

Poverty Issues in Target Provinces

1. Causes and Characteristics of Poverty

In Cambodia, the long period of destructive conflict and instability is probably the main root contributor to the widespread poverty that currently exists. Indeed, those who were displaced, maimed, orphaned, or widowed by the conflict face the greatest hardships. Damage to infrastructure (particularly irrigation systems), land mines, and other security threats contributed to low agricultural production. Execution of educated Cambodians during the Khmer Rouge era contributed to the low levels of human capital that hamper the effective delivery of social and government services. Discrimination (ethnic or gender), however, does not appear to be a principal cause of poverty in Cambodia. Cambodia Human Development Report (CHDR) 1999 reports that over 96 percent of villages are principally Khmer, so that even though villages dominated by ethnic minorities (Vietnamese, Chinese, Cham, hill tribes) tend to be poorer, they do not represent the bulk of the poor. Additionally, although there are a large percentage of female-headed households (25 percent), the incidence of poverty among female-headed households is slightly lower than among male-headed households. Thus, gender bias, even though, clearly exists in Cambodia, it is not by itself a major source of poverty.

The Cambodian poor as defined by low incomes and low consumption bundles generally tend to have less access to productive resources. For example, poorer villages tend to be located where there is less access to natural resources or where there are lower quality natural resources (e.g. less productive land in areas more vulnerable to flood and drought). Moreover, CHDR 1999 reports that the poorer villages have less access to markets (14 percent of villages can reach market), infrastructure (43 percent of villages accesses to electricity and 23 percent accesses to piped water), economic services (11 percent of villages is able to use a facility of banks or credit institutions and 4 percent receives agricultural extension), and political power (the average village is 9 km from the district town). Richer villages tend to be closer to industrial or commercial enterprises such as brick and tile manufacturing in the northwestern part of the country. Finally, poorer villages tend to have no access to basic educational services (46 percent of villages have primary schools and only 5.4 percent gets lower secondary school education) or basic health services (16.2 percent of villages have a clinic).

As a result of inadequate access to resources and services, poorer villages have a tendency to depend more on agriculture activities whereas richer villages are more diversified, with trading as the most important economic activity. About 90 percent of the poor belong to households that rely on agriculture as the primary source of income. These people often suffer from basic food insecurity, manifested as seasonal hunger in the months prior to the major harvest, sometimes leading to a cycle of indebtedness that ends in loss of farm assets such as land. The poor prefer to have larger families living under one roof with younger children and higher dependency ratios (ratios of nonworking to working household members).

2. Government Strategy for Poverty Eradication

The Government's strategic development goals are summarized in Box 1. Poverty eradication is the Government's primary goal. The central thrust of the Government's poverty eradication strategy is to promote faster economic growth in rural areas, in part by reducing the barriers to participation in economic growth by the poor at the village level. A three-pronged strategy includes decentralization to increase efficiency and equity of development activities, increased agricultural productivity to enhance incomes, and improved access to social services to ensure broad-based economic development. To promote participatory rural development, the Government is expanding a major decentralization effort in which village

development committees (VDCs) participate in the planning and management of local development programs and projects. Currently, 25 percent of villages have VDCs that are often supported by nongovernment organizations (NGOs) and receive funds from the Central Government and international aid agencies. The Government's goal is to increase the villages with VDCs to 69 percent by the end of 2000.

Box 1: Government's Development Strategy

- Poverty eradication through participatory rural development
- Increased access to social services, particularly for women and vulnerable groups
- Improved macroeconomic management through policy development and institutional building
- Administrative and judicial reform through civil service reorganization and decentralization
- Physical infrastructure investment, particularly rural roads
- Human resource development emphasizing the improvement of market economic skills
- Raising productivity, particularly by improving rice yields, enhancing animal health, and promoting diversified commercial agriculture exports
- Employment generation through labor-intensive manufacturing, small-scale enterprises, urban informal sector, and tourism
- Sustainable natural resource management
- Reintegration into the world and regional economies

Source: Socioeconomic Development Plan 1996-2000.

