12001-13000 Riel	2	2	4	2	0	10
More than 15000	17	34	32	45	41	169
Total	99	126	130	155	163	673
<b>Targeting within quintiles</b>						
Total 5,000 riel or below	35	27	33	34	43	172
5,000 riel or below as % of total	35.4	21.4	25.4	21.9	26.4	25.6
Total below 9,000 riel	48	60	60	71	91	330
9,000 riel or below as % of total	48.5	47.6	46.2	45.8	55.8	49.0
<b>Relative targeting across quintiles</b>						<b>Targeting index</b>
Quintile 1 up to 5,000 riel as % of all up to 5,000 riel	20.3	No targeting if % at or below			14.7	138.3
Quintile 1 up to 9,000 riel as % of all up to 9,000 riel	14.5	No targeting if % at or below			14.7	98.9
Quintiles 1 & 2 up to 5,000 riel as % of all up to 5,000 riel	36.2	No targeting if % at or below			33.4	108.3
Quintiles 1 & 2 up to 9,000 riel as % of all up to 9,000 riel	36.0	No targeting if % at or below			33.4	107.8
Quintiles 1 to 3 up to 5,000 riel as % of all up to 5,000 riel	50.0	No targeting if % at or below			52.7	94.8
Quintiles 1 to 3 up to 9,000 riel as % of all up to 9,000 riel	55.2	No targeting if % at or below			52.7	104.7

To confirm that the apparent poor targeting is not simply because of aberrations in data, cross-tabulations between the level of earnings per day during the reference period of seven days for those who had cash earnings and household expenditure per head and cultivable land per head have been shown (Tables 4.12 and 4.13). Under the conventional hypothesis on which the wage rate is considered to be an effective targeting mechanism, members of poor households would be expected to be willing to work for low wage rates<sup>35</sup>. The targeting indices in Table 4.12 show that there is some moderate level of targeting of the lowest quintile at the wage rate of 5,000 riel but virtually no targeting at 9,000 riel. Further, the number of persons with cash earnings during the reference period is much lower in the lowest expenditure quintile (99 persons) than in the higher expenditure quintiles with an apparent trend of more persons with cash earnings in higher expenditure quintiles (i.e. 126 in the second quintile, 130 in the third quintile, 155 in the fourth quintile and 163 in the highest quintile). Therefore, while 35 persons in the lowest expenditure quintile are willing to

<sup>35</sup> The relationship between earnings of household members and standard of living could be in both directions since low earnings of household members could be a cause for low household expenditure.



work for earnings of 5,000 riel per day or lower, 43 persons in the highest quintile are willing to work for 5,000 riel per day or less.

The above suggests that the relationship between cash earnings and their levels and the standard of living of households is much more complex than the conventional hypothesis on which wage rate as a targeting device is based. Cash earnings appear to be important for the living standards of households but not necessarily high earnings rates. Further, just over 53 per cent of the 600 sample households had at least one person with cash earnings and a number of them had more than one person. The better off households are likely to have more than one cash earners though a number of them may have low pay rates.

**Table 4.13: Cash earnings during reference period by access to cultivable land quintiles and targeting – ranking across whole sample**

Earnings during the reference period (riel per day)	Quintiles of cultivable land access per head for whole sample					Total
	Lowest 20% including landless	Next 20%	Middle 20%	Above average 20%	Highest 20%	
1-3000 Riel	22	14	6	5	11	58
3001-5000 Riel	46	31	20	13	6	116
5001-9000 Riel	67	53	14	16	8	158
9001-10000 Riel	59	34	22	5	6	126
10001-11000 Riel	4	1	1	1	1	8
11000-12000 Riel	17	7	2	3	1	30
12001-13000 Riel	4	2	2	1	1	10
More than 15000	64	28	28	32	17	169
Total	283	170	95	76	51	675
<b>Targeting within quintiles</b>						
Total 5,000 riel or below	68	45	26	18	17	174
5,000 riel or below as % of total	24.0	26.5	27.4	23.7	33.3	25.8
Total below 9,000 riel	135	98	40	34	25	332
9,000 riel or below as % of total	47.7	57.6	42.1	44.7	49.0	49.2
Total in each quintiles	471	470	459	499	434	2333
<b>Relative targeting across quintiles</b>						<b>Targeting index</b>
Quintile 1 up to 5,000 riel as % of all up to 5,000 riel	39.1	No targeting if % at or below			41.9	93.2
Quintile 1 up to 9,000 riel as % of all up to 9,000 riel	40.7	No targeting if % at or below			41.9	97.0
Quintiles 1 & 2 up to 5,000 riel as % of all up to 5,000 riel	64.9	No targeting if % at or below			67.1	96.8
Quintiles 1 & 2 up to 9,000 riel as % of all up to 9,000 riel	70.2	No targeting if % at or below			67.1	104.6
Quintiles 1 to 3 up to 5,000 riel as % of all up to 5,000 riel	79.9	No targeting if % at or below			81.2	98.4
Quintiles 1 to 3 up to 9,000 riel as % of all up to 9,000 riel	82.2	No targeting if % at or below			81.2	101.3

Table 4.13 shows a high level of targeting according to the first measure, i.e. the proportion of persons at 5,000 and 9,000 riel in the bottom and bottom two quintiles. About 40 per cent

of all earning 5,000 riel or less and 9,000 riel or less are in the bottom quintile for access to cultivable land. However, there is virtually no relative targeting since the proportion of those with the low earnings in each quintile is virtually the same. This combination is explained by the total number of cash earning persons in each quintile, 283 in the bottom quintile but progressively lower in the higher quintiles with only 51 in the top quintile. The evidence supports the expectation that landless households and those with very limited land per capita have to rely much more on earning cash through employment or self-employment than those with more land. The table also shows that a substantial proportion of persons from households relatively well endowed with cultivable land engage in activities yielding low earnings rates.

The evidence presented in this section highlights the necessity to explain ineffective targeting. Possible explanations of why members of poor households may hold out for higher pay and members of better off households may work for low wages and the implications of this apparently ineffective targeting through wage setting are considered in the next section before making recommendations on wage rates.

### **4.3 Differences in labour supply responses between villages and regions**

So far, our analysis is based on the whole sample. As noted earlier, given small sample sizes at village and region levels, results disaggregated to these levels may not be representative of the regions. Nevertheless, it is necessary to look at differences in labour supply response rates between the samples in districts to obtain an indication of the possible range of variations in response rates and their implications for wage rate policy and local level planning of SSN public works.

Table 4.14 shows the village and regional level differences in the stated labour supply response at different wage rates. These are discussed here in the context of the relevant characteristics of the villages summarised in Tables 3.2 and 3.3. The table shows stated availability at a range of wage rates and availability at 9,000, 10,000 and 12,000 riel as proportions of total number of persons available and the total number of persons in the 15+ age range for comparison. The three villages in Tonle Sap illustrate differences within a region. In Tuol Krasaing a significant proportion of respondents indicated availability for public works employment at 5,000 riel per day while in the other two villages in the region, the numbers stating availability were very low (none in Khsach Chiro). In Tuol Krasaing, the numbers indicating availability at higher wage rates (15,000 and 20,000 riel) is also higher.

Possible explanations of relatively large numbers in Tuol Krasaing available at 5,000 riel during the agriculturally slack season when the interviews were conducted are reliance on: (a) wet season rice with its highly seasonal labour requirement, and (b) jobs away from the village during the slack season and reduction in job opportunities because of the financial crisis and Cambodia's relations with Thailand. The significant numbers available at high wage rates represent those not in desperate need for cash employment and or unwilling to undertake public works unless the reward was high. In Khsach Chiro, The table also shows a very high stated labour supply elasticity for Tonle Sap of between 9,000 and 10,000 riel per day supporting the views expressed at the FGDs that 10,000 riel per day was seen as the going unskilled wage rate.

Comparison between the two Plateau / Mountain region villages again shows differences between the villages with stated acceptable wage rates in Dang Kdar concentrated in the 9,000 to 12,000 riel per day range while in Khann Chor, they are spread more widely. In addition to farming, economic activities in both the villages include, harvesting common forest based resources, timber transport and processing and work in rubber plantations.

Earnings in these activities influence acceptable pay for public works. The stated labour supply elasticity for the region between 9,000 and 10,000 riel per day is very high, to a great extent, explained by very low stated availability at 9,000 riel.

In contrast with Tonle Sap and especially Plateau / Mountain regions, in the two Mekong region villages, the numbers and proportions indicating 5,000 and 9,000 riel as acceptable are much higher. The labour supply elasticity between 9,000 and 10,000 riel is lower than in Tonle Sap and Plateau / Mountain because of the higher base of the number accepting 9,000 riel as an acceptable wage rate. In both the villages in Mekong region, there is a wide spread of acceptable wages with substantial numbers indicating 15,000 riel or higher as acceptable wage rates. The spread of acceptable wage rates is indicative of a wide range of rural economic activities and urban employment opportunities and wide variations in the living standards of households and need for cash income. The financial crisis and relations with Thailand are also likely to have influenced acceptable wage rates.

In Coastal region, the sample households are from one village. At lower wage rates (5,000 and 9,000 riel per day), the proportions of acceptable wage rates are similar to those in Mekong region and consequently the stated supply elasticity between 9,000 and 10,000 riel is low. The proportions holding out for a wage rate of 15,000 riel or higher are much lower than in Mekong region and more comparable to Tonle Sap. The acceptable wage rates appear to reflect earnings in farm work, fishing and other rural economic activities.

In addition to the small samples, a limitation of the evidence on stated labour supply response is that the stated acceptable wage rates may be inflated, partly because of an element of bargaining or just higher than realistic expectations. To obtain some insights into the extent to which this might be the case and to provide corroborative evidence for the stated acceptable wage rates, Table 4.15 has been included to show the number of persons engaged in activities yielding cash earnings during the reference period of seven days and the distribution of cash earnings by village and region. A summary table aggregating the evidence over all the regions was included in section 3 (Table 3.17). The following observations are subject to the qualification that sample sizes are small.

During the reference period of seven days prior to the CARD / ILO survey interview, 27.5 per cent of persons in the 15+ age range were engaged in a cash earning activity for some time. As would be expected, there are variations between villages and regions with over 53 per cent engaged in some cash earning in Prek Khmeng (Mekong) to just 5.7 per cent in Khsach Chiros (Tonle Sap). Tonle Sap and Plateau Mountain regions have the lowest proportion engaged in cash earning though in both regions the average is brought down by one village with very low cash earning activities. The mean earnings per day in these two regions are higher (Table 3.18). This is consistent with evidence from FGDs but somewhat unexpected since Plateau / Mountain and Tonle Sap (which has the second highest mean earnings rates) were the regions with very high poverty incidence according to the last region level poverty assessment based on CSES 2003/4 (World Bank, 2006).

Arguably small numbers engaged in cash earning could be evidence of greater need for public works. However, it is also necessary to look at evidence on earnings rates in localities in which high proportions have cash earnings. Another aspect to be considered is that where cash earning is very limited, the stated acceptable wage rates may not be based on experience or observation and may therefore be unrealistic. A comparison of evidence on Tuol Krasaing and Khsach Chiros in Tonle Sap in Table 4.14 and 4.15 illustrates these points well. Tuol Krasaing had a relatively high proportion in cash earning activities. The spread of stated acceptable wage rates (Table 4.14) is similar to that of earnings (Table 4.15). In Khsach Chiros, where the proportion of persons with cash earnings is very small, no persons find 5,000 and 9,000 riel per day acceptable and there is a pronounced peak at 12,000 riel for acceptable pay though there are very few persons who have earnings at this

level. It appears that there is a notion of 12,000 riel being the going wage rate based on very little local evidence.

In Plateau / Mountain region, there is a contrast similar to that in Tonle Sap between the two villages. In Khhan Chor, with nearly 35 per cent of persons in 15+ years age range with cash earnings during the reference period, the spread of acceptable wage rates is broadly representative of levels of cash earnings while in Dang Kdar, with very limited cash earning, the spread of acceptable pay for public works is focused on 12,000 riel per day. It is of course likely that other factors such as limited need for cash earning and seasonal factors may also have influenced the low numbers engaged in cash earning and the high stated acceptable wage rates in Khsach Chiros and Dang Kdar.

In Mekong region, while there is a difference in the proportions engaged in public works between Prek Khmeng and Babaong, the contrast is not as sharp. In both villages, at the lower end the distribution of stated acceptable wage rates broadly reflects cash earnings though the pronounced peak at 15,000 riel as a minimum acceptable wage rate is not reflected in cash earnings rates. As noted earlier, the stated high wage rates indicate reluctance to engage in public works. In the Coastal village, the distribution of stated acceptable wage rates appears to reflect the distribution of cash earnings.

The above evidence suggests that where a high proportion of persons are engaged in cash earning, the distribution of stated acceptable wage rates appears to be broadly in line with the distribution of earnings and could be reasonably interpreted as the distribution of reservation wage rates of the respondents. Where cash earning is limited, the stated wage rate appears to gravitate towards a notional going wage rate of 12,000 riel. In locations with limited cash earning opportunities, it would be reasonable to assume that there would be somewhat higher labour supply responses to local public works employment opportunities at lower wage rates than the stated acceptable wage rates indicate.

The evidence in Table 4.14 (supported by that in Table 4.15) indicates that at a given wage rate, there will be substantial variations in labour supply response between localities. For example, wage rates of 9,000 riel and 10,000 riel per day would be acceptable for 5.4 and 17.3 per cent of persons in the 15+ age range respectively while in the Coastal village, the corresponding percentages are 23.9 and 29.0 per cent. There will therefore be a need for flexibility in programme and project design to respond to: (a) differences in the need for public works employment between localities, and (b) shocks which require increased public works activity.

The pros and cons of setting a single wage rate are considered in the next section. If there is a single countrywide SSN wage rate, as is proposed for the programme, the setting of the wage rate should take account of the differences in labour supply response between localities. In sections 5 and 6, we draw together the conclusions and recommendations on wage rate policy and wage rates from this and the previous sections, make recommendations on wage rates, address the issue of targeting and assess implications for programme costs and level of protection of wage rate levels and labour supply response.

**Table 4.14: Variations in labour supply response between villages and regions**

Tonle Sap							
Minimum acceptable pay for public works	Tuol Krasaing	Andong Trach	Khsach Chiros	Tonle Sap total	Tonle Sap total cumul	Tonle Sap total cumul (% of all 15+)	Tonle Sap average supply elasticity
5000	22	2	0	24	24	3.1	
9000	9	8	0	17	41	5.4	0.92
10000	24	31	36	91	132	17.3	9.99
12000	14	12	118	144	276	36.2	3.88
15000	26	17	44	87	363	47.6	1.23
20000	23	8	7	38	401	52.6	0.35
25000		5		5	406	53.3	0.06
30000			2	2	408	53.5	0.03
Number of sample households	74	52	74	200			
Total	118	83	207	408			
Total up to 9,000 riel	31	10	0	41			
% up to 9,000 riel	26.3	12.0	0.0	10.0			
Total up to 10,000 riel	55	41	36	132			
% up to 10,000 riel	46.6	49.4	17.4	32.4			
Total up to 12000	69	53	154	276			
% up to 12,000 riel	58.5	63.9	74.4	67.6			
Total 15+	280	186	296	762			
Up to 9,000 as % of 15+	11.1	5.4	0.0	5.4			
Up to 10,000 as % of 15+	19.6	22.0	12.2	17.3			
Up to 12,000 as % of 15+	24.6	28.5	52.0	36.2			
Total as % of 15+	42.1	44.6	69.9	53.5			

**Table 4.14: Variations in labour supply response between villages and regions (continued)**

Minimum acceptable pay for public works	Plateau/Mountain						Mekong					
	Dang Kdar	Khhan Chor	Plateau / Mountain total	Plateau / Mountain total cumul	Plateau / Mountain total cumul (% of all 15+)	Plateau / Mountain average supply elasticity	Prek Khmeng	Babaong	Mekong total	Mekong total cumul	Mekong total cumul (% of all 15+)	Mekong average supply elasticity
5000	0	7	7	7	1.9		24	35	59	59	7.6	
9000	0	6	6	13	3.6	1.05	35	12	47	106	13.6	1.00
10000	45	15	60	73	20.2	13.26	10	19	29	135	17.4	2.29
12000	75	18	93	166	45.9	4.28	2	7	9	144	18.5	0.35
15000	16	27	43	209	57.7	1.03	34	76	110	254	32.6	2.49
20000		19	19	228	63.0	0.30	10	10	20	274	35.2	0.27
25000			0	228	63.0	0.00			0	274	35.2	0.00
30000			0	228	63.0	0.00			0	274	35.2	0.00
Number of sample households	50	50	100				100	100	200			
Total	136	92	228				115	159	274			
Total up to 9,000 riel	0	13	13				59	47	106			
% up to 9,000 riel	0.0	14.1	5.7				51.3	29.6	38.7			
Total up to 10,000 riel	45	28	73				69	66	135			
% up to 10,000 riel	33.1	30.4	32.0				60.0	41.5	49.3			
Total up to 12000	120	46	166				71	73	144			
% up to 12,000 riel	88.2	50.0	72.8				61.7	45.9	52.6			
Total 15+	168	194	362				409	369	778			
Up to 9,000 as % of 15+	0.0	6.7	3.6				14.4	12.7	13.6			
Up to 10,000 as % of 15+	26.8	14.4	20.2				16.9	17.9	17.4			
Up to 12,000 as % of 15+	71.4	23.7	45.9				17.4	19.8	18.5			
Total as % of 15+	81.0	47.4	63.0				28.1	43.1	35.2			