A major goal of the Government's strategy is to increase agricultural productivity so as to better the incomes of a large portion of the rural poor. Immediate objectives include increased public investment in rural infrastructure, expansion of extension services to support crop and livestock production, legal and regulatory reform to improve security of and access to agricultural inputs such as land and materials, improved natural resource management, and increased availability of rural financial services. The final plan of the Government's poverty eradication strategy is to enhance access to social services, particularly in the rural areas and for women and vulnerable groups. The Government's policy goal is to provide at no charge to the poor, cost-effective health services, including a minimum package of activity (MPA) and universal education for grades 1-9.

3. Poverty Situation in Target Areas

ECOSORN operates in 14 target districts, within the three selected provinces as follows:

DGIS	District	
0103	Phnum Srok	Banteay Meanchey Province
0104	Preach Netr Prea	
0107	Thma Puok	
0108	Svay Chek	
0204	Bavel	Battambang Province
0206	Moung Ruessei	
0207	Rotonak Mondol	
0210	Sampov Lun	
0213	Kaos Krala	
1702	Angkor Thum	Siem Reap Province
1704	Chi Kraeng	
1706	Kralanh	
1711	Soutr Nikom	

The target group in the 14 target districts is identified as in the following:

- 40 of 96 communes = 68.000 households
- 55.000 agricultural households = 280.000 people including:
 - 140.000 people with food deficit of 4 months per year
 - 90.000 people with insufficient income to purchase minimum food
 - 67.000 women between 18-64
 - 25.000 youths between 15-17
 - mine victims, women-headed households and other highly vulnerable groups

The target districts of the project encompass the whole range of agro-ecological zones presenting in inland Cambodia. This extends from heavily flooded areas near Tonle Sap Lake (South of Sotr Nikom and Chi Kreaeng in Siem Reap, East of Moug Ruessei in Battambang) where floating, deep water and recession rice is grown, and fishing a main activity for farmers to forested upland zones in the periphery of the project area (e.g. Rotonak Mondol and Sampov Lun in Battambang) where farmers mainly live from non-rice crops (maize, cassava), cattle grazing and agro-forestry activities. The main agro-ecological zone lays between these two extremes, largely dominated by lowland rice, the main staple crop in Cambodia. The zone actually covers a range of different agro-ecological situations, depending on local topography (relative importance of submerged paddy fields and elevated chamcars), bimodal rain patterns (longer short drought in the north of Battambang), local water resources (reservoirs, canals and rivers for irrigation) and proximity to Tonle Sap Lake which greatly conditions the importance of annual floods and related selection of rice varieties by farmers (shallow, medium or deep water).

The calculation of poverty score in each target district (target commune and IRDM village in parallel) has been based on eight indicators which were selected from the secondary data collected. Four “positive” and four “negative” indicators have been used as in the following:

Code	Indicator	
H2O_HOUSE	% of families with piped or well water at the house	Positive
COW_FAMI	% of families with cattle/buffalo	Positive
NUM_IRRI	% of families with some irrigated land	Positive
NUM_FERT	% of families used chemical fertilizers in the last year	Positive
F_HHH	% of female-headed families	Negative
H_THATCH	% of families living in thatched roof	Negative
ADULT_ILT	% of illiterate adults (male + female)	Negative
SCHOOL_ATT	% of school age children not attending school	Negative

		POSITIVE				NEGATIVE				z_value								
		H2O_HOUSE	COW_FAMI	NUM_IRRI	NUM_FERT	F_HHH	H_THATCH	ADULT_ILT	SCHOOL_ATT	z_value	z_value	z_value	z_value	z_value	z_value	z_value	z_value	z_value
010	Phnum	14.4	77.1	6.4%	96.5	0.7%	48.2	20.4	8.3%	-	0.27	0.20	0.70	0.64	0.07	0.12	0.53	
3	Srok	%	%	%	%	%	%	%	%	-	-	-	-	-	-	-	-	
010	Preach	13.3	61.5	2.4%	91.6	1.7%	49.7	13.0	8.4%	0.55	0.01	0.55	0.61	0.16	0.04	0.44	0.53	
4	Netr Prea	%	%	%	%	%	%	%	%	-	-	-	-	-	-	-	-	
010	Thma	14.1	49.2	12.9	73.0	2.4%	43.7	28.5	24.4	0.52	0.19	1.43	0.28	0.19	0.16	0.23	0.37	
7	Puok	%	%	%	%	%	%	%	%	-	-	-	-	-	-	-	-	
010	Svay	9.2%	65.7	10.1	90.4	1.6%	46.9	20.5	19.2	0.69	0.08	0.91	0.59	0.20	0.10	0.12	0.08	
8	Chek	%	%	%	%	%	%	%	%	-	-	-	-	-	-	-	-	
020	Bavel	40.3	43.7	12.1	47.7	1.7%	63.3	17.4	18.0	0.36	-	1.28	-	0.16	-	0.25	-	

4		%	%	%	%		%	%	%		0.28		0.16		0.22		0.01	
020	Moung Ruessei	17.3%	62.1%	6.2%	59.7%	2.7%	45.6%	20.7%	20.5%	-	0.42	0.02	0.17	0.05	0.37	0.12	0.11	0.15
020	Rotonak	31.1%	48.3%	0.3%	18.7%	2.5%	74.3%	22.2%	17.7%	-	-	-	-	-	-	-	-	-
7	Mondol									0.05	0.21	0.94	0.67	0.27	0.43	0.05	0.00	
021	Sampov Lun	54.2%	12.9%	0.0%	26.4%	3.7%	22.8%	13.7%	10.8%	0.83	0.79	1.00	0.54	0.86	0.56	0.41	0.39	
021	Kaos Krala	26.2%	59.1%	3.6%	31.1%	2.9%	83.1%	20.1%	16.9%	-	-	-	-	-	-	-	-	
170	Angkor Thum	47.8%	78.9%	0.0%	41.0%	0.5%	53.0%	36.2%	23.4%	0.11	0.03	0.32	0.45	0.43	0.60	0.13	0.05	
170	Chi Kraeng	38.9%	75.3%	8.7%	19.8%	1.8%	50.4%	27.9%	32.9%	0.31	0.24	0.63	0.65	0.08	0.03	0.20	0.85	
170	Kralanh	25.4%	72.9%	0.0%	59.9%	1.5%	47.1%	37.3%	22.1%	-	-	-	-	-	-	-	-	
171	Soutr Nikom	48.0%	62.1%	10.2%	56.6%	2.4%	51.3%	17.2%	13.7%	0.14	0.20	1.00	0.05	0.27	0.09	0.61	0.24	
171	Srei Snam	34.3%	82.9%	1.0%	84.7%	2.2%	46.6%	30.2%	13.6%	0.62	0.02	0.92	0.00	0.22	0.01	0.26	0.23	
172										0.16	0.36	0.82	0.49	0.11	0.10	0.30	0.24	
AVERAGE		29.6%	60.8%	5.3%	56.9%	2.0%	51.9%	23.2%	17.8%									