**Table 4.14: Variations in labour supply response between villages and regions (continued)**

Minimum acceptable pay for public works	Coastal				All Regions aggregated			
	Kompong Thnoat - Coastal	Kompong Thnoat - Coastal cumul	Kompong Thnoat - Coastal cumul (% of all 15+)	Kompong Thnoat - Coastal average supply elasticity	All Regions total	All Regions total cumul	All Regions total cumul (% of all 15+)	All Regions total average supply elasticity
5000	34	34	7.9		124	124	5.3	
9000	69	103	23.9	1.76	139	263	11.3	1.26
10000	22	125	29.0	1.83	202	465	19.9	5.27
12000	12	137	31.8	0.50	258	723	31.0	2.39
15000	19	156	36.2	0.58	259	982	42.1	1.37
20000	8	164	38.1	0.18	85	1067	45.7	0.29
25000	0	164	38.1	0.00	5	1072	45.9	0.02
30000	0	164	38.1	0.00	2	1074	46.0	0.01
Number of sample households	100	100			600			
Total	164				1074			
Total up to 9,000 riel	103				263			
% up to 9,000 riel	62.8				24.5			
Total up to 10,000 riel	125				465			
% up to 10,000 riel	76.2				43.3			
Total up to 12000	137				723			
% up to 12,000 riel	83.5				67.3			
Total 15+	431				2333			
Up to 9,000 as % of 15+	23.9				11.3			
Up to 10,000 as % of 15+	29.0				19.9			
Up to 12,000 as % of 15+	31.8				31.0			
Total as % of 15+	38.1				46.0			

**Table 4.15: Earnings during reference period by village and Region**

Daily earnings during reference week	Tonle Sap						Plateau/Mountain				
	Tuol Krasaing	Andong Trach	Khsach Chiros	Tonle Sap total	Tonle Sap total cumul	Tonle Sap total cumul (% of all 15+)	Dang Kdar	Khhan Chor	Plateau / Mountain total	Plateau / Mountain total cumul	Plateau / Mountain total cumul (% of all 15+)
0-3000	8	5	0	13	13	1.7	5	2	7	7	1.9
3001-6000	13	7	4	24	37	4.9	5	13	18	25	6.9
6001-9000	4	2	2	8	45	5.9	0	8	8	33	9.1
9001-12000	27	26	4	57	102	13.4	1	14	15	48	13.3
12001-15000	6	3	4	13	115	15.1	1	6	7	55	15.2
15001-18000	16	3	1	20	135	17.7	0	2	2	57	15.7
18001-21000	6	5	1	12	147	19.3	2	2	4	61	16.9
20001-24000	0	0	0	0	147	19.3	0	1	1	62	17.1
24001-27000	5	0	0	5	152	19.9	0	4	4	66	18.2
27001-30000	4	1	0	5	157	20.6	0	4	4	70	19.3
>30000	5	0	1	6	163	21.4	2	9	11	81	22.4
Total	94	52	17	163			16	65	81		
Total as % of 15+	33.6	28.0	5.7	21.4			9.5	33.5	22.4		
Total up to 6,000 riel	21	12	4	37			10	15	25		
% up to 6,000 riel	22.3	23.1	23.5	22.7			62.5	23.1	30.9		
Total up to 9,000 riel	25	14	6	45			10	23	33		
% up to 9,000 riel	26.6	26.9	35.3	27.6			62.5	35.4	40.7		
Total up to 12000	52	40	10	102			11	37	48		
% up to 12,000 riel	55.3	76.9	58.8	62.6			68.8	56.9	59.3		
Total 15+	280	186	296	762			168	194	362		
Up to 9,000 as % of 15+	7.5	6.5	1.4	4.9			6.0	7.7	6.9		
Up to 10,000 as % of 15+	8.9	7.5	2.0	5.9			6.0	11.9	9.1		
Up to 12,000 as % of 15+	18.6	21.5	3.4	13.4			6.5	19.1	13.3		
Total as % of 15+	33.6	28.0	5.7	21.4			9.5	33.5	22.4		



**Table 4.15: Earnings during reference period by village and Region (continued)**

Daily earnings during reference week	Mekong					Coastal			All Regions aggregated		
	Prek Khmeng	Babaong	Mekong total	Mekong total cumul	Mekong total cumul (% of all 15+)	Kompong Thnoat - Coastal	Kompong Thnoat - Coastal cumul	Kompong Thnoat - Coastal cumul (% of all 15+)	All Regions total	All Regions total cumul	All Regions total cumul (% of all 15+)
0-3000	17	11	28	28	3.6	10	10	2.3	58	58	2.5
3001-6000	60	16	76	104	13.4	32	42	9.7	150	208	8.9
6001-9000	52	14	66	170	21.9	43	85	19.7	125	333	14.3
9001-12000	50	13	63	233	29.9	39	124	28.8	174	507	21.7
12001-15000	16	11	27	260	33.4	11	135	31.3	58	565	24.2
15001-18000	2	2	4	264	33.9	3	138	32.0	29	594	25.5
18001-21000	12	4	16	280	36.0	11	149	34.6	43	637	27.3
20001-24000	1	1	2	282	36.2	2	151	35.0	5	642	27.5
24001-27000	5	0	5	287	36.9	3	154	35.7	17	659	28.2
27001-30000	1	0	1	288	37.0	1	155	36.0	11	670	28.7
>30000	2	1	3	291	37.4	3	158	36.7	23	693	29.7
Total											
Total as % of 15+	218	73	291			158			642		
Total up to 6,000 riel	53.3	19.8	37.4			36.7			27.5		
% up to 6,000 riel	77	27	104			42			208		
Total up to 9,000 riel	35.3	37.0	35.7			26.6			32.4		
% up to 9,000 riel	129	41	170			85			333		
Total up to 12000	59.2	56.2	58.4			53.8			51.9		
% up to 12,000 riel	179	54	233			124			507		
Total 15+	82.1	74.0	80.1			78.5			79.0		
Up to 9,000 as % of 15+	409	369	778			431			2333		
Up to 10,000 as % of 15+	18.8	7.3	13.4			9.7			8.9		
Up to 12,000 as % of 15+	31.5	11.1	21.9			19.7			14.3		
Total as % of 15+	43.8	14.6	29.9			28.8			21.7		
	53.3	19.8	37.4			36.7			27.5		

## **5 Wage rates, labour availability estimates and programme costs: Conclusions and recommendations**

### **5.1 Types of programmes and their implications in the Cambodian context**

Before bringing together the evidence on wage rates and labour availability to make recommendations, the modes of public works activities being envisaged for inclusion in the SSN are reviewed here with special reference to the wage rate and its implications for meeting programme objectives and resource requirements.

The aim of CARD is to bring all EGPWs in Cambodia under one umbrella to develop a coherent public works based safety net component. EGPWs differ in the balance between social protection and creation or preservation of social and economic assets and much experience in implementing them has been accumulated in Cambodia over the years (Edmonds, 2010). The WFP Food for Work (FFW) programme which has been supporting vulnerable groups and providing food during periods of crisis in Cambodia since 1992 and the more recent ADB Emergency Food Assistance Programme are examples of EGPWs with emphasis on supporting the poor and the vulnerable, especially during crises.

Other EGPWs give a higher priority to the quality of work done. This typically requires a higher amount of technical input and a combination of labour with light equipment. Therefore for a given unit of resource, the amount of employment generated is less than with the purely employment creation or food for work approaches. Examples of past programmes of this type balancing employment generation and asset creation in Cambodia are the ILO / UNDP labour-based rural infrastructure rehabilitation and maintenance projects (1992-96), the ILO/SIDA/PWT labour based rural roads and local infrastructure planning project and the ADB Rural Infrastructure Improvement Project (RIIP) undertaken between 1998 and 2001.

It is important to be clear about the differences between types of EGPWs as components of a SSN and their implications for setting wage rates<sup>36</sup>. In this section we summarise relevant features of three main types of EGPWs, employment guarantees<sup>37</sup> (EGs), labour intensive (LI) with payment in cash or kind and labour-based (LB).

Employment guarantee (EG) programmes, as the term implies, offer guaranteed employment of a certain number of days in an year at a given wage rate to all those who wish to take advantage of it. The resources required for EGs depend on the need for such employment to supplement household incomes and the wage rate being offered. An important attraction of EGs is that they are self targeting. It is up to a person or a household to participate if the EG wage rate is sufficiently attractive given the alternative livelihood opportunities and the requirement to supplement household income.

---

<sup>36</sup> Attention is also needed to other aspects (e.g. resource requirements and implementing capacity). These are mentioned briefly in this section but not considered further because they are beyond the scope of the TOR for this assignment.

<sup>37</sup> An employment guarantee is not envisaged in Cambodia at present. Nevertheless, it is helpful to include a brief discussion of its features in this review to highlight the wage rate issues associated with a SSN.

**Table 5.1: What kinds of programmes? Objectives and implications for wage rates, balance between objectives and resource commitments**

	Employment guarantee (EG)	Employment generation	
		Labour intensive (LI)	Labour-based (LB)
<b>Brief description and objective</b>	Guarantee of a given number of days of employment for all who claim the right.	Creation of maximum employment for a given level of resources.	Appropriate labour and light equipment combination for efficient infrastructure works.
<b>Resource commitment and implications</b>	Generally high and dependent on the wage rate and take up.	Number of jobs created depends on the budget and wage rate.	Labour-based methods used if technically satisfactory and cost effective. Wage rate affects cost and competitiveness.
<b>Implications for the wage rate</b>	Must be low in relation to prevailing wage rates and opportunity cost of labour. But less impact on welfare if too low.	Needs to be low in relation to prevailing wage rates and opportunity cost of labour. But less impact on welfare if too low.	Needs to be set in relation to prevailing wage rates and opportunity cost of labour. Efficiency wage premium may be required as an incentive to improve productivity and quality.
<b>Beneficiary targeting</b>	Self targeting.	Self targeting if wage rate sufficiently low. Otherwise, additional criteria needed for beneficiary selection or rationing of access to the programme.	Self targeting if wage rate sufficiently low. Efficiency wage premium may imply need for beneficiary selection or rationing of access to the programme.
<b>Effectiveness in asset creation and maintenance</b>	Generally low - difficulty of providing adequate technical input but could be improved for suitably selected projects and adequate technical support.	Generally low - difficulty of providing adequate technical input but could be improved for suitably selected projects and adequate technical support.	Very effective if well implemented with adequate technical planning, supervision and monitoring.

The higher the wage rate, the higher the number of persons wishing to take advantage of the EG<sup>38</sup>. Therefore, in setting the wage rate there is a need to balance the provision of benefits to the poor on the one hand and on the other hand, the cost of the programme and the possible damaging effects on other economic activities by drawing labour away from them. However, where there is pronounced seasonality in rural economic activity with high levels of unemployment and underemployment at certain times of the year and the number of days of EG employment offered is limited and does not conflict with busy agricultural periods, the risk of disrupting other economic activities may be low even with a somewhat higher wage rate. Self selection of timing of taking up the EG as is the case on NREGS in India and the offer of a limited number of days would reduce the disruption of other activities. Too high a

<sup>38</sup> The higher labour supply response to the higher wage rate for a given set of employment conditions is a general labour market phenomenon not just limited to EGs.

wage rate would raise programme costs and weaken the effectiveness of targeting the poorest sections of the population.

It is conventionally assumed that the wage rate is a highly effective instrument for targeting with members of poor households being much more willing to participate at low wage rates than members of better-off households. EG employment is often rationed to a given number of days for one person per household for affordability. The need for such rationing implies that the wage rate is not the sole targeting device. However, the wage rate remains an important screening device and as long as all who wish to participate are afforded access, poor households which wish to participate will not be excluded. The targeting effectiveness will be low and programme costs high if there is participation from better off households. While the proposed SSN in Cambodia is not an EG, the role of wage setting in targeting is an important question which will be addressed later in this section. Evidence from the study on the apparently poor targeting effectiveness of the wage rate has been presented in section 4.2. Its implications for wage setting and targeting are considered later in this section.

The rest of EGPWs have been separated into two categories in Table 5.1, labour intensive (LI) and labour-based (LB). LI programmes aim to create the maximum amount of employment within a given budget. Short-term public works employment as a means of supporting the participants through payment of cash or food is typically the main objective. To maximise payment to labour<sup>39</sup>, resources devoted to tools, equipment, technical planning and supervision and management are kept low. If the wage rate for LI projects is too high in relation to the prevailing market wage rate, the problems will be fewer persons benefiting from the programme and possible damaging effects on other economic activities. As for EGs, the damaging effects on other economic activities may not be serious if work on such projects is planned for less busy agricultural periods and other economic activities are limited at those times.

Even if damaging effects on other economic activities is not an issue, more people will want to benefit from the project than resources permit if the wage rate is too high. Therefore, the wage rate will not be an effective instrument for rationing access to project employment and other criteria and procedures will be needed to select beneficiaries. If satisfactory objective and transparent criteria for identifying the poor are not available or the processes for ensuring that the poor gain access to LI projects are ineffective and opaque, there is high risk of elite capture and misdirection of resources. A strong argument for using the wage rate for rationing access to LI projects is to avoid the higher costs of the alternative administrative structures and processes required to determine eligibility for participation and the higher risks of leakage generally associated with such processes.

LB programmes are generally less labour intensive than LI. The choice of technology, while preferring use of labour, is determined by effectiveness and efficiency in achieving the outcomes (i.e. creation, rehabilitation or maintenance of infrastructure or other assets). Typically, for rural road rehabilitation and construction, the choice of technology which is found to be most appropriate is labour supported by light equipment (for example, small mechanical rollers for compaction and trucks for hauling material over longer distances). Maintenance is by its nature generally more labour intensive but the appropriate combination of labour and tools and equipment is determined by technical and cost effectiveness considerations.

For a given amount of resources, the LB approach will typically create less employment than the LI approach. However, the LB approach is more effective in creating and maintaining

---

<sup>39</sup> This is often also the case for EGs though, in principle, EGs can encompass LB and LI activities as long as they are clearly differentiated (see section 5.2).

infrastructure assets than the EG or LI approaches. This is partly because of the objectives of EG and LI type programmes (greater emphasis on employment creation than output) and partly because of the difficulty of managing and providing the technical inputs and supervision on such programmes. Retention and motivation of workers and achieving adequate productivity levels if wage rates are too low are also problems<sup>40</sup>.

Another important difference between LB and LI is that the former offers a long-term sustainable approach to the construction, rehabilitation and maintenance of assets with the benefits of local employment creation and cost-effectiveness. In the Cambodia context, scope for the LB approach is large since past evidence has demonstrated that it could be cheaper than the equipment-based approach for constructing, rehabilitating and maintaining rural roads and other infrastructure works. Mahmood (2005) summarises evidence on the cost effectiveness of the LB approach in Cambodia from evidence on ILO projects and studies. In 2000, the unskilled wage rate for rural gravel road construction was equivalent to US\$1.00 per day and at that rate the construction cost was US\$5,700 per km while the cost of equipment based construction was US\$8,600. The break-even wage rate, i.e. the wage rate at which the LB and equipment based costs are the same, was US\$3.8 per day. The break-even rate is likely to be higher now because of the greater cost escalation of the equipment based approach.

EG and LI approaches provide short-term income support through employment though of course such support may be continued over some years if the situation requires it. The LB approach is consistent with and appropriate for addressing chronic poverty and underemployment. The more labour intensive approach may also be effective in asset creation and maintenance for small community projects if adequate technical support and non-labour inputs are provided. The public works component of the SSN in Cambodia combines two objectives: (a) provision of emergency relief for the poor and vulnerable where and when it is needed, and (b) a LB approach to infrastructure works which provides a base level of social protection where it is needed. While the LB approach performs a social protection function, since it is cost effective, it would be undertaken for planned infrastructure projects irrespective of the safety net function. A simulation (del Ninno, Subbarao and Milazzo, 2009) showed that the cost of transferring \$1.0 to poor people through public works in a low income country with an average poverty rate of 50 per cent would be \$2.5 if future gains from assets created are included and \$3.6 if only current benefits are considered. If labour-based works are undertaken because they are the most cost-effective approach to implementing a planned programme of works and which would have been implemented irrespective of the SSN function they fulfil, the opportunity cost of delivering \$1.0 to the poor would be lower.