As shown in the above table, each indicator was calculated for each target district (X). The average values (μ) were calculated for each indicator. Also, for each indicator a z value was calculated using the formula:

$$z = (X - \mu) / \mu \quad (\text{for positive indicators})$$

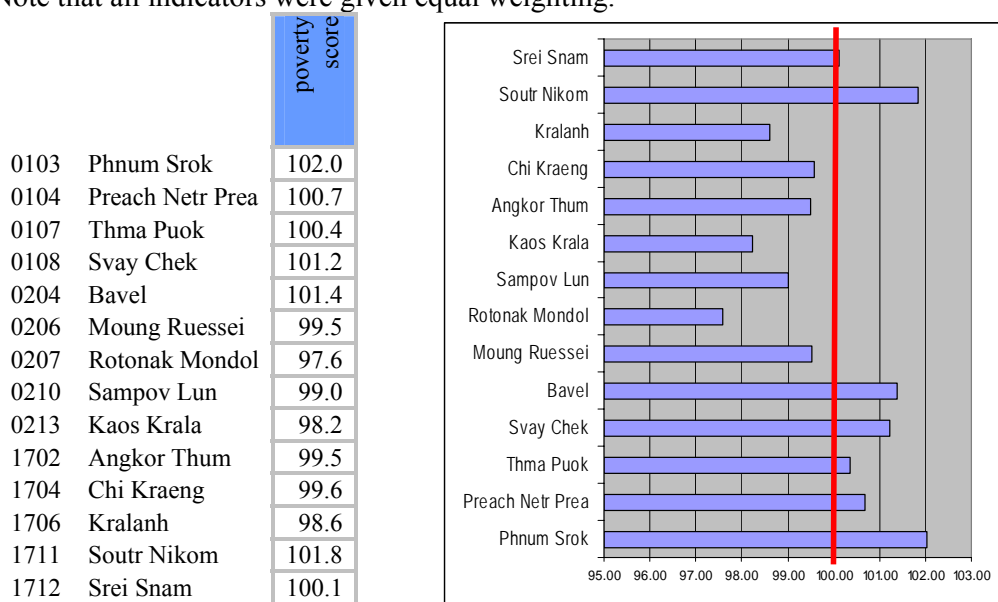
or

$$z = (\mu - X) / \mu \quad (\text{for negative indicators})$$

The poverty score (P) for each target district as shown in the next table and connected chart was calculated using the formula:

$$P = 100 + \sum_{1-8z}$$

Note that all indicators were given equal weighting.



Target districts, having $P > 100$, have higher poverty level if compared to those having $P < 100$, which are characterized less poor. Therefore, according to the above table 7 target districts have lower poverty level and 7 districts represent higher poverty level.

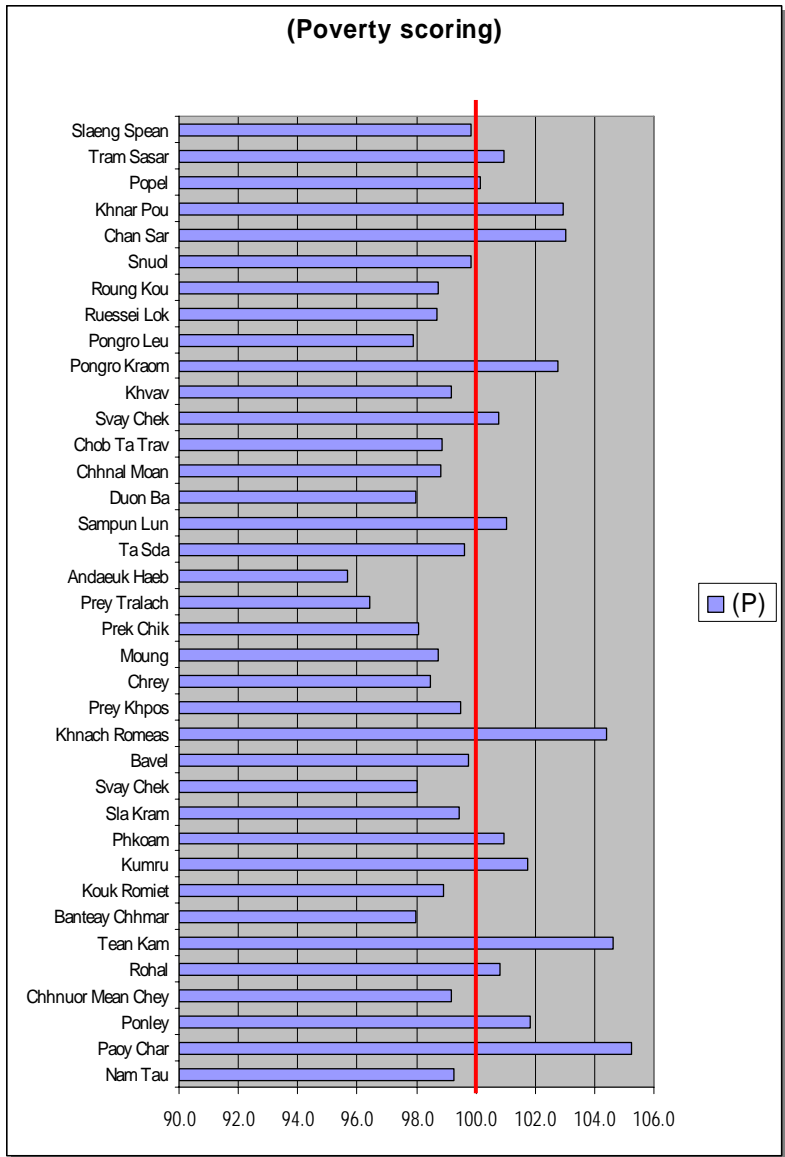
It should be noted here that these 8 indicators selected and used for the calculation of the poverty scoring are relevant to ECOSORN activities. A re-calculation of these indicators at the end of the Project will show ECOSORN's impact on the poverty level in each target district, commune and IRDM village.