## **5.2 Labour intensive and labour-based approaches on the proposed programme: Wage rate differentiation**

The public works component of the proposed SSN is expected to include LI and LB components. The LI approach is proposed for smaller village level and sub district works (e.g. village roads and communal ponds) and the LB approach for larger rural infrastructure works (e.g. tertiary roads, small scale irrigation and flood protection) requiring more technical input (Edmonds, 2010). The LB component may require a higher “efficiency wage”<sup>41</sup> because LB workers will be required to work under closer supervision, work to more exacting

---

<sup>40</sup> International evidence on labour policies and practices and their effectiveness discussed by Tajman and de Veen (1998) confirm this.

<sup>41</sup> Efficiency wage is a wage rate above the market rate paid to ensure better performance in the form of higher productivity or efficiency and reduce labour turnover.

standards and achieve higher productivity<sup>42</sup> than workers on LI projects. As noted earlier, international experience shows that the consequences of too low wages on LB programmes are: (a) high labour turnover and absenteeism, and (b) low productivity of workers who remain on the project (Tajgman and de Veen, 1998). Therefore, it is necessary to differentiate between LI and LB components with respect to the wage rate. For such differentiation to be acceptable, it should be shown to be clearly justifiable and defensible on the grounds of nature of work and implementation mode.

One approach to wage setting where there are LI and LB components is to set a higher pay rate for LB projects reflecting the efficiency wage requirement. Underlying such an approach would be the premise that the distinction between LB projects creating assets and LI projects primarily providing social protection would prevail. However, the approach adopted by CARD for the public works based SSN is to use it as a vehicle for investment in rural infrastructure assets (Edmonds, 2010). In accordance with this approach, the aim is to strengthen the technical capacity for implementing LI projects and to provide the necessary non-labour inputs to create valuable local assets.

Therefore, in setting the wage rate, considerations of: (a) requiring participants to work productively, and (b) reducing turnover and absenteeism are as relevant for LI projects as for LB projects. Further, in practice, differentiation between LI and LB wage rates would be difficult to maintain for projects being implemented under the SSN umbrella, especially where projects are in close physical proximity. Given the consistent investment approach taken by CARD with respect to LB and LI components and the pragmatic issue of comparability, a single uniform wage rate for LI and LB components seems reasonable.

An element of differentiation between LI and LB projects, which does not have direct implications for wage setting is related to programming and planning. LB works will typically be planned development investment projects and maintenance undertaken by a number of ministries and local government agencies. As noted earlier, such planned investment and maintenance would have been implemented irrespective of the need for the SSN. It is assumed that these activities contribute to the SSN function at a lower resource cost since the projects would have been implemented irrespective of the SSN objective. However, if the planned activities are not sufficient to alleviate the chronic poverty and underemployment to the level desired, such activities would have to be expanded to meet the SSN objective.

Another reason for considering wage rate differentiation is differences in labour market conditions in different locations and at different times of the year. In practice, for a number of reasons, a uniform SSN wage rate is desirable and is being envisaged for the proposed public works component of the SSN. A uniform wage rate would reduce competition between projects and programmes. It would also make it easier to communicate programme objectives and the related standard wage rate to different levels of government administration and programme beneficiaries. Further, the emphasis on the investment aspect of public works combined with a single uniform wage rate to provide the safety net could strengthen the commitment to of different levels of government to the programme and stimulate donor support.

One concern is that a single uniform wage rate may not be adequate to address variations in poverty incidence, and living standards and labour supply response between regions and locations within them. Based on CSES 2004, World Bank (2006) estimates that the rural

---

<sup>42</sup> On LB projects and programmes, setting given tasks and making payment conditional on completion of the task has been found to be a good way of linking pay to performance since it is relatively simple to supervise and administer (Tajgman and de Veen, 1998). Task work is also generally preferred by participants, especially if it is close to home since it enables them to combine participation with other commitments. This is an especially important consideration for women.

areas of Tonle Sap and Mountain / Plateau regions experience both the highest poverty headcounts and the most pronounced poverty severity. Poverty headcount measures in rural Tonle Sap and rural Mountain/Plateau regions were, respectively, 45 and 56 per cent. Poverty severity measures in both regions were about twice the national average. While poverty will have reduced since CSES 2004<sup>43</sup>, the rural areas in these two regions are likely to have higher poverty incidence and severity than the rest of Cambodia. Further, as evidence discussed in section 4.3 shows, there are variations in conditions within regions reflected in the labour supply response.

Arguably, a uniform wage rate is equitable in that the same amount is paid for similar work and the targeting of poor people across the country is at the given uniform wage rate. The labour supply response for public works projects at a given wage rate is likely to be higher in poor areas. The level of public works activities will have to be responsive to these regional and local differences. On the balance of arguments, a single uniform wage rate for the public works component of the SSN is proposed.

### **5.3 Setting the wage rate: Principles and issues**

Samson et al (2006) state that the “determination of the appropriate wage rate for a public works programme is a matter of balancing the practicalities of targeting with the objectives of social protection.” The wage rate plays a role in targeting the poor but, as evidence presented in section 4.2 and later discussion in this section demonstrate, the situation is rather more complex casting doubt on the wage rate as the sole targeting instrument. Further, if the wage rate and the amount of employment offered are too low, the social protection impact will be limited. There are also a number of other relevant aspects related to the level of the wage rate. The first is that if the wage rate is too low, it may not attract productive workers and provide sufficient incentive to work productively. This is especially important for LB works as noted in the previous section, but also relevant for LI works to achieve adequate levels of performance.

On the other hand, if the wage rate is too high, it may draw away labour from farming and other productive activities. However, high wage rates on suitably phased public works would not have seriously disruptive effects. Further, if market wage rates for unskilled labour are too low and a cause of poverty for those who rely on wage employment for their livelihoods, a higher public works wage rate may provide a floor for wage rates especially if the public works programme is sufficiently large or an EG. There is evidence that on the Maharashtra Employment Guarantee Scheme (MEGS) and the National Rural Employment Guarantee Scheme (NREGS) have contributed to establishing a floor for wage rates for landless agricultural workers, the lowest paid and poorest group.<sup>44</sup>

The evidence in Cambodia indicates that the rural labour market is well developed and there are additional rural and urban employment opportunities in and outside Cambodia. Therefore, on balance, during normal times (i.e. when there are no economic or natural shocks), it is not necessary for the SSN wage rate to perform the function of setting the floor for rural wage rates. During periods of economic or natural shocks which lead to a reduction in employment opportunities, disruption of livelihoods and fall in market wage rates, the SSN wage rate would provide a floor. Therefore in setting the SSN wage rate, it is necessary to ensure that the wage rate would provide an acceptable level of support to the vulnerable during and after crises.

---

<sup>43</sup> Poverty level estimates based on later data are not available because the CSES 2007 household sample is too small to make such estimates reliably.

<sup>44</sup> It should be noted that MEGS and NREGS are employment guarantee schemes (EGS) to which all households have access. The SSN in Cambodia is not intended to be an EGS.

Another consideration related to the targeting objective is the role of the wage rate in ensuring effective and efficient use of a given amount of resources to target the poor and vulnerable. The conventional recommendation is to use the wage rate as the main if not the sole targeting device. The underlying assumption is that all economically active members of poor households have lower opportunity costs of labour than all members of better-off households. If this supposition holds, in principle, the wage rate could be used as the sole targeting device. For a given programme budget, the wage rate could be set at a level which would attract just sufficient labour from the poorest households within the available budget though such a wage rate level is unlikely to offer sufficient incentive for participants to work productively.

Empirical evidence put forward to support the role of the wage rate as the principle or sole targeting device include Teklu (1994) who found that where the public works wage rate is increased, non-poor inclusion errors also increase, and Ravallion, Datt and Chaudhuri (1993) who found that non-poor participation increased significantly after the upward revision of the wage rate on the Maharashtra Employment Guarantee Scheme (MEGS). While these studies and other similar evidence support the plausible general proposition that with higher wage rates the labour supply response will be higher and there will be a tendency for more members of better off households to participate, they do not make the case for the wage rate as the sole targeting device to ensure participation by the poor and exclusion of the non-poor.

This is not merely a theoretical issue but an important point for policy making and wage setting. If the premise that the wage rate is a highly effective targeting device is accepted, any participation by members of non-poor households is assumed to be because the wage rate is too high or that the programme is poorly implemented. The recommendation resulting from such a conclusion on the wage rate would be to lower it to improve targeting. In practice, perfect targeting based on the wage rate is rarely achieved and the reasons for this are not simply too high wage rates or poor management.

There could be sound economically rational reasons for members of non-poor households to participate in public works at low wage rates and for members of poor households to hold out for higher wages (McCord, 2004 and 2005 and Barrett and Clay, 2003). Based on evidence from a study of participants on FFW projects in Ethiopia, Barrett and Clay (2003) show that the value of labour varies considerably within and between households, depending on the amount of labour available in the household and access to productive assets such as land. Members of poor households may face more severe time constraints and have higher opportunity costs than some members of better-off households who are willing to work for lower wages to make their contribution to the household budget. This variation in the value of labour renders public works employment at a given wage attractive to surplus labour in less poor households in some cases but unattractive to poorer households with limited access to labour.

There are clearly implications of the above discussion and evidence from the CARD / ILO survey described in section 4.2 for the role of the wage rate as a targeting device. The wage rate does perform a targeting function and setting it at or below the market wage rate to target the relatively poor and to reduce potential adverse effects on other economic activities is sound. However, the targeting effectiveness of the wage rate should not be overstated. Reduction of the wage rate to a lower level is unlikely to make significant improvements in targeting and any improvement is likely to be at the cost of reducing the welfare impact for participating households.

An important practical question is whether the wage rate should be supplemented with other instruments. A problem with introducing additional targeting instruments is that if they require collection of information about households' living standards and assets and use of



administrative procedures for selecting households and giving them access to the programme, the targeting costs would be high and ensuring efficient administration without leakages would be a challenge. Further the advantages of the wage rate as a low cost self-targeting mechanism would be lost.

One possible option is to ration employment to a maximum number of days. This approach has been used on public works programmes to limit costs but it does not improve targeting. An alternative is to make use of information from the ID Poor program to select participants where such information is available. Additional filtering and selection using local community participation may be required if the number of ID Poor willing to participate exceeds programme capacity or to include households which might have fallen into poverty after the identification of the ID Poor. An approach to rationing which is relatively simple and inexpensive to administer and can be open and transparent is random selection from those wishing to participate. However, this approach is not effective in discriminating between those from poor and non-poor households among those willing to participate.

In summary, if the SSN wage rate is too high (i.e. significantly above the relevant market wage rate), especially on large scale employment intensive programmes the consequences are:

- fewer jobs created and therefore fewer persons and households benefiting;
- less effective targeting of poor if the wage rate is the only targeting mechanism, and
- possible distorting effects on other sectors (though in the rural context, if the works are phased in the slack agricultural season and other employment opportunities are limited in the slack season, the distorting effects may not be serious).

Possible implications of wage rates being too low are:

- insufficient welfare impact (especially if contributing to the livelihoods of participants is an important objective), and
- low morale, high turnover and low productivity on LB and LI programmes and projects.

An important conclusion from the brief review of relevant principles and some international evidence is that while the wage rate has a role to play in targeting the poor in the provision of social protection, setting the wage rate at the appropriate level is not the silver bullet which will achieve perfect targeting at low cost. The aspects to be considered and balanced in setting the wage rate are:

- targeting effectiveness;
- any disruptive effect of the wage rate on other economic activities (labour shortages or high wage) which are influenced by the wage rate as well as the timing and scale of public works;
- whether there is a need for the social protection wage rate to set the floor for wage rates;
- provision of sufficient incentive to achieve adequate productivity levels for LB and LI operations, and
- the available budget and other resources are being used effectively for the provision of social protection and asset creation and maintenance.

The general observations and recommendations on wage setting in this section are applied below to make the more specific recommendations. An important aspect not addressed so far is the labour supply response to alternative wage rates. This has implications for the size of the programme and its welfare impact. In section 5.4 we review the relevant evidence and make recommendation on the LI wage rate. Section 6 goes on to examine the estimated labour supply responses at the recommended and selected alternative wage rates and their implications for the programme budget and welfare impact.

## **5.4 Evidence on relevant wage rates and the recommended wage rate**

In this section we briefly review the relevant evidence on wage rates from the CARD / ILO study and other sources before making recommendations on the wage rate. Most of the evidence has been discussed above but some additional material from recent reports and practice has been added.

Table 5.2 summarises the evidence. Rows 1 and 2 in the table indicate the views expressed at the CARD / ILO FGDs. The first row provides information on agricultural wage rates and the second on acceptable wage rates for public works. According to FGD participants, the rural wage rate in agriculture close to the villages and further afield was in the 10,000 to 12,000 riel per day range with some regional variations. The FGD participants in three out of the four locations (the exception was the village in the Plateau / Mountain region) also felt that a wage rate similar to the agricultural wage rate or a little lower would be acceptable for public works.

At first sight, the FGD evidence is not fully compatible with the evidence in row 3 on actual earnings of those in the ILO / CARD sample who had been engaged in paid employment or self-employment during the reference week. For almost 50 per cent of those who had cash earnings, the equivalent pay per day was 9,000 riel or lower (Table 3.17). However, the mean earnings were 11,000 riel and the median was 10,000 (Tables 3.17 and 3.18). The cash earners included those in self-employment including petty trading and selling farm produce. It is also not clear whether the pay per day relates to a full day's work. Almost 18 per cent of those engaged in economic activity during the seven day reference period had worked for less than 10 hours. For some it may include conversion of monthly pay in regular employment where daily equivalent pay rates are typically at the low end and there may be in kind supplements such as food (e.g. for someone in domestic service paid monthly). Therefore some of the activities and earnings are not comparable with casual daily paid wage labour requiring manual work with the expectation of meeting productivity targets.

In response to the question on acceptable pay for public works employment requiring manual work, 9,000 riel or lower was indicated as an acceptable wage rate by 12.5 per cent of economically active respondents<sup>45</sup>, for 22 per cent of the economically active, 10,000 riel or lower was acceptable and for 34 per cent of the economically active 12,000 riel or less was acceptable (row 4 in Table 5.2). However, as noted in section 4.3, there were substantial differences between villages in this respect with larger percentages finding 5,000 and 9,000 riel per day acceptable in villages with larger numbers engaged in cash earnings.

In all 1074 persons in the sample declared availability for public works employment at some wage rate, i.e. an average of almost 2.5 persons per household. Limiting participation to one person per household is not being contemplated at present. Nevertheless, it is useful to examine the labour supply response if access to programme employment is limited in this way since such a limitation is one option if those wishing to participate exceed labour requirement and resources are limited. The analysis also provides insights into the targeting effectiveness of the wage rate and labour supply response to a given wage rate.

For households with more than one person willing to participate, a household member with the lowest declared wage rate is included<sup>46</sup>. At least one person declared availability for public works employment in 437 of the 600 households in the sample. Table 5.2 (row 5)

---

<sup>45</sup> Those who had engaged in an economic activity for at least one hour during the reference period or were available for work (see section 3.3.4).

<sup>46</sup> See section 4.2 for further details.

shows that at least one person from 23 per cent of households would be willing to participate at a wage rate of 9,000 riel per day or lower. The corresponding percentages of households for 10,000 riel and 12,000 riel are 38.5 per cent and 53.0 per cent respectively.

The comparison of rows 3 and 4 shows that for 50 per cent of those with cash earnings, pay was equivalent to 10,000 riel or lower while only 22 per cent of the economically active indicated that 10,000 riel was acceptable pay for public works employment. There are also differences in percentages at lower and higher wage rates. These differences between the actual earnings and stated acceptable wage rates (rows 3 and 4 in Table 5.2 and Tables 3.17 and 4.1) need to be considered in more detail. There are three possible explanations:

- The actual earnings include earnings from a range of activities, including petty trading and domestic service which are not comparable with physical work requirements on public works projects.
- The actual earnings in November 2009 when the survey was undertaken may include some distress effects as a consequence of the financial crisis and other circumstances. Kimsun, Chan Hang and Sochet (2009) cited in section 2.1 found a fall in household non-farm income for a sample of 90 rural households across all regions of between 45 and 50 per cent.
- An element of bargaining and unrealistic expectations (section 4.3) in the FGDs and the responses to the questions on acceptable pay in the CARD / ILO questionnaire cannot be ruled out. There were some high stated acceptable wages. About 32 per cent of those indicating availability for public works indicated a minimum acceptable wage rate of 15,000 riel and just under less than 10 per cent wanted more than 20,000 riel. Therefore, in setting the wage rate, judgement is required to balance the actual earnings in November 2009 affected by the distress caused by the global financial crisis and aspirational stated acceptable wage rates based on pre-crisis wage rates and an element of bargaining.

It should also be noted that since 33 per cent of economically active are engaged in cash earnings, those with earnings below 10,000 riel as a proportion of the economically active in the sample is much lower (16.5 per cent, row 3 in Table 5.2) and lower than comparable with the per cent who stated this level of wage rate to be acceptable for public works employment. The reservation wage concept has been used below to interpret the evidence and reconcile the observed distribution of earnings and stated acceptable wage rates.

Rural wage rates for unskilled labour rose sharply in nominal terms between mid-2007 and mid-2008. According to a survey of over 2,200 households cited in World Bank / UNICEF (2010), wage rates rose between 35 and 67 per cent over this period depending on the type of activity. In May-June 2008, they were \$2.50 or 10,500 riel per day for transplanting and higher for other activities (row 6 in Table 5.2). For the small samples from the vulnerable workers' surveys, Kimsun and Dorina (2009) find the average wage rates of rice field workers and unskilled construction workers to be approximately 10,300 and 14,400 riel per day respectively in May 2009 (row 7 in Table 5.2). Rice field workers' wage rates had apparently fallen sharply to 8,800 riel per day by August 2009 while construction workers' wage rates had fallen slightly (to 14,300 riel).

The WFP Food for Work (FFW) programme provides participating households employment for some 30 days<sup>47</sup> for which each household receives the equivalent in food of some \$70 or \$2.25 per working day (about 9,500 riel)<sup>48</sup>. Figures for the ADB cash for work programmes are not yet available although as they follow the WFP procedures it is estimated that the wage rate and duration of employment are similar to the Food for Work programmes.

---

<sup>47</sup> CARD estimates reported in Edmonds (2010).

<sup>48</sup> The cash equivalent pay depends on the price of rice, World Bank / UNICEF (2010) arrives at higher estimates of cash equivalent pay from FFW work based on higher productivity and price of rice assumptions.

It is reasonable to conclude from the above evidence from the CARD / ILO wage rate study and other sources that 10,000 riel per day has been the base going rural wage rate in agriculture and other comparable economic activities. While the situation is more complex with a spread of wage rates for different activities and there are seasonal and regional variations, taking account of rural wage and earnings rates and efficiency wage considerations, 10,000 riel is a good benchmark for setting the wage rate for the public works component of the proposed SSN.

**Table 5.2: Summary of evidence on wage rates and earnings**

	Source	Wage rates and earnings	Comments
1.	CARD / ILO FGD Rural wage rates	Agricultural wage rates in 10,000 to 12,000 riel per day range.	Some regional variation with somewhat higher wage rates in Mekong and Plateau / Mountain locations. Pay on a daily basis, normally related to performance. Pay could be lower – 5,000 to 7,000 riel per day if in advance.
2.	CARD / ILO FGD Acceptable public works wage rate	Wage rate comparable to agricultural wage rates thought to be acceptable.	More specifically, at the lower end of the agricultural wage rate range and even a little lower.
3.	CARD / ILO actual earnings (all activities – wage employment, self-employment and subsistence production)	For 48% of those with cash earnings, pay was equivalent to 9,000 riel or lower. Earnings are 10,000 riel per day or less for 16.5% of the economically active. Mean: 11,200 riel. Median: 10,000 riel.	There is a wide distribution of earnings rates (less than 1,000 to 100,000 riel per day). 10,000 riel is the mode with 18% of the sample earning this wage rate. Wages and earnings may be somewhat lower than normal because of financial crisis.
4.	CARD / ILO stated acceptable wage rate for public works employment – all respondents	9,000 riel per day or less acceptable for 12.5% of economically active. 10,000 riel or less acceptable for 22% of economically active. 12,000 riel or less acceptable for 35% of economically active.	With stated acceptable wage rate, there is a possibility of a bargaining element or unrealistic expectations especially in villages with limited cash earning as reference.
5.	CARD / ILO stated acceptable wage rate for public works employment – all respondents – “unrealistic” locations taken out	9,000 riel per day or less acceptable for 18.4% of economically active. 10,000 riel or less acceptable for 26.9% of economically active. 12,000 riel or less acceptable for 31.4% of economically active.	Stated acceptable wage rate adjusted by eliminating observations from two villages with limited cash earning experience.
5.	CARD / ILO stated acceptable wage rate for public works employment – only one per household	9,000 riel per day or less acceptable for 6.6% of economically active and 23% of households. 10,000 riel or less acceptable for 11% of economically active and 38.5% of households. 12,000 riel or less acceptable for 15.2% of economically active and 53% of households.	For households with more than one person available for public works employment, the wage rate is for the person with the lowest acceptable wage rate. At least one person per household available for public works employment in 436 out of 600 (72 per cent) households at some wage rate.
6.	2008 survey of households cited in World Bank / UNICEF (2010)	Agricultural wage rates in May-June 2008: Transplanting rice: \$2.50 (10,500 riel) per day. Harvesting, weeding and transplanting: \$2.75 (11,600 riel) per day. Land clearing: \$3.25 (13,700 riel) per day. Construction: \$3.38 (14,200 riel) per day.	% increase in wage rates in nominal terms ranging between 35 and 67% since mid-2007. Some reduction likely since then because of the financial crisis (see row 7 below).
7.	CDRI vulnerable workers’ surveys	About 10,300 riel per day for rice field workers in the February and May 2009 surveys. Down to 8,800 riel per day in August 2009. Unskilled construction workers (Phnom Penh) 14,400 riel in May, small fall by August 2009.	Small sample. Sharp increase in rice field workers’ wage rates since November 2007 because of higher rice prices. Fall in August 2009 possibly because of the financial crisis and fall in rice prices from the peak in 2008.
8.	WFP	Payment in food equivalent to about 10,000 riel.	3.5kg of medium quality rice given for 1 cu m of earthworks (value about 1,800 riel). Estimated cash value of rice per day assumes productivity of 1.5cu m per day.
9.	ADB Emergency Food Assistance Project	Payment in cash equivalent to WFP payment.	

Making the final recommendation requires an element of judgement based on the principles summarised at the end of section 5.3 and a number of other factors including:

- the location of work;
- the nature and conditions of work;
- the need to strike a balance between any element of distress in the wages and earnings reported and aspirational stated acceptable wage rates, and
- the impact of the wage rate and amount of employment offered on participants' households.

Typically, public works employment will be close to the homes of potential workers in the less busy agricultural season and will be of relatively short duration (1 to 3 months). Whether it is LI or LB, to ensure that it is effective in asset creation or maintenance, it will be on a task rate basis and physical in nature. The work requirement will therefore not be nominal and therefore needs to be rewarded on a basis comparable with other similar work. For such employment in rural areas, the wage rate in agriculture and other manual work is a suitable comparator with two qualifications. The first is that the wage rate should not be so high as to disrupt other economic activities. The second is that recent wage rates and earnings may have been depressed by the impact of the global financial crisis.

The task rate basis also offers attractions for participants since they can combine the work with other economic and non-economic tasks, especially if the work is close to home. Therefore, location of public works employment is another consideration. Evidence from CARD / ILO FGDs and other sources indicates that there are higher costs and risks of being "cheated" by employers away from home and concerns about falling sick away from home. There is also preference for women to work closer to home because they can combine such work with other tasks and the higher risks associated with work further away.

There is evidence from CDRI vulnerable workers surveys and other sources that wage rates have fallen since mid 2008 as a consequence of the global financial crisis and deterioration in relations with Thailand (Kimsun and Dorina, 2009; Kimsun, Chan Hang and Socheth, 2009). These "distress" wage rates and earnings are not a satisfactory basis for setting the public works wage rate since they do not reflect the normal labour market situation and their social protection impact on households would be low. On the other hand, there is likely to be an element of bargaining in the declared acceptable wage rates. They may also be aspirational based on the higher wage rates and earnings before the impact of the financial crisis.

Based on the above evidence and balancing the considerations set out above, a daily wage rate of 10,000 riel (i.e. the rural benchmark wage rate) is proposed as the public works SSN wage rate. This wage rate would be roughly equivalent to \$57 per Month<sup>49</sup> and is comparable with the only minimum wage of \$50 plus the monthly living allowance of \$6 currently in place in Cambodia (for garment workers). Section 2 shows that with all allowances, the actual average pay of garment workers has been substantially higher than \$56 per month. Since jobs in the garment sector are close to Phnom Penh and a large proportion of workers are migrants, living costs are higher.

An important implication of the proposed uniform public works wage rate for the country is that the wage rate cannot be used as a specific targeting mechanism for matching local requirement for EGPWP employment and programme activity. Tables 4.14 and 4.15 show variations in stated labour supply response and earnings which suggest that the labour supply response is likely to be much higher in the Mekong and Coastal regions. This is somewhat counterintuitive since based on the latest evidence, Tonle Sap and Plateau /

---

<sup>49</sup>10,000 riel for an average of 24 working days per month amounts to 240,000 riel which converts to \$56.9 at the \$1.00 = 4,215 riel exchange rate.

Mountain regions are the poorest (World Bank, 2004). However, within regions, there are likely to be substantial variations between villages. Table 5.3 shows the mean consumption per head for the sample households in the CARD / ILO study villages. The table shows that the three villages in Tonle Sap are the poorest, followed by a village in Mekong and then one of the Plateau / Mountain region villages (Khhan Chor). The two villages with the highest consumption per head are in the Plateau / Mountain (Dang Kdar) and Mekong (Prek Khmeng) region respectively<sup>50</sup>.

**Table 5.3: Consumption per head of sample households by village**

Region	Village	Consumption per head		
		Mean	Minimum	Maximum
Tonle Sap	Khsach Chiros	3,625	1,203	35,788
Tonle Sap	Andong Trach	3,672	1,323	9,153
Tonle Sap	Tuol Krasaing	4,461	1,379	10,840
Mekong	Babaong	5,052	1,826	33,945
Plateau / Mountain	Kanhchor	5,083	1,698	16,952
Coastal	Kompong Thnoat	5,326	1,141	15,080
Plateau / Mountain	Dang Kdar	8,627	1,447	72,578
Mekong	Prek Khmeng	10,869	1,891	86,267
	<b>Total</b>	5,983	1,141	86,267

Source: MOPS database

Further the number of persons who reported being engaged in cash earnings and level of cash earnings are not clearly related to the level of consumption. Table 4.15 shows that Prek Khmeng (the village with the highest consumption per head) has a much larger proportion of persons engaged in cash earning at a wider range of earnings than Dang Kdar, the village with the second highest consumption per head. This difference in earnings is also reflected in stated willingness to undertake public works (Table 4.15). The Coastal village of Kompong Thnoat has greater similarities with Prek Khmeng in terms of cash earning activity and stated willingness to take up public works than the other village Mekong village (Babaong).

From the examination of evidence at the village level, it appears that local conditions (agricultural labour requirements, land ownership and alternative employment opportunities) are more important in determining labour supply response than broader regional characteristics. For the public works based SSN, the implication is that the SSN needs to be responsive to local needs. This will require forward planning in the form of a stock of appropriately designed LI and LB projects, implementation capacity, funding provision and procedures for registering demand for public work employment. During periods of crisis, it would be preferable to increase the number of days of employment offered than to raise the wage rate to reduce any disruptive effects on other economic activities.

Arguably, under a single uniform wage rate, as long as there are no large variations in the costs of living between parts of the country, a low response in a region or a locality reflects less need for social protection and therefore the wage rate will act as a reasonable mechanism for regional targeting. The recommended wage rate is based on evidence and judgement on the prevailing situation at the time of the study. The initial assessment is based on a sample and therefore may have to be modified when evidence from actual experience at the pilot and early stages of implementation become available. Studies of the labour supply response and the welfare impact of employment on households should be included at these stages. The wage rate should be kept under review and adjusted

<sup>50</sup> This comparison does not take account of differences in cost of living which are likely to be somewhat higher in the Plateau / Mountain region.

periodically if necessary because of changes in labour market conditions and cost of living. NIS intends to conduct CSES on a large sample every five years and smaller samples every year. The surveys include questions on economic activity and wage rates. A bi-annual review of the LI wage rate based on CSES evidence on rural wage rates and changes in the cost of living is recommended.

There should be no difference between the wage paid to men and women undertaking similar work. A uniform wage rate for LI work would clearly avoid such differentiation. The principle of non-discrimination between men and women (equal pay for work of equal value) should also apply to LB employment. Measures may be needed to remove obstacles to women participating in EGPWPs though the CARD / ILO evidence indicates that if the wage rate is 10,000 riel per day, the number of men and women willing to participate will be about equal.



## 6. Labour availability estimates, programme costs and household level welfare impact

### 6.1 Wage rates and labour supply response

Important aspects to be addressed before finalising recommendations on the wage rate are the relationship between the wage rate and the labour supply response and its implications for programme costs and the welfare impact of employment. As Figure 6.1 shows the wage bill part of the programme is determined by the wage rate, the labour supply response to it and any additional rationing rules applied. Based on earlier assessment of the targeting effectiveness of the wage rate, it is assumed that while the number of persons available at a given wage rate will be a response to the wage rate offered, the wage rate by itself will not be sufficient to limit the programme to the level affordable within the programme budget. It will therefore be necessary to apply additional rationing rules (e.g. limiting access to one person per household) or additional selection criteria for participants.

Figure 6.1: Wage rate, labour supply, programme costs and social protection

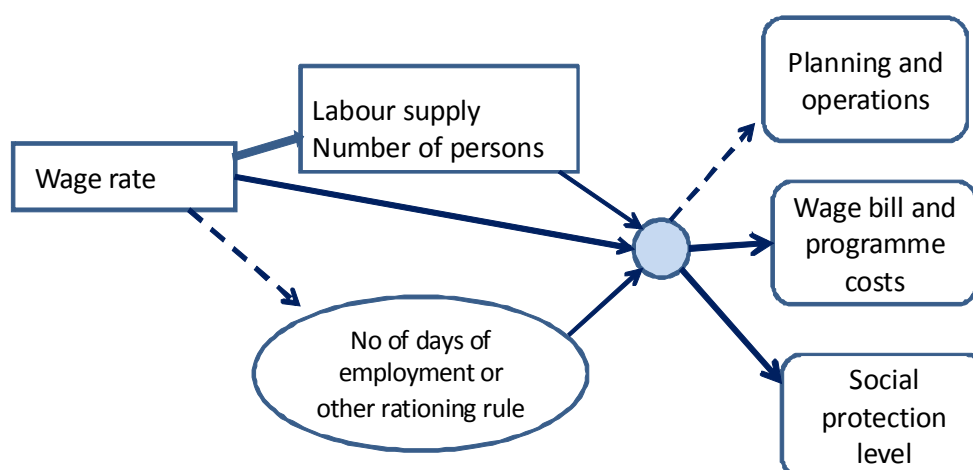


Figure 6.1 shows that the level of protection provided and its targeting also depend on the combination of the wage rate, the labour supply response and the rationing and participant selection rules and procedures applied. Likely labour supply response as indicated by stated availability for public works employment and the distribution of cash earnings of CARD / ILO survey respondents were considered in proposing the wage rate of 10,000 riel per day. Labour supply response to this wage rate and alternative wage rates and their implications for programme costs and the social protection level provided and have been presented in this section to assess the soundness of the wage rate recommendation and to enable calculations of programme costs and social protection under alternative assumptions to consider options and to conduct sensitivity analysis.

As noted in section 4.1, the wage rates at which respondents indicated their availability for public works could be interpreted as their stated reservation wage rate (RWR). The labour supply for a given wage rate is the total number of persons who are available for employment at that and lower wage rates. This was identified as the stated labour supply

response in Tables 4.1. Column 6 in Table 4.1 showed the stated labour supply as a proportion of the total number of persons in the 15 plus age range.

A problem with stated intentions is that response to actual employment opportunities may be very different from response to a hypothetical question. In section 4.3, it was noted that at the village level, the distribution of stated acceptable wage rates reflected the distribution of cash earnings and in the villages in which the number of persons engaged in cash earnings was limited, the stated wage rates tended to be high. Therefore, the stated labour supply response has been compared with two alternatives. The first is the stated labour supply with adjustments to eliminate evidence from the villages in which the stated labour supply response was judged to be unrealistic. The second is the revealed labour supply response based on earnings rates.

In section 4.3 it was noted that in two villages, Khsach Chiros (Tonle Sap) and Dang Kdar (Plateau / Mountain), the number of persons engaged in cash earnings was low (Table 14.5) and the stated wage rates for public works were very high. According to Table 5.3, Khsach Chiros is the village with the lowest consumption per head. Dang Kdar has the second highest consumption per head though Prek Khmeng, with higher consumption per capita had much higher proportions of persons available at lower wage rates. Therefore, in the adjusted stated labour supply, these two villages have been eliminated and for comparison with the unadjusted labour supply, the response rates have been scaled up (see Table 6.1).

Comparison of stated intentions with actual earnings would provide a better insight into the labour supply response and a more reliable basis for estimating the labour supply response. Further, under certain assumptions, evidence on cash earnings can also be interpreted as the “revealed” reservation wage rate. More precisely, the distribution of the earnings rates for those with cash earnings in the CARD / ILO sample (Table 3.17) can be used to broadly represent the revealed labour supply curve under the following assumptions:

- The RW for those who have undertaken the activity which yielded the cash earnings is at or below their earnings rate.
- Therefore, the distribution of the observed earnings rates is the distribution of the upper limits of RWs for the persons engaged in these activities.
- The distribution of the earnings rates and upper limits of RWs of those with cash earnings during the reference period are broadly representative of the upper limits of RWs of the economically active.