The same approach is followed to calculate poverty scoring at target commune level as shown in the next:

		POSITIVE				NEGATIVE											
		H2O_HOUSE	COW_FAMI	NUM_IRRI	NUM_FERT	F_HHH	H_THATCH	ADULT_ILT	SCHOOL_ATT	z_value	z_value	z_value	z_value	z_value	z_value	z_value	z_value
010301	Nam Tau	10.8%	83.5%	0.0%	99.6%	9.6%	69.3%	35.7%	12.8%	-0.68	0.29	-1.00	0.71	-0.13	-0.21	-0.01	0.32
010302	Paoy Char	18.9%	71.5%	36.8%	97.9%	10.8%	34.5%	11.8%	3.9%	-0.45	0.10	3.32	0.68	-0.27	0.40	0.67	0.79
010303	Ponley	22.5%	86.0%	0.0%	98.8%	5.8%	49.7%	5.9%	1.9%	-0.35	0.33	-1.00	0.69	0.32	0.13	0.83	0.90
010401	Chhn.																
	Mean Chey	0.0%	61.8%	0.0%	97.3%	17.4%	47.6%	8.4%	6.0%	-1.00	-0.04	-1.00	0.67	-1.04	0.17	0.76	0.68
010406	Rohal	37.3%	52.5%	0.0%	99.5%	11.1%	43.2%	15.9%	5.4%	0.08	-0.19	-1.00	0.70	-0.31	0.24	0.55	0.71
010407	Tean Kam	0.0%	68.6%	47.6%	99.4%	13.8%	62.6%	20.3%	8.2%	-1.00	0.06	4.60	0.70	-0.62	-0.09	0.43	0.56
010701	Banteay Chhmar																
	Kouk Romiet	7.8%	54.4%	1.3%	78.0%	11.5%	60.5%	30.7%	24.4%	-0.77	-0.16	-0.84	0.34	-0.35	-0.06	0.13	-0.30
010702	Kumru	20.3%	31.7%	16.0%	54.3%	10.8%	66.3%	38.0%	27.2%	-0.41	-0.51	0.88	-0.07	-0.27	-0.16	-0.07	-0.45
010706	Phkoam	31.6%	42.3%	22.0%	65.2%	14.3%	18.2%	25.4%	15.0%	-0.08	-0.35	1.59	0.12	-0.69	0.68	0.28	0.20
010801	Sla Kram	8.6%	74.9%	13.3%	98.0%	11.0%	49.0%	29.4%	13.3%	-0.75	0.16	0.56	0.68	-0.29	0.14	0.17	0.29
010803	Svay Chek	19.6%	77.9%	0.0%	90.8%	8.6%	59.5%	27.2%	19.7%	-0.43	0.20	-1.00	0.55	-0.02	-0.04	0.23	-0.05
010804	Bavel	10.0%	48.9%	5.1%	76.9%	13.7%	68.5%	20.0%	29.3%	-0.71	-0.24	-0.40	0.32	-0.61	-0.20	0.43	-0.57
020401	Khnach Romeas	26.0%	52.8%	8.1%	38.3%	10.7%	48.9%	27.1%	10.2%	-0.25	-0.18	-0.04	-0.34	-0.25	0.15	0.23	0.45
020402	Prey Khpos	45.9%	36.5%	42.0%	86.5%	14.6%	60.1%	7.5%	17.7%	0.34	-0.44	3.94	0.48	-0.72	-0.05	0.79	0.05
020404	Chrey	62.3%	59.1%	6.9%	54.2%	11.5%	69.6%	51.3%	18.4%	0.81	-0.09	-0.18	-0.07	-0.35	-0.22	-0.45	0.02
020605	Moung	11.8%	66.1%	6.6%	61.7%	17.5%	53.0%	20.2%	22.3%	-0.66	0.02	-0.23	0.06	-1.06	0.07	0.43	-0.19
020601	Prek Chik	8.0%	33.1%	13.8%	40.6%	17.1%	36.1%	30.6%	15.7%	-0.77	-0.49	0.63	-0.31	-1.01	0.37	0.13	0.16