There is a qualification to comparing the stated and revealed labour supply. As noted earlier, the revealed labour supply is based on earnings in a range of activities which may not be comparable to public works employment and the earnings are during a period influenced by the financial crisis. These factors have been taken into account in interpreting the results and making estimates of labour supply response. Further, the total number of persons engaged in cash earnings is smaller than those who stated availability for public works employment at some wage rate. Therefore, for comparison, the labour supply response has been scaled up. This is reasonable if the number of persons who would be engaged in cash earning is limited by the number of such activities available as implied in the assumptions above.

**Table 6.1: Labour supply response - all respondents - alternative assumptions**

Minimum acceptable pay for public works (riël per day)	Stated - all locations		Stated - "unrealistic" locations taken out <b>Central assumption</b>			Distribution of cash earnings in seven day reference period		Distribution of cash earnings in seven day reference period - scaled up for comparison <b>High assumption</b>	
	Number of respondents	Cum % of all in 15+ age range in sample households	Number of respondents	Number of respondents scaled up	Cum % of all in 15+ age range in sample households	Number of respondents	Cum % of all in 15+ age range in sample households	Number of respondents scaled up	Cum % of all in 15+ age range in sample households
5000	124	5.3	124	182	7.8	174	7.5	277	11.9
9000	263	11.3	263	386	16.6	332	14.2	528	22.6
10000	465	19.9	384	564	24.2	458	19.6	729	31.2
12000	723	31.0	449	660	28.3	496	21.3	789	33.8
15000	982	42.1	648	952	40.8	550	23.6	875	37.5
20000	1067	45.7	726	1067	45.7	617	26.4	982	42.1
30000	1072	45.9	731	1074	46.0	653	28.0	1039	44.5
30000+	1074	46.0	731	1074	46.0	675	28.9	1074	46.0
<b>Total population 15+ years in sample</b>	2333								

Wages / earnings (riel per day)

Figure 6.2: Labour supply response, stated and revealed

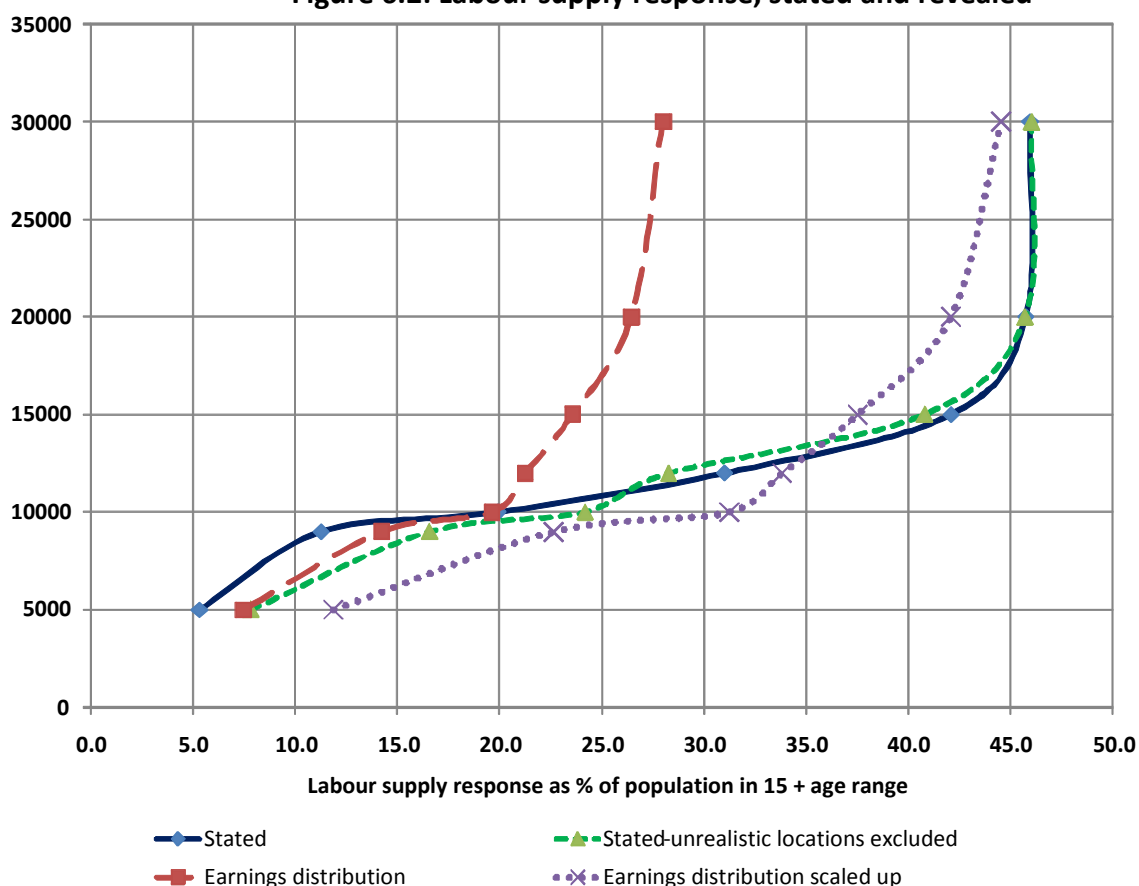


Table 6.2 shows the labour supply responses under alternative assumptions and Figure 6.2 shows the comparison graphically. The shapes of the labour supply curves are broadly similar and the curves remain close to each other with the exception of “Earnings distribution” which diverges sharply from the stated labour supply curves above 10,000 riel. The divergence could be explained by a shortage of higher paying employment and earning opportunities in comparison with those who are willing to work at the higher wage rates. Arguably, this divergence is explained by lack of higher paying employment and earning opportunities to match the RWs of the rest of the economically active.

While the shapes of the curves are broadly similar, examination of Figure 6.2 and Table 6.1 shows that there are substantial differences in the labour supply response indicated by the evidence at the wage rate of 10,000 riel ranging between 19.9 per cent of the population in the 15 plus age range for the “Stated – all locations” and 31.2 per cent for the “Earnings distribution scaled up”. “The Stated – unrealistic locations excluded” and “Earnings distribution” are close to each other at this wage rate. Arguably, at higher wage rates, “Earnings distribution” is constrained by availability of opportunities rather than supply of labour. Therefore, it seems reasonable to use “Stated – unrealistic taken out” as the central assumption for estimating the labour supply response with “Earnings distribution scaled up” providing a high labour supply estimate in estimating the wage bill in the next section.

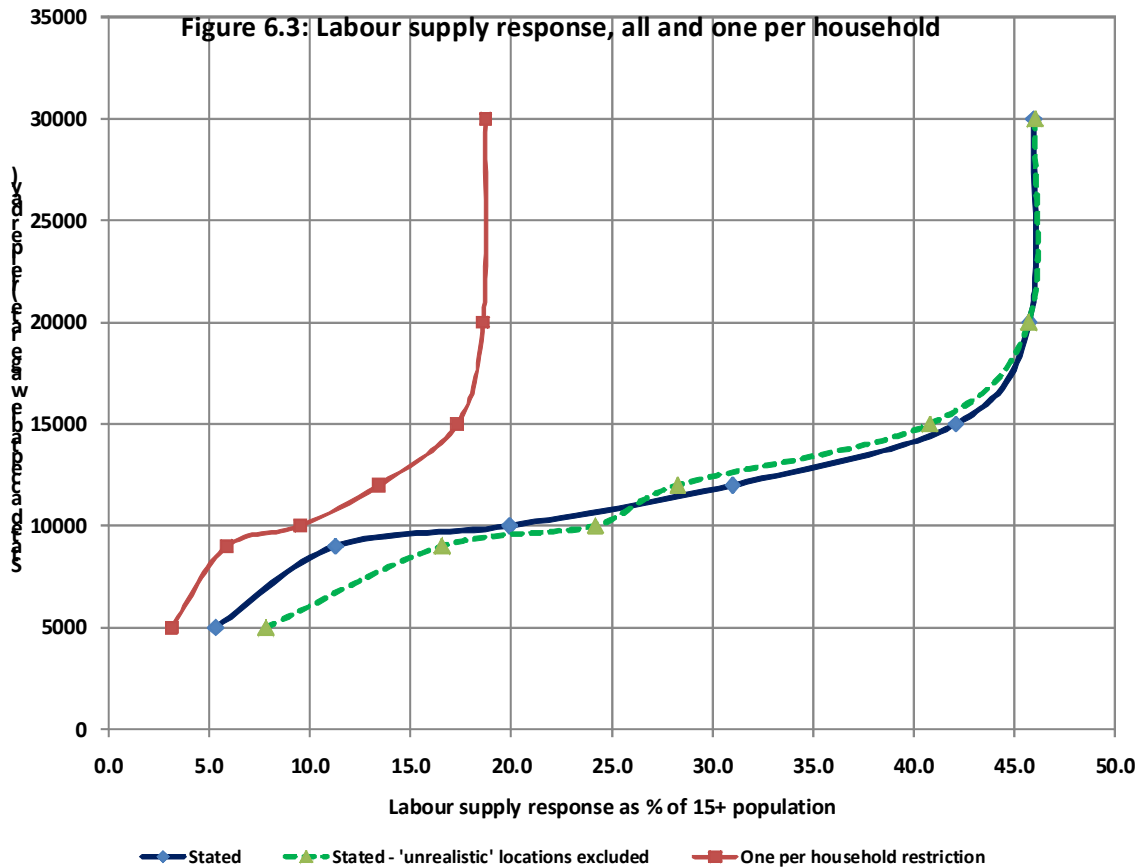
Table 6.1 and Figure 6.2 represent labour supply responses where there is no limit on the number of persons from a household who may participate. Figure 6.2 compares the labour supply response with no limit on the number of persons from a household who could

participate and participation limited to one person per household. As noted earlier, a person from a household who stated the lowest wage rate among all respondents from the household (with additional criteria to eliminate all but one if more than one member of the household stated availability at that wage rate) was selected (section 4.1).

As Table 6.2 shows, of the 600 households in the sample, at least one person was willing to participate from 437 households (i.e. about 73 per cent all sample households) and the rate of participation of households at each wage rate level is higher than the rate of participation by individuals. Figure 6.3 shows that the labour supply response restricted to one per household is lower than the unrestricted labour supply response at each wage rate. This limits the labour supply response under the one per household restriction to just under 19 per cent of the population.

**Table 6.2: One per household restricted labour supply as per cent of 15+ population**

<b>Minimum acceptable pay for public works (riel per day)</b>	<b>Number of households with at least one person available for public works</b>	<b>% of all sample households</b>	<b>% of 15+ population in sample households</b>
<b>5000</b>	73	12.2	3.1
<b>9000</b>	137	22.8	5.9
<b>10000</b>	222	37.0	9.5
<b>12000</b>	313	52.2	13.4
<b>15000</b>	404	67.3	17.3
<b>20000</b>	434	72.3	18.6
<b>30000</b>	437	72.8	18.7
<b>30000+</b>	437	72.8	18.7
<b>All sample households</b>	600		
<b>Population in sample 15+ age range</b>	2333		



## 6.2 Balancing programme costs and welfare effects

Following the selection of labour supply response under three alternative cases, the (central assumption) and a “high” estimate (see section 6.1 and Table 6.1) for the all respondents case and the one per household restriction case, some illustrative calculations on programme costs are provided in Tables 6.3 to 6.5. The tables assume a public works based SSN for an area with a population of 100,000 persons, equivalent to four average sized districts. Table 6.3 shows that under the central assumption, if the wage rate is riel 10,000, about 24 per cent of those in the 15+ age group will be willing to participate. If each person is provided 50 days of public works employment, the annual wage bill part of programme costs<sup>51</sup> will be about \$1.84 million.

Table 6.4 shows that if the labour supply response is “high”, the wage bill cost at the wage rate of 10,000 riel per day will be about 30 per cent higher. Under the one per household restriction, at 10,000 riel per day, one member from about 37 per cent of households would participate<sup>52</sup>. If 50 days of employment per person is offered, the wage bill would be about \$950,000, about half of the wage bill under the “central assumption” where all respondents at the given wage rate are provided employment. Therefore the one per household

<sup>51</sup> 50 days of public works employment has been used in the calculations for illustration. The workbook used for making calculations has been provided for making alternative estimates. Only the wage bill part of programme costs have been shown. There will clearly be additional non-labour costs which are likely to be the 30 to 60 per cent of total programme costs depending on types of projects and labour intensity.

<sup>52</sup> Though as noted earlier, such a restriction does not limit programme employment to a specific person but to a given number of days of employment per household.

restriction could be an attractive option if the objective is to reach the largest number of households though the administrative burden could be high.

Tables 6.3 to 6.5 also show the wage bill costs as per cent of GDP and public sector expenditure. For a small programme, the costs are small in relation to the GDP and public expenditure. Table 6.6 shows estimates of the wage bill for a national level public works based SSN with a wage rate of 10,000 riel. Under the central assumption, the annual wage bill would be 2.1 per cent of GDP and 13.5 per cent of public sector expenditure. Under the one per household restriction, the wage bill would be much lower.

An Excel workbook (*WageRate-LabourSupply-WageBill-Model-Version3*) has been used to generate the wage bill estimates discussed above. It has been provided to generate estimates of programme wage bill costs under alternative assumptions on wage rates, labour supply response, the number of days of employment offered and the scope of public works activities. The workbook can also be used to assess the welfare impacts in the form of earnings from public works employment for households with different levels of living standards represented by their levels of consumption.

**Table 6.3: Wage rate, labour supply response and labour cost of programme – all respondents, central assumption**

<b>Population</b>			
Cambodia rural total		100,000	
Cambodia rural 15+		64,300	
<b>Persons willing and able to participate at given wage rate as proportion of 15+ population</b>			
	5000	7.8	
	9000	16.6	
	<b>10000</b>	<b>24.2</b>	
	<b>12000</b>	<b>28.3</b>	
	15000	40.8	
<b>Total available at</b>			
	5000	5,021	
	9000	10,650	
	<b>10000</b>	<b>15,549</b>	
	<b>12000</b>	<b>18,181</b>	
	15000	26,240	
<b>Number of days of employment per person offered</b>			
	<b>50</b>		
<b>Exchange rate</b>			
	<b>4215</b>		
<b>Wage bill at</b>		Riel	US\$
	5000	1,255,292,206	297,815
	9000	4,792,381,697	1,136,983
	<b>10000</b>	<b>7,774,713,018</b>	<b>1,844,535</b>
	<b>12000</b>	<b>10,908,894,204</b>	<b>2,588,113</b>
	15000	19,679,742,328	4,668,978
<b>Wage bill as % of GDP</b>		Riel	US\$
		40,354,410,000,000	9,574,000,000
	5000	0.00	
	9000	0.01	
	<b>10000</b>	<b>0.02</b>	
	<b>12000</b>	<b>0.03</b>	
	15000	0.05	
<b>Wage bill as % of public sector expenditure</b>		Riel	US\$
		6,229,770,000,000	1,478,000,000.00
	5000	0.0	
	9000	0.1	
	<b>10000</b>	<b>0.1</b>	
	<b>12000</b>	<b>0.2</b>	
	15000	0.3	



**Table 6.4: Wage rate, labour supply response and labour cost of programme – all respondents, high assumption**

<b>Population</b>			
Cambodia rural total		100,000	
Cambodia rural 15+		64,300	
<b>Persons willing and able to participate at given wage rate as proportion of 15+ population</b>			
	5000	11.9	
	9000	22.6	
	<b>10000</b>	<b>31.2</b>	
	<b>12000</b>	<b>33.8</b>	
	15000	37.5	
<b>Total available at</b>			
	5000	7,630	
	9000	14,559	
	<b>10000</b>	<b>20,085</b>	
	<b>12000</b>	<b>21,751</b>	
	15000	24,119	
<b>Number of days of employment per person offered</b>			
	<b>50</b>		
<b>Exchange rate</b>			
	<b>4215</b>		
<b>Wage bill at</b>		Riel	US\$
	5000	1,907,594,228	452,573
	9000	6,551,599,486	1,554,353
	<b>10000</b>	<b>10,042,277,659</b>	<b>2,382,510</b>
	<b>12000</b>	<b>13,050,575,682</b>	<b>3,096,222</b>
	15000	18,089,255,608	4,291,638
<b>Wage bill as % of GDP</b>		Riel	US\$
		40,354,410,000,000	9,574,000,000
	5000	0.00	
	9000	0.02	
	<b>10000</b>	<b>0.02</b>	
	<b>12000</b>	<b>0.03</b>	
	15000	0.04	
<b>Wage bill as % of public sector expenditure</b>		Riel	US\$
		6,229,770,000,000	1,478,000,000.00
	5000	0.0	
	9000	0.1	
	<b>10000</b>	<b>0.2</b>	
	<b>12000</b>	<b>0.2</b>	
	15000	0.3	