020610	Prey Tralach	20.7%	66.0%	5.6%	37.0%	11.2%	65.5%	49.5%	18.4%	-0.40	0.02	-0.34	-0.37	-0.32	-0.14	-0.40	0.02
020611	Andaeuk Haeb	6.1%	57.5%	1.1%	59.3%	9.9%	73.0%	76.7%	22.0%	-0.82	-0.11	-0.87	0.02	-0.16	-0.28	-1.17	-0.18
020702	Ta Sda	30.0%	68.3%	0.0%	18.9%	19.1%	69.5%	76.0%	17.7%	-0.13	0.06	-1.00	-0.68	-1.25	-0.22	-1.15	0.05
021003	Sampun Lun	33.0%	7.8%	0.0%	21.9%	8.9%	6.3%	24.1%	0.2%	-0.04	-0.88	-1.00	-0.62	-0.05	0.89	0.32	0.99
021001	Duon Ba	77.8%	11.1%	0.0%	14.9%	4.3%	18.5%	29.6%	0.1%	1.26	-0.83	-1.00	-0.75	0.49	0.68	0.16	1.00
021304	Chhnal Moan	27.0%	62.2%	11.7%	53.5%	15.0%	91.6%	53.8%	21.6%	-0.22	-0.04	0.38	-0.08	-0.76	-0.60	-0.52	-0.15
021306	Chob Ta Trav	36.0%	73.6%	18.2%	22.1%	12.2%	78.5%	72.4%	19.2%	0.05	0.14	1.14	-0.62	-0.44	-0.37	-1.05	-0.03
170201	Svay Chek	89.1%	73.1%	0.0%	1.2%	1.9%	80.8%	48.8%	34.7%	1.59	0.13	-1.00	-0.98	0.77	-0.41	-0.38	-0.86
170204	Khvav	91.2%	84.3%	0.0%	1.6%	1.0%	50.3%	35.3%	22.6%	1.65	0.30	-1.00	-0.97	0.88	0.12	0.00	-0.21
170404	Pongro Kraom	7.6%	82.1%	23.2%	3.4%	1.4%	68.6%	50.6%	43.2%	-0.78	0.27	1.73	-0.94	0.83	-0.20	-0.43	-1.31
170408	Pongro Leu	94.0%	90.8%	11.7%	16.5%	1.2%	40.8%	29.7%	25.0%	1.73	0.40	0.38	-0.72	0.86	0.29	0.16	-0.34
170409	Ruessei Lok	46.2%	79.1%	0.0%	19.3%	0.8%	74.1%	37.9%	47.3%	0.34	0.22	-1.00	-0.67	0.91	-0.29	-0.07	-1.53
170410	Roung Kou	36.8%	86.3%	1.8%	24.1%	2.8%	62.3%	34.4%	36.6%	0.07	0.33	-0.79	-0.59	0.68	-0.09	0.03	-0.96
170605	Snuol	37.6%	76.6%	0.0%	84.5%	1.3%	56.1%	66.8%	37.1%	0.09	0.18	-1.00	0.45	0.84	0.02	-0.89	-0.98
170608	Chan Sar	38.6%	86.7%	0.0%	88.4%	1.1%	58.2%	62.5%	22.8%	0.12	0.34	-1.00	0.51	0.87	-0.02	-0.76	-0.22
171101	Khmar Pou	77.8%	92.4%	4.4%	89.3%	1.4%	62.8%	24.5%	14.2%	1.26	0.43	-0.49	0.53	0.84	-0.10	0.31	0.24
171107	Popel	53.1%	71.5%	13.4%	63.1%	2.9%	68.0%	17.4%	6.8%	0.54	0.11	0.58	0.08	0.66	-0.19	0.51	0.64
171108	Tram Sasar	61.7%	57.6%	0.0%	50.3%	3.0%	77.8%	25.6%	18.3%	0.79	-0.11	-1.00	-0.14	0.65	-0.36	0.28	0.02
171203	Slaeng Spean	37.7%	80.4%	0.0%	96.8%	1.4%	51.7%	47.1%	12.5%	0.10	0.24	-1.00	0.66	0.84	0.10	-0.33	0.33
171206	AVERAGE	34.4%	64.7%	8.5%	58.4%	8.5%	57.2%	35.4%	18.7%								