**Table 6.5: Wage rate, labour supply response and labour cost of programme – one per household restriction**

<b>Population</b>			
Cambodia rural total		100,000	
Cambodia rural 15+		6,932,604	
No of rural households		21,739	
<b>Per cent of households with at least one person willing to participate at or below the given wage rate</b>			
	5000	12.2	
	<b>9000</b>	22.8	
	<b>10000</b>	37.0	
	<b>12000</b>	52.2	
	15000	67.3	
<b>Total available at</b>			
	5000	2,645	
	9000	4,964	
	<b>10000</b>	8,043	
	<b>12000</b>	11,341	
	15000	14,638	
<b>Number of days of employment per person offered</b>			
	<b>50</b>		
<b>Exchange rate</b>			
	<b>4215</b>		
<b>Wage bill at</b>		Riel	US\$
	5000	661,231,884	156,876
	9000	2,233,695,652	529,940
	<b>10000</b>	<b>4,021,739,130</b>	<b>954,149</b>
	<b>12000</b>	<b>6,804,347,826</b>	<b>1,614,317</b>
	15000	10,978,260,870	2,604,570
<b>Wage bill as % of GDP</b>		Riel	US\$
		40,354,410,000,000	9,574,000,000
	5000	0.00	
	9000	0.01	
	<b>10000</b>	0.01	
	<b>12000</b>	0.02	
	15000	0.03	
<b>Wage bill as % of public sector expenditure</b>		Riel	US\$
		6,229,770,000,000	1,478,000,000
	5000	0.0	
	9000	0.0	
	<b>10000</b>	0.1	
	<b>12000</b>	0.1	
	15000	0.2	

**Table 6.6: Wage bill cost as per cent of GDP and public sector expenditure at 10,000 riel per day wage rate: SSN at national level**

	Wage bill as:	
	% of GDP	% of public sector expenditure
<b>Central assumption</b>	2.1	13.5
<b>High estimate</b>	2.7	17.4
<b>One per household</b>	1.1	7.0

Table 6.7 shows the welfare impact or the level of social protection provided by the earnings from public works employment. The top of the table shows the calculation of average annual consumption for households in each consumption per head quintile based on an average family size of 4.7 persons. Under the central assumption, the table shows the contribution of one person's participation in the public works SSN programme for 50 days at alternative wage rates. At a wage rate of 10,000 riel, the contribution made by earnings from the SSN would be about 11.5 per cent of the total consumption for an average household in the bottom expenditure per capita quintile. If payment is in cash, the contribution as a proportion of cash income would be higher. The contribution would evidently be lower for households with consumption in the higher quintiles. If more than one person from a household participates, the contribution at the household level would clearly be higher.

Evidently, during the period when one or more members of a household are participating in a public works project, the contribution to the livelihood of the household will be much higher. Table 6.8 compares the proposed wage rate of 10,000 riel per day with the consumption per head and the consumption per household for households with different living standards. The average daily consumption per head of households in the bottom quintile (i.e. the bottom 20 per cent of households for consumption) in the CARD/ILO survey sample is 2,528 riel. As column 4 in the table shows, the wage rate of 10,000 riel is about four times the average per capita consumption. Therefore, a household member employed on a public works project at the wage rate of 10,000 riel per day would support him or herself and make a very substantial contribution to the household livelihood. As would be expected, the contribution is smaller in the higher quintiles. Nevertheless, in all except the highest quintile, the contribution is well in excess of a single person's consumption expenditure.

Next we compare the daily earnings from the proposed public works programme with the total expenditure of a household. Based on an average adult equivalent household size of 4.7, the average daily consumption of a household in the bottom quintile is 11,882 riel. Therefore, as Table 6.8 shows, the wage rate of 10,000 riel per day is about 84 per cent of the daily consumption of an average sized household in the bottom consumption quintile. For the second and higher quintiles, the wage rate is a lower per cent of the consumption of households as would be expected. Therefore, while the public works wage at 10,000 riel per day, if one household member only is engaged in the programme, would not be sufficient to meet all the consumption needs of the household, for the bottom two quintiles, it would meet a very substantial proportion of the basic needs of households. If more than one person per household participates, the contribution of earnings from participation in the programme would be higher.

**Table 6.7: Wage rate and welfare impact on households**

<b>Average annual hh consumption<sup>1</sup></b>	<b>Riel</b>	<b>US\$</b>
1st quintile (bottom 20%)	4,353,415	1033
2nd quintile (next 20%)	5,925,540	1406
3rd quintile (middle 20%)	7,608,504	1805
4th quintile (above average 20%)	10,073,875	2390
5th quintile (top 20%)	26,600,426	6311
<b>Number of days of employment per person</b>	<b>50</b>	
<b>Pay per day</b>	<b>9,000</b>	
<b>PW wage contribution as % of hh consumption - 1 hh member</b>		
1st quintile (bottom 20%)	10.3	
2nd quintile (next 20%)	7.6	
3rd quintile (middle 20%)	5.9	
4th quintile (above average 20%)	4.5	
5th quintile (top 20%)	1.7	
<b>Pay per day</b>	<b>10,000</b>	
<b>PW wage contribution as % of hh consumption - 1 hh member</b>		
1st quintile (bottom 20%)	11.5	
2nd quintile (next 20%)	8.4	
3rd quintile (middle 20%)	6.6	
4th quintile (above average 20%)	5.0	
5th quintile (top 20%)	1.9	
<b>Pay per day</b>	<b>12,000</b>	
<b>PW wage contribution as % of hh consumption - 1 member</b>		
1st quintile (bottom 20%)	13.8	
2nd quintile (next 20%)	10.1	
3rd quintile (middle 20%)	7.9	
4th quintile (above average 20%)	6.0	
5th quintile (top 20%)	2.3	
<b>Pay per day</b>	<b>15,000</b>	
<b>PW wage contribution as % of hh consumption - 1 member</b>		
1st quintile (bottom 20%)	17.2	
2nd quintile (next 20%)	12.7	
3rd quintile (middle 20%)	9.9	
4th quintile (above average 20%)	7.4	
5th quintile (top 20%)	2.8	

**Note:**

- 1 - Assumptions are average household size in adult equivalent of 4.7. The average consumption per head of riel 2,528 per person for the 1<sup>st</sup> quintile (bottom 20%), riel 3,427 per person for the 2<sup>nd</sup> quintile, riel 4,401 per person for the 3<sup>rd</sup> quintile, riel 5,827 per person for the 4<sup>th</sup> quintile and riel 15,386 per person for the 5<sup>th</sup> quintile (top 20%) derived from MOPS data on household consumption.

**Table 6.8: Comparison of the wage rate with household consumption**

(1)	(2)	(3)	(4)	(5)
Household consumption per head quintiles	Average consumption per adult equivalent household member	Total consumption per household of average size <sup>1</sup>	Wage as multiple of daily consumption per person	Wage rate as % of daily hh consumption
1st quintile	2,528.00	11,881.60	3.96	84.16
2nd quintile	3,427.00	16,106.90	2.92	62.09
Poverty line	3,166.43	14,882.21	3.16	67.19
3rd quintile	4,401.00	20,684.70	2.27	48.34
4th quintile	5,827.00	27,386.90	1.72	36.51
5th quintile	15,386.00	72,314.20	0.65	13.83

Note: 1 - Household size is 4.7 adult equivalent persons. Persons in the household below the age 15 years are counted as half.

A further issue is that while comparison with consumption expenditure in the lower quintiles shows the impact for poor households, it does not indicate whether earnings from public works employment provide an acceptable level of income. The living wage concept and its applicability in the rural context were discussed in section 2.3. The assumption underlying the living wage concept is that a single source of income for a worker should provide an adequate standard of living for the worker and his / her dependents. The concept cannot be applied in this context without adaptation for two reasons. The first is that rural households typically rely on a combination of subsistence production and a number of other income sources. The second reason, more specific to the proposed programme, is that employment for workers will be of relatively short duration.

Determining what constitutes a living wage in the rural context with varying levels of contribution from subsistence production between household would be complex. Therefore, the rural poverty line has been proposed as a proxy for the living wage. While the poverty line is not precisely the same as the living wage, it represents the minimum acceptable level of consumption<sup>53</sup> required for a household not to be categorised as poor. Therefore being just above the poverty line represents a barely adequate standard of living. Earnings from public works employment at the wage rate of 10,000 riel have been compared with the rural poverty line to appraise the contribution of public works employment to households attaining an adequate livelihood level.

The poverty line for rural Cambodia for 2007 was daily consumption equivalent to 2,367 riel per head at current prices (Conway and Samsen, 2009, and World Bank, 2009). Based on this poverty line, in 2007 34.7 per cent of the rural population was estimated to fall below the poverty line. The 2007 poverty line at 2007 prices cannot be compared with the consumption expenditure levels of sample household for 2009 and the proposed wage rate of 10,000 riel in early 2010 without making adjustments for inflation which has been substantial during 2008. NIS data on consumer price inflation (CPI) up to 2008 and CDRI estimates of later inflation (Kimsun and Dorina, 2009) have been used to rebase the 2007 poverty line to 2009 prices. On this basis, the 2007 rural poverty line in broadly comparable 2009/10 prices is about 3,166 riel per day of consumption per person.

<sup>53</sup> Food poverty lines have also been recently estimated for Cambodia. The rural food poverty line is about 17 per cent below the all consumption poverty line.

Since rural poverty incidence is 34.7 per cent, the poverty line falls within the second consumption quintile. The inflation adjusted poverty line at 3,166 riel is broadly consistent with the average consumption level for the second quintile of 3,427 riel (see Table 6.8). Table 6.8 also shows that for an average sized household on or close to the poverty line, the daily contribution of 10,000 riel per day for 50 days is equivalent to about 67 per cent of household consumption. Thus, while one person's daily public works wage would not be sufficient to meet all the daily basic needs of a household, it would meet a large proportion of them. The supplementary income would be especially valuable if public works projects are phased during agriculturally slack periods or coincide with the time of year when many rural households face food shortages<sup>54</sup>.

The above estimates of welfare impact based on the assumption of participation by one person per household for a period of 50 days should be taken to be indicative and illustrative. The workbook supplied can be used to make estimates of welfare impact under alternative assumptions to aid programme design. If a larger welfare impact is required and resources permit, programme scale and the number of days of employment could be extended. At least 1 person from 37 per cent of sample households stated availability for public works employment at a wage rate of 10,000 riel per day or lower and for these households, on average just over 2 persons were willing to participate at these wage rates. Therefore, if there is no restriction on the number of persons from a household participating, on average the welfare effect for public works employment would be about twice as large as those indicated in Table 6.7.

Another way of looking at the welfare impact on a household of public works employment is to compare the earnings from it with the cost imposed by shocks and how households cope with them. The CARD / ILO survey included questions on whether the household suffered any shocks in the past six months. Examples of shocks include family shocks (31 per cent) such as death of a family member, illness in the family and fire. Natural shocks (26 per cent) included crop failure, crop damage by flooding and death of livestock. Economic shocks (17 per cent) included loss of a family member's job or less than expected earnings. About two-thirds of all households had suffered at least one type of shock during the last six months.

Respondents were also asked about the estimated cost of the shocks. The average monetary cost of each type of shock estimated by households was 360,000, 240,000 and 264,000 riel respectively for family, natural and economic shocks. Earnings from fifty days of public works employment for a household with one public works participant for 50 days at the wage rate of 10,000 riel would be 500,000 riel which would clearly more than compensate for the average monetary cost of the shock. In response to a question on how households coped with shocks, largest amounts were raised by households from sale of assets followed by seeking help from friends, relatives and others, borrowing and spending savings. Looking for jobs was also an option. Clearly, access to local public works employment would reduce the need to sell assets, borrow and draw down savings.

On this basis, the level of support provided by 10,000 riel per day for 50 days appears to be reasonable. However, the shocks reported by households are for a period of six months. If the incidence and cost of shocks over 12 months are double the quantities of those for six months and the aim of the SSN is to enable households to cope with shocks, a higher level of benefits from public works may be justified though the provision of higher benefits would have to be balanced against the additional cost.

---

<sup>54</sup> The most acute food shortages are typically between July and November (Edmonds, 2010). According to FGDs undertaken as part of this study, availability for public works is greatest during October to April, hence the partial overlap. Further, cash earnings during periods when food shortages are less acute could be used to purchase food during periods of shortage.

The focus above is on the contribution of the public works SSN to the livelihoods of poor households and a case for setting the wage rate at a lower level is to target poor households. However, based on targeting evidence (sections 4.2 and 5), if the wage rate is used as a targeting device, a significant proportion of public works participants are likely to be from average and better off households. Based on access to land for cultivation as a proxy for household living standards, at the wage rate of 9,000 riel per day, 55 per cent of those willing to participate are from households in the bottom two quintiles (including landless households) implying that 45 per cent are in the top three quintiles (calculated from Table 4.11). The targeting according to access to land indicator is somewhat weaker at the wage rate of 10,000 riel per day with 46 per cent of households in the bottom two quintiles.

Based on consumption expenditure per head, about 60 per cent of households are from the top three quintiles (calculated from Table 4.8). If the data are reliable, this implies no targeting at all and the situation is not improved by lowering the wage rate still further. At the wage rate of 10,000 riel per day, the targeting appears to be slightly better with 44 per cent of households of those wishing to participate in the bottom two quintiles. This evidence suggests slightly better targeting at the higher wage rate.

While data problems cannot be completely ruled out, they are unlikely to be fully responsible for poor targeting. The most likely explanation is that variation in the value of labour within households, implying imperfectly functioning local labour markets, renders public works employment at a given wage attractive to surplus labour in less poor households in some cases but unattractive to poorer households with limited labour.

Evidence on cash earnings shows that poorer households tend to have fewer cash earners with high and low cash earnings and smaller amounts of land while better off households either have more land or a number of household members with high and low cash earnings. The immediate implications for the programme are to use additional targeting instruments which can be applied transparently with low administrative burden. In view of the poor targeting effectiveness of the wage rate, recommendations on targeting are included in section 6.3.

It is also possible that members of poor households were more cautious about indicating availability for a public works programme on a hypothetical basis especially if it implied relinquishing parts of their existing livelihood strategy and established relationships with employers. Indicating availability at higher wage rates could be one indicator of this caution. If the programme becomes established and employment on it can be accommodated alongside other economic activities, there may be greater willingness to participate by members of poorer households.

It is clear that there are a number of unanswered questions regarding the effectiveness of the wage rate as a targeting instrument and the efficacy and effectiveness of using other instruments in conjunction with the wage rate. Apart from the pragmatic recommendations made above, it is necessary to investigate targeting effectiveness during the early stages of programme implementation to monitor and improve targeting performance. It should also be noted that family, natural and economic shocks are suffered by poor as well as better off households. Therefore, the benefit to average and better off households of earnings from participation in public works SSN to compensate for the monetary costs of shocks and possibly to prevent them from slipping into poverty, fulfils a valuable SSN function.

### **6.3 Conclusions and recommendations**

The main conclusions on findings and recommendations on wage rates are put forward here. The Cambodian rural labour market offers a range of farm and non-farm opportunities

locally and further afield and labour supply is responsive to these opportunities. However, there is still substantial underemployment and low productivity employment leading to high poverty incidence. The public works based SSN would provide income support through short-term employment in creating or preserving infrastructure assets. The CARD / ILO study shows that members of a large proportion of households in the sample (73 per cent) would participate in public works at some wage rate to supplement livelihoods.

The number of persons willing to participate is responsive to the wage rate offered indicating that the rural economically active have choices between taking up public works employment and other commitments and economic activities. Therefore the public works SSN should be seen as an additional income opportunity to supplement the livelihoods of rural households. Specific recommendations on public works SSN wage rate and related aspects with brief comments are set out below:

Balancing the objectives of providing a reasonable level of social protection, targeting poorer sections of the population to the extent possible through the wage rate, minimising adverse impacts on other economic activities, ensuring that the wage rate offers incentive to work productively and practical aspects of setting wage rates, a uniform wage rate of 10,000 riel per day across the country is recommended as the public works SSN wage rate.

Coincidentally, the proposed wage rate is roughly equivalent to the current minimum wage rate plus living allowance for garment workers but below average earnings in garment making. At a uniform wage rate, there will be substantial differences between localities and regions in the numbers wishing to participate in public works. Levels of programme activity will have to be responsive to these differences between localities and regions. A uniform wage rate is equitable in that the same amount is paid for similar work as long as variations in living costs are not large.

A number of other aspects which will need attention at the programme design and early implementation stages have been identified below.