According to the above calculation of the values of each indicator per target commune (as well as the average for each one), the calculation of the poverty scoring (P) for the target communities is shown in the next table and is illustrated in the relevant chart:

		poverty score (P)
010301	Nam Tau	99.3
010302	Paoy Char	105.2
010303	Ponley	101.9
010401	Chhn. Mean Chey	99.2
010406	Rohal	100.8
010407	Tean Kam	104.6
010701	Banteay Chhmar	98.0
010702	Kouk Romiet	98.9
010706	Kumru	101.8
010801	Phkoam	101.0
010803	Sla Kram	99.4
010804	Svay Chek	98.0
020401	Bavel	99.8
020402	Khnach Romeas	104.4
020404	Prey Khpos	99.5
020605	Chrey	98.4
020601	Moung	98.7
020610	Prek Chik	98.1
020611	Prey Tralach	96.4
020702	Andaeuk Haeb	95.7
021003	Ta Sda	99.6
021001	Sampun Lun	101.0
021304	Duon Ba	98.0
021306	Chhnal Moan	98.8
170201	Chob Ta Trav	98.9
170204	Svay Chek	100.8
170404	Khvav	99.2
170408	Pongro Kraom	102.8
170409	Pongro Leu	97.9
170410	Ruessei Lok	98.7
170605	Roung Kou	98.7
170608	Snuol	99.8
171101	Chan Sar	103.0
171107	Khnar Pou	102.9
171108	Popel	100.1
171203	Tram Sasar	100.9
171206	Slaeng Spean	99.8



As shown above, 23 of the 37 target communities have lower poverty level whereas 14 communities obtain higher poverty level.