- About equal numbers of men and women stated willingness to participate at a daily wage rate of 10,000 riel. There should be no discrimination between men and women with respect to access to LI and LB public works employment and men and women should be paid equally for work of equal value.
- The wage rate by itself is not an effective device for targeting the poor let alone for targeting specific groups. Additional targeting could be:
  - geographical, of poor areas and those affected by natural or economic shocks.
  - giving priority to the ID Poor.
  - more specific targeting for the poorest, youth, veterans and IDPs though elaborate targeting usually entail additional administrative efforts and costs and introduces potential for abuse.
- Public works employment should be provided in less busy agricultural periods to reduce disruption of other productive activities. This is especially important since the targeting effectiveness of the wage rate is weak and a large proportion of rural households rely on off-farm cash earning during the slack agricultural season to supplement their livelihoods.
- Where those wishing to participate exceed labour requirement or resources are not sufficient to provide employment to all those willing to participate, some form of rationing will be required.
  - One approach is specific targeting of those identified as being in greatest need. This could be through objective criteria such as those used for identifying the ID Poor or community level subjective appraisals.
  - Limiting the number of days of participation per household is another rationing device though this would require additional administrative effort and expenditure.



It will not improve targeting effectiveness but will make access to the SSN equitable between households wishing to participate while facilitating control of the wage bill by limiting the number of participants and number of days of participation.

- Another rationing mechanism which is easier to implement administratively and could be made transparent is random selection from those wishing to participate.

Random selection is likely to be more appropriate for LB projects while specific targeting or limiting the number of days of participation is likely to be more appropriate for smaller local community based LI projects.

- In section 5.2 it has been argued that for equity, a uniform wage rate should be offered across the country and public works activities should be responsive to regional and local need for SSN support. However, an issue arises with respect to the wage rate to be paid by contractors and whether a distinction may be needed between the proposed wage rate and the wage rate on LB projects in some localities. For projects being implemented through contractors, they would be responsible for setting wage rates and paying workers subject to the stipulation that the wage rate cannot be below the recommended public works wage rate. Therefore, effectively, the proposed public works wage rate would be the minimum wage rate for contractor operation. The question is whether contractors would be permitted to pay higher than the proposed wage rate if local labour market and efficiency wage considerations require it. The same issue may arise for LB projects implemented by direct labour in similar areas<sup>55</sup>. If it is necessary to pay higher than the proposed public works wage rate on some LB projects, it will be necessary to ensure that it does not cause any discontent among participants on other projects being paid the standard public works wage rate.
- The public works wage rate would need to be revised periodically in response to changes in labour market conditions and cost of living. The wage rate should be reviewed every two years (unless the need for more frequent reviews is apparent because of economic circumstances). The review should be based on monitoring the labour supply response to programme activities, evidence on rural wage rates from the annual CSES surveys being undertaken by NIS and evidence on cost of living.
- The proposed SSN aims to combine provision of a level of protection through public works during normal times targeted at poor areas and provision of support for the poor and vulnerable in response to shocks. With the latter, public works activities would have to be initiated and their scale determined when the need arises. In order not to disrupt labour supply, if a higher level of support is required because of the severity of the shock, it is preferable to adjust the number of days of employment offered rather than the SSN wage rate.

Some important conclusions and recommendations are based on stated responses to hypothetical questions posed in the CARD / ILO survey. It will be necessary to review the findings and related recommendations in the light of experience during the early stages of programme implementation. The aspects which would need further investigation are the actual labour supply response and the role of the wage rate in targeting. When implementation starts, there should be a sample survey of participants and monitoring of the labour supply response. Evidence from the survey and monitoring of numbers willing to participate should be used to make adjustments to the wage rate, investigate the targeting effectiveness of the wage rate and investigate additional targeting and rationing rules as necessary.

---

<sup>55</sup> Since LI projects will typically be planned to match the local need for SSN support, the need to pay a higher wage rate to ensure adequate labour supply does not arise.

## References

Almazan R V (2008) *The Cambodian construction industry: Opportunities and challenges for workers and their trade unions*, prepared for Building & Wood Workers International, Asia-Pacific Regional Office, Selangor, Malaysia.

Barrett C and Clay D (2003) "How Accurate is Food-for-Work Self-Targeting in the Presence of Imperfect Factor Markets? Evidence from Ethiopia", *Journal of Development Studies*, Volume 39, No 5.

Cambodia Institute of Development Study (CIDS) (2009) *Living Wage Survey for Cambodia's Garment Industry*, in Cooperation with TWARO-ITGLWF (International Textile, Garment and Leather Workers Federation), financed by the Friedrich Ebert Stiftung.

CDRI (2009a) *Cambodia Development Review*, Volume 13, Issue 3, July-September.  
CDRI (2009b) *Study to define appropriate wage rates for a public works programme as part of a Social Safety Net in Cambodia: First input report, Focus Group Discussions and Preparation for ILO / CARD Survey*, Phnom Penh.

Conway T and Samsen N (2009) *Poverty and socioeconomic development trends 2004-7: Findings from the 2007 Cambodia Socioeconomic Survey (CSES 2007)*, Presentation, Phnom Penh.

del Ninno, Subbarao and Milazzo (2009) *How to make public works work: A review of the experiences*, Social Protection Discussion Paper 0905, World Bank, Washington.

Economic Institute of Cambodia (EIC) (2009) *Cambodia Economic Watch*, Phnom Peng.

ECOSORN (2007) *Agro-ecological zones and main farming systems in the project area*, (<http://www.ecosorn.org/archive/data/Agro-ecological%20zones.pdf> )

Edmonds G A E (2010) *A Strategy for a Public Works Programme as part of Social Protection of the Poor and Vulnerable: Issues and Approach*, Phnom Penh.

Fitzgerald I and So Sovannarith et al (2007) *Moving out of poverty: Trends in community well-being and household mobility in nine Cambodian villages*, CDRI, Phnom Penh.

GIPC / USAID (2007) *Factory-Level Value Chain Analysis of Cambodia's Apparel Industry*, report prepared by Nathan Associates Inc. and Werner International for review by the United States Agency for International Development.

ILO (2009) *Database on national minimum wages and regulations* (website: [http://www.ilo.org/dyn/travail/travmain.sectionReport1?p\\_lang=en&p\\_countries=KH&p\\_sc\\_id=1&p\\_year=2009&p\\_structure=1](http://www.ilo.org/dyn/travail/travmain.sectionReport1?p_lang=en&p_countries=KH&p_sc_id=1&p_year=2009&p_structure=1) ).

Kimsun T, Chan Hang S and Socheth H (2009) *Trends in Living Standards of 90 Rural Households in Poverty Dynamics Study Villages* (Final Report), CDRI, Phnom Penh.

Kimsun T and Dorina P (2009) *Vulnerable Workers Survey in Phnom Penh, Kandal, Kampong Speu, Siem Reap and Battambang* (draft), CDRI, Phnom Penh.

Mahmood M (2005) *Generating decent work for poverty reduction in Cambodia*, Working Paper No. 48, Policy Integration Department, National Policy Group, International Labour Office, Geneva

McCord (2004) *A Setting the Public Works Wage in Malawi: The Challenges and Contradictions of Social Protection, Self Targeting and Market Distortion in the Context of an Imperfect Labour Market*.

([http://www.docstoc.com/docs/DownloadDoc.aspx?doc\\_id=19761633](http://www.docstoc.com/docs/DownloadDoc.aspx?doc_id=19761633))

McCord A (2005) "Public Works in the context of HIV/AIDS: Innovations in public works for reaching the most vulnerable children and households in East and Southern Africa".

SALDRU Public Works Research Project,

([http://www.saldru.uct.ac.za/pwp/papers/publicworks\\_report\\_uct.pdf](http://www.saldru.uct.ac.za/pwp/papers/publicworks_report_uct.pdf))

Morris E (2007) *Promoting employment in Cambodia: Analysis and options*, International Labour Organization ILO Subregional Office for East Asia Bangkok.

NIS (2009) *Workshop on Cambodian household income in CSES 2007: Problems and challenges*, Presentation, 19<sup>th</sup> August, Phnom Penh.

NIS (National Institute of Statistics) (2007) *Food Insecurity assessment in Cambodia*, the EC-FAO Food Security "Information for Action", Ministry of Planning, Phnom Penh, Cambodia.

NIS (National Institute of Statistics) (2008) *General population census of Cambodia*, Ministry of Planning, Phnom Penh (referred to as Population Census 2008 in the report).

Samson M, van Niekerk I, MacQuene K (2006) *Designing and Implementing Social Transfer Programmes: Guide to Management Arrangements for Social Transfers in the Form of Cash*, Economic Policy Research Institute, Cape Town.

Tajgman D and de Veen J (1998) *Employment Intensive Infrastructure Programmes: Labour Policies and Practices*. International Labour Organization, Development Policies Department, Geneva.

Vaidya K G (2008) *Appropriate wage rate and related issues for employment intensive public works programmes in Timor Leste*, for ILO ASIST-AP and Government of Timor Leste.

World Bank (2006) *Cambodia: Halving Poverty by 2015? Poverty Assessment 2006*, Report No. 35213-KH, East Asia and the Pacific Region.

World Bank (2009a) *Sustaining rapid growth in a challenging environment: Cambodia Country Economic Memorandum*, Poverty Reduction and Economic Management Sector Unit, East Asia and Pacific Region

World Bank (2009b) *Poverty profile and trends in Cambodia, 2007: Findings from the Cambodia Socio-Economic Survey (CSES)*, Report No. 48618-KH, Poverty Reduction and Economic Management Sector Unit, East Asia and Pacific Region.

World Bank / UNICEF (2010) *Safety Nets in Cambodia: Identification and costing of selected policy options*, draft.

## **Annex I: CARD / ILO Survey Questionnaire**

Household Number:.....

**HOUSEHOLD QUESTIONNAIRE - Draft**

**PART 1**

<b>1. Household Information - Location Identification</b>		<b>Code</b>
1.1. Province		
1.2. District		
1.3. Commune		
1.4. Village		
1.5. Name of Head of Household		

<b>2. Enumeration Particulars</b>	<b>1. Enumerator</b>	<b>2. Supervisor</b>
2.1. Name		
2.2. Date of interview and supervisor check (day/month/year: i.e. 08/10/2009)		
2.3. Signature		

<b>3. Data Entry</b>	
3.1. Name	
3.2. Date of data entry (day/month/year: i.e. 08/10/2009)	
3.3. Signature	

<b>4. Number of persons in household<sup>56</sup> (all members including children aged 0-14)</b>	
4.1. Male	
4.2. Female	
4.3. Total	

- 
- <sup>56</sup> A household is defined as a group of persons who commonly live together and would take their meals from a common kitchen unless the need to be away from the household for work prevented any of them from doing so. "Regular" households exclude institutional households (e.g. boarding houses, hotels, pagodas and jails), homeless households or other transient households (such as people living on boats).
  - MOP: "Household" refers to living in the same house and sharing the same food. If they live in the same house but cook and eat separately, they should be considered as different households. In order to be counted as a household member the person has to have been present in the household in the last six months. If the person has not been present in the house at all since the last 6 months, then he/she is not counted as a household member.

**PART 2**

People who normally live in this household <sup>57</sup> (15 years old and above)				
2.1. Person number	2.2. Name	2.3. Age On last birthday (years)	2.4. Sex Male = 1 Female = 2	2.5. Relationship to the head of household <sup>58</sup>
1				1
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

**Code: Question 2.5:** 1= Household head, 2= Husband/wife, 3= Sister-/brother-in-law, 4= Son or daughter, 5= Son-/daughter-in-law, 6= Grandchild, 7= Stepchild , 8= Parent, 9= Grandparent, 10= Niece/Nephew, 11= other (specify)

**This question is needed to identify all those who are currently in the hh and especially those who are 15 years old or older. We need to ensure that each person’s age and other characteristics can be directly linked with each person’s economic activities in the later questions.**

*(Note: There are some economic activity questions on the MOPS questionnaire but I am assuming that it will not be possible to make a link at the individual level in this study and the previous data. However, some descriptive on economic activities of hh members from the previous data would be useful when I am working on the report.)*

<sup>57</sup> See definition on page 1.

<sup>58</sup> **Person 1 to be the head of hh.** Definition of head of household for the 1998 population census: “a person who is recognised as such in a household. He or she is generally the person who bears the chief responsibility for the management of the household and takes decisions on behalf of the household. Head of household is not necessarily the eldest male member, but may be a female member or a younger member of either sex.”

**PART 3:** This section covers activities of household members aged 15 and above in the last seven days, unemployment and non-economic activities. *Ask for all household members aged 15 and above (preferably, each person should answer questions the questions about his/her economic activities in section 3).*

**Read out:** Now I am going to ask some questions about activities in the last seven days for each household member aged 15 and above.

<b>3.0</b>	<b>Start with the first person 15 years old or older, put in that person's number from the first column on previous page (Part 2) and get responses to 3.1 to 3.20 for that person. Then do the same with the second person 15 years or older and so on until responses have been received for each person in the household 15 years old or older.</b>						
<b>3.1</b>	<b>In the last seven days, did ...[Name]... do any of the following activities, even for only one hour? Show prompt card 1.</b>	<b>Yes=1 No =2</b>	<b>Yes=1 No =2</b>	<b>Yes=1 No =2</b>	<b>Yes=1 No =2</b>	<b>Yes=1 No =2</b>	<b>Yes=1 No =2</b>
3.1.1	<b>Run or do any kind of business, big or small, for himself / herself or with one or more partners?</b>						
3.1.2	<i>If the answer to (3.1.1) is "Yes", indicate number of hours during the last seven days.</i>						
3.1.3	<b>Do any work for a wage, salary, commission or any payment in kind?</b>						
3.1.4	<i>If the answer to (3.1.3) is "Yes", indicate number of hours during the last seven days.</i>						
3.1.5	<b>Help unpaid in a household business of any kind?</b>						
3.1.6	<i>If the answer to (3.1.5) is "Yes", indicate number of hours during the last seven days.</i>						
3.1.7	<b>Do any work on his/her own or the household's farm, growing farm produce or in looking after animals for the household?</b>						
3.1.8	<i>If the answer to (3.1.7) is "Yes", indicate number of hours during the last seven days.</i>						
3.1.9	<b>Do any construction or major repair work on his/her own home, farm or business, or those of the household?</b>						
3.1.10	<i>If the answer to (3.1.9) is "Yes", indicate number of hours during the last seven days.</i>						
3.1.11	<b>Catch any fish, prawns, shells, wild animals or other products for sale or household use?</b>						
3.1.12	<i>If the answer to (3.1.11) is "Yes", indicate number of hours during the last seven days.</i>						
3.1.13	<b>Other. Please specify in the space below.</b>						
3.1.14	<i>If the answer to (3.1.13) is "Yes", indicate number of hours during the last seven days.</i>						
3.1.15	<i>Brief explanation of "(3.1.13) Other"</i>						

**If "YES" for a person to any part of Question 3.1 → Go to Q 3.4 for that person.**

**If "No" to all options for a person, continue with next question.**

	<b>Number for each person 15 years old or older to be entered from Part 2 (see 3.0 above).</b>						
<b>3.2</b>	<p><i>If the answer is “No” to all parts of Question 3.1 for a person, ask:</i></p> <p><b>Even though ..[Name].. did not do any of these activities in the last seven days, does he/she have a job, business, or other economic or farming activity that he/she will definitely go to?</b></p> <p>1 = YES 2 = NO → <b>Go to Q 3.8</b></p>						
<b>3.3</b>	<p><b>What was the main reason ..[Name].. was absent from this activity in the last seven days? <i>Mark only one reason.</i></b></p> <p>01 = OWN ILLNESS OR INJURY 02 = CARING FOR FAMILY OR OTHERS 03 = OTHER FAMILY/COMMUNITY OBLIGATIONS (E.G. FUNERALS, MEETINGS) 04 = PROBLEMS WITH TRANSPORT 05 = BAD WEATHER 06 = VACATION, LEAVE 07 = STUDY OR TRAINING 08 = OTHER REASON</p>						
	<b>Brief explanation of “08 = OTHER REASON”</b>						
<b>3.4</b>	<p><b>What is the type of ..[Name]..’s main place of work?</b></p> <p>01= GOVERNMENT (INCLUDING POLICE, MILITARY, TEACHER) 02= UN ORGANISATION 03= NGO (PAID OR VOLUNTARY) 04= EMPLOYMENT IN PRIVATE SECTOR 05= SELF EMPLOYMENT – WORKING IN OWN BUSINESS INCLUDING PARTNERSHIP 06= SUBSISTENCE FARMING, FISHING OR OTHER 07= LOOKING FOR WORK AND AVAILABLE TO START WORK 08 = OTHER REASON</p>						
	<b>Brief explanation of “08 = OTHER REASON”</b>						



	<b>Number for each person 15 years old or older to be entered from Part 2 (see 3.0 above).</b>								
3.5.1	<b>What is ..[Name]..'s daily pay or earnings at his/her <u>main</u> job or business?</b> <i>(Note: Normally, such information will not be available for some activities, e.g. work on family farm.)</i>			<b>Amount</b>					
3.5.2	<i>Give amount in figures indicating units (Riel or \$ for cash, commodity and amount if payment is in kind).</i>			<b>Units</b>					
	<i>If reluctant to answer or not sure about the exact amount → Go to Q 3.7</i>			<b>No answer</b>					
3.6	<b>Ask only if an amount is given in Q 3.5</b> <b>Is the pay ....</b> 1 = PER DAY 2 = PER WEEK 3 = PER MONTH								
3.7	<b>Ask only if reluctant to answer or not sure about the exact amount in Q 3.5.</b> <i>Show the categories. Make sure the respondent points at the <b>correct income column</b> (daily, weekly or monthly) on <b>prompt card 2</b> and mark the applicable code.</i>								
		<b>Daily</b>	<b>Weekly</b>	<b>Monthly</b>					
01	R 0 - 3000	R 0 – 15000	R 0 - 66000						
02	R 3001 - 6000	R 15001 - 30000	R 66001 - 132000						
03	R 6001 - 9000	R 30000 - 45000	R 132001 - 198000						
04	R 9001 - 12000	R 45001 - 60000	R 198001 - 264000						
05	R 12001 - 15000	R 60001 - 75000	R 264001 - 330000						
06	R 15001 - 18000	R 75001 - 90000	R 330001 - 396000						
07	R 18001 - 21000	R 90001 - 105000	R 396001 - 462000						
08	R 21001 - 24000	R 105001 - 120000	R 462001 - 528000						
09	R 24001 - 27000	R 120001 - 135000	R 528001 – 594000						
10	R 27001 - 30000	R 135000 – 150000	R 594001 – 660000						
11	MORE THAN R 30000	MORE THAN R 150000	MORE THAN R 660000						

→ Go to Q 3.16

The following questions cover unemployment and non-economic activities followed by employment seeking and last employment.  
 Ask for all household members aged 15 and above who did not work and were not absent from work in the last seven days (i.e. for all those whose answer on Q 3.2 = 2).

	<b>Number for each person 15 years old or older to be entered from Part 2 (see 3.0 above).</b>						
<b>3.8</b>	<b>Why did ..[Name].. not work during the past seven days?</b> 01 = HAS FOUND A JOB, BUT IS ONLY STARTING AT A DEFINITE DATE IN THE FUTURE → <i>Go to Q 3.16</i> 02 = SCHOLAR OR STUDENT <u>AND</u> PREFERS NOT TO WORK 03 = HOUSEWIFE/HOMEMAKER <u>AND</u> PREFERS NOT TO WORK 04 = RETIRED <u>AND</u> PREFERS NOT TO SEEK FORMAL WORK 05 = ILLNESS, INVALID, DISABLED OR UNABLE TO WORK 06 = TOO YOUNG OR TOO OLD TO WORK 07 = LACK OF SKILLS OR QUALIFICATIONS FOR AVAILABLE JOBS 08 = CANNOT FIND ANY WORK 09 = CANNOT FIND SUITABLE WORK (SALARY, LOCATION OF WORK OR CONDITIONS NOT SATISFACTORY) 10 = OTHER REASON						
	<b>Brief explanation of "10 = OTHER REASON"</b>						
<b>3.9.1</b>	<b>During the past four weeks, has ..[Name].. taken any action TO LOOK FOR ANY KIND OF WORK</b> 1=YES 2=NO						
<b>3.9.2</b>	<b>During the past four weeks, has ..[Name].. taken any action TO START ANY KIND OF BUSINESS</b> 1=YES 2=NO						
<b>3.10</b>	<b>Has ..[Name].. ever worked before for payment in cash or kind (other than on the family farm)?</b> 1 = YES 2 = NO → <i>Go to Q 3.15</i>						

	<b>Number for each person 15 years old or older to be entered from Part 2 (see 3.0 above).</b>						
<b>3.11</b>	<b>How long ago was it since ..[Name].. last worked (other than on the family farm)?</b> 01 = 1 week - less than 1 month 02 = 1 month - less than 3 months 03 = 3 months - less than 6 months 04 = 6 months - less than 12 months (1 year) 05 = 1 year - less than 3 years 06 = 3 years or more 888 = Don't know						
<b>3.12.1</b>	<b>What is ..[Name]..'s daily pay or earnings at his/her <u>previous job or business</u>? (Note: Normally, such information will not be available for some activities, e.g. work on family farm.)</b>	<b>Amount</b>					
<b>3.12.2</b>	<i>Give amount in figures indicating units (Riel or \$ for cash, commodity and amount if payment is in kind).</i>	<b>Units</b>					
	<i>If reluctant to answer or not sure about the exact amount → Go to Q 3.14</i>	<b>No answer</b>					
<b>3.13</b>	<b>Ask only if an amount is given in Q 3.12.</b> <b>Is the pay ....</b> 1 = PER DAY 2 = PER WEEK 3 = PER MONTH						

	<b>Number for each person 15 years old or older to be entered from Part 2 (see 3.0 above).</b>								
<b>3.14</b>	<b>Only if reluctant to answer or not sure about the exact amount in Q 3.12</b> <i>Show the categories. Make sure the respondent points at the <b>correct income column</b> (daily, weekly or monthly) on <b>prompt card 2</b> and mark the applicable code.</i>								
		<b>Daily</b>	<b>Weekly</b>	<b>Monthly</b>					
01	R 0 - 3000	R 0 – 15000	R 0 - 66000						
02	R 3001 - 6000	R 15001 - 30000	R 66001 - 132000						
03	R 6001 – 9000	R 30000 - 45000	R 132001 - 198000						
04	R 9001 - 12000	R 45001 - 60000	R 198001 - 264000						
05	R 12001 - 15000	R 60001 - 75000	R 264001 - 330000						
06	R 15001 – 18000	R 75001 - 90000	R 330001 - 396000						
07	R 18001 - 21000	R 90001 - 105000	R 396001 - 462000						
08	R 21001 - 24000	R 105001 - 120000	R 462001 - 528000						
09	R 24001 – 27000	R 120001 - 135000	R 528001 – 594000						
10	R 27001 - 30000	R 135000 – 150000	R 594001 – 660000						
11	MORE THAN R 30000	MORE THAN R 150000	MORE THAN R 660000						

	<b>Number for each person 15 years old or older to be entered from Part 2 (see 3.0 above).</b>						
3.15.1	<b>How does ..... support him/herself?</b> a. DID ODD JOBS DURING THE PAST SEVEN DAYS 1 = YES      2 = NO						
3.15.2	<b>How does ..... support him/herself?</b> b. SUPPORTED BY PERSONS IN THE HOUSEHOLD 1 = YES      2 = No						
3.15.3	<b>How does ..... support him/herself?</b> c. SUPPORTED BY PERSONS NOT IN THE HOUSEHOLD 1 = YES      2 = No						
3.15.4	<b>How does ..... support him/herself?</b> d. SUPPORTED BY CHARITY, CHURCH, WELFARE, ETC. 1 = YES      2 = No						
3.15.5	<b>How does ..... support him/herself?</b> e. SAVINGS OR MONEY PREVIOUSLY EARNED 1 = YES      2 = No						
3.15.6	<b>How does ..... support him/herself?</b> f. BORROWING 1 = YES      2 = No						
3.15.7	<b>How does ..... support him/herself?</b> g. OTHER SOURCES 1 = YES      2 = No						
	Brief explanation of "g = OTHER SOURCES"						
	<b>If "YES" to response 3.15.1.a</b> → Go back to Q 3.1 for that person since response implies that some work was done by the person in the last seven days.						

	<b>Number for each person 15 years old or older to be entered from Part 2 (see 3.0 above).</b>						
3.16	<p>If a suitable job at acceptable pay becomes available, will ..[Name].. accept it?</p> <p>1 = YES 2 = NO 888 = DON'T KNOW</p> <p><i>IF "2 = NO" OR "888 = DON'T KNOW" → Go to Q 3.18</i></p>						
3.17	<p>If ..[Name].. takes up new employment, what will happen to work and other activities he/she is currently doing?</p> <p>01 = NO ACTIVITIES OR PAID WORK AT PRESENT 02 = COMBINE NEW EMPLOYMENT WITH CURRENT ACTIVITIES 03 = GIVE UP CURRENT PAID EMPLOYMENT 04 = OTHER FAMILY MEMBERS TO DO MORE HOUSEHOLD CHORES AND WORK ON FARM 05 = ANOTHER FAMILY MEMBER TO TAKE UP CURRENT PAID EMPLOYMENT 06 = OTHER</p> <p><i>(Note: More than one response possible, though 01 is not consistent with 02 to 06.)</i></p>						
	<b>Brief explanation of "06 = OTHER REASON"</b>						
3.18	<p>If manual work in road improvement, such as digging earth or hauling it, is offered locally at R5000 per day, would ...[Name]... be willing to take it up?</p> <p>1 = YES</p> <p><i>→ Go to Q3.0 for next person in household 15 years or older. Go to 5.0 if section 3 has been completed for all persons 15 years or older.</i></p> <p>2 = NO</p>						

	Number for each person 15 years old or older to be entered from Part 2 (see 3.0 above).						
3.19	<p>If manual work in road improvement, such as digging earth or hauling it, is offered locally at R9000 per day, would ...[Name]... be willing to take it up?</p> <p>1 = YES</p> <p>→ Go to Q3.0 for next person in household 15 years or older. Go to 5.0 if section 3 has been completed for all persons 15 years or older.</p> <p>2 = NO</p>						
3.20.1	<p>What is the minimum acceptable pay for such work (i.e. manual work in road improvement, such as digging earth or hauling it, for ...[Name]...)</p> <p>Give amount in figures, indicating whether it is per day, per week or per month.</p>						
3.20.2	<p>If the response is "NO PAY ACCEPTABLE", "REFUSE TO ANSWER" or "DON'T KNOW", INDICATE BELOW.</p> <p>1 = NO PAY ACCEPTABLE</p> <p>2 = REFUSE TO ANSWER</p> <p>888 = DON'T KNOW</p>						

**Part 4**

**4.1. Since May 2009, have you faced any of the following crises? (Household-Level)**

		1=YES 2=NO	If YES, how much was spent? (ten thousand riels)	Remarks
4.1.1	Loss of household member (number:.....)			
4.1.2	Household member became very sick/was badly injured			
4.1.3	Fire			
4.1.4	Crop failure			
4.1.5	Crop damage due to flooding			
4.1.6	Other damage due to flooding			
4.1.7	Animal deaths/theft			
4.1.8	Theft or being cheated			
4.1.9	Household member lost waged employment			
4.1.10	Household member earned money less than before due to losing job or less hours of work available			
4.1.11	Business shutdown			
4.1.12	Land Conflict			
4.1.13	Other (specify:.....)			

Note: If all answers 2= No; end of interview



4.2. How did your family cope with the incident(s) above? (Multiple answers permitted)

		1=YES 2=NO	If yes, how much was spent? (ten thousand riel)	Remarks
4.2.1	Spent savings			
4.2.2	Reduced consumption			
4.2.3	Borrowed money (including gold)			
4.2.4	Sold cattle			
4.2.5	Sold transport, farm or household equipment			
4.2.6	Rented out land			
4.2.7	Sold residential land/house			
4.2.8	Sold agricultural land			
4.2.9	Got help from relatives/friends			
4.2.10	Got help from NGOs			
4.2.11	Household member(s) migrated to look for jobs			
4.2.12	Placed children in labour service			
4.2.13	Other (specify: .....)			

**End of interview: Thank the respondent!**

*Interviewer*

<b>5</b>	<b>Indicate the column number(s) of the person(s) who answered all or most of the questions.</b>	
----------	--	--

## Annex II: CARD / ILO study FGD discussion topics

Topic	Clarification and Issues to be discussed
<p>1. Importance of unskilled waged employment and other sources of cash income for hhs in the village</p>	<p><u>Clarification</u> Waged employment could be any work undertaken in return for payment in cash and/or kind outside the household and family farm. It could be for another household, a commercial farm, a business, public sector employment, employment in construction work in or near the village or further away.</p> <p>Self-employment singly or in partnership or fishing, hunting and harvesting common resources are not waged employment. However, they are sources of cash income which are alternatives to waged employment and therefore have a bearing on the demand for waged employment.</p> <p><u>Issues to be discussed</u> Main sources of cash income for hhs.</p> <p>Importance of waged employment vs other sources of cash income for households. This may be different for poor, average or rich households. Other differences may also be significant, e.g. hhs with no or very little land and large households may have greater need for such employment. The aim in this and other questions would be to encourage the participants to come up with responses but it may also be necessary to provide prompts if responses are not forthcoming.</p> <p>Main uses of additional income by poor, average and better off hhs (e.g. to purchase more food, more non-food items, education, health, purchasing inputs or investment for farm or business or repaying debt). Typically, poorer households may need to spend more of the additional income on food and other essential household items and may have to repay debt while better off households may have enough income to spend on education, health and investment. But we want to get local insights on this.</p>
<p>2. Types and location of unskilled waged employment taken up (currently or in the past) by people from the village.</p>	<p>We want to know from the direct experience and knowledge of the participants, the types of jobs which are taken up by local people within or near the village, in nearby towns, larger towns and cities further away within Cambodia or outside the country.</p>
<p>3. Wage rates and payment</p>	<p><u>Clarification</u></p>

Topic	Clarification and Issues to be discussed
arrangements	<p>Reference here is to wage rates for unskilled labour, though if participants provide information on wage rates for semi-skilled or skilled labour, this should be noted along with the types of skills.</p> <p>The payment arrangements include three main aspects. The first is whether payment is made on a daily, weekly or monthly basis. The second is whether it is related to days of attendance at work or amount of work done (e.g. piece rate or task rate). The latter is either related to the amount of work done (piece rate) or subject to satisfactory completion of a specified task (task rate). The third aspect is whether payment is in cash, in kind or combination of cash and kind.</p> <p>Participants may not know the wage rates in locations away from the village unless they have taken up such employment in the past or know someone who has. They will generally have a better idea of wage rates in the village or nearby areas.</p> <p><u>Issues to be discussed</u> The issues to be discussed have been clarified above. Wage rates may vary depending on the type of employment, working conditions and the time of the year. Any such variations should be brought out in the discussion and should be noted.</p> <p>Any differences in wage rates between men and women which may be related to differences in the type of work undertaken by men and women should also be noted.</p>
4. Exchange of labour between hhs	<p>Whether there is a tradition of labour exchange between hhs in the village or between villages, how it works (i.e. which hhs exchange labour and with whom), how widely prevalent it is, and whether it is purely on a reciprocal basis or if there is payment in cash or kind involved.</p>
5. Seasonality of labour availability	<p>The issue here is seasonal variations in labour requirements in agriculture and other activities (e.g. harvesting common resources) and therefore the times of the year when local people are available for waged employment and when there is a need for waged employment. We should note the types of activities for which labour requirements are heavy</p>

Topic	Clarification and Issues to be discussed
	<p>and the times of the year when these activities have to be undertaken.</p> <p>This is relevant for understanding features of the local labour market and for scheduling any future public works programmes.</p>
<p>6. Public works employment – local experience and views of participants</p>	<p>This topic is concerned with finding out about any current or recent experience of employment on public works (including WFP Food for Work) in or near the village and views of participants' on public works employment irrespective of whether they have direct experience of such employment. Therefore, contributions by FGD participants may be based on their participation in such projects or general observations.</p> <p>If there have been public works projects in or near the village, it would be useful to know roughly how many people or hhs from the village participated, which type hhs benefited from participation. Whether participants were predominantly young or across the age range and whether women participated.</p> <p>If there have not been such projects in the area, it would be useful to know whether in the opinion of the participants, such projects would help and at which times of the year.</p>
<p>7. Acceptable wage rates for public works and employment conditions</p>	<p>This is concerned with seeking the views of participants on the appropriate wage rate for public works programmes and how it relates to wage rates and earnings in other activities. We also want to know the reasons why a particular wage rate is thought to be reasonable, especially in relation to wage rates and earnings in other activities.</p> <p>Whether participants prefer payment in cash or kind is also another question.</p>
<p>8. Waged employment, opportunity cost and household burden</p>	<p>There are two aspects here. The first is the alternative income earning opportunities foregone by taking up waged employment and the second is the additional burden of work which may fall on the other members of the household if one member takes up waged employment. Therefore, we want to know what is being sacrificed when members of a hh take up waged employment on a public works programme or other types of employment and also whether hhs have sufficient capacity to do more and therefore accommodate a hh member taking up waged employment without loss of other hh income or farm production.</p>

Topic	Clarification and Issues to be discussed
	<p>One question here is whether the situation is better if the waged employment is local, i.e. members of hh taking up local employment can also devote some time to other activities important for the household.</p>
<p>9. Pros and cons of local vs employment further away.</p>	<p>In relation to 8 above, whether local employment is preferable to seeking employment further away or higher pay further away is enough compensation for the increased burden for the remaining members of the hh. Also, whether local employment is more advantageous for some groups of people e.g. women.</p> <p>What is reasonable pay on a local job as opposed to one further away is a related question.</p>
<p>10. Female participation in waged employment and public works and participation by the young</p>	<p>Women should have opportunities to participate in waged public works or other employment. Therefore, the discussion should obtain understanding of whether women are willing to participate in such activities, how easy it is for them to participate and any barriers against such participation.</p> <p>Whether there is a problem of youth unemployment in the village and whether public works employment would help is another topic to be discussed in the FGD.</p>