POVERTY ANALYSIS REPORT

BHUTAN 2022

BHUTAN POVERTY ANALYSIS REPORT 2022

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FOREWORD

The National Statistics Bureau (NSB) has been conducting the Bhutan Living Standard Survey (BLSS) at five-year intervals since 2003. The fifth and most recent round was implemented between April and June 2022 with full funding support from the Royal Government of Bhutan. The BLSS is the main source of data for poverty statistics in Bhutan. It provides critical information for monitoring progress on poverty reduction, as well as for targeted intervention.

The data analysis and report-writing is done with the technical assistance (TA) from the World Bank. This report provides updated poverty statistics based on the 2022 BLSS data and the revised poverty methodology. Therefore, the poverty estimates in this report are not comparable to the previous poverty estimates since the earlier poverty methodology was established in 2007. The revision of the poverty methodology allows poverty measures to better reflect the current living standards and consumption patterns of the Bhutanese population.

The report presents an overview and pattern of poverty levels in Bhutan. The poverty rate for 2022 is estimated at 12.4%.It also provides the profile of the poor by breaking down the incidence of poverty alongside socioeconomic char-acteristics such as education. A range of non-monetary welfare indicators including household asset ownership, housing conditions and access to basic services are also presented to create a comprehensive picture of people living in poverty.

We believe that the findings of this report will provide useful insights to policy makers. Designed to create a basic understanding of the poverty situation in Bhutan, the report lays a foundation for further investigation of factors driving poverty nationwide and the factors behind the observed patterns and trends, in order to inform government policies and the national development agenda.

EXECUTIVE SUMMARY

Poverty Rate

The 2022 Poverty Analysis Report (PAR) makes use of a poverty line estimated for 2022 at Nu 6,204 per person per month. The poverty line, representing the level of consumption needed to secure the necessities of life, is obtained by adding estimated food and non-food requirements of Nu. 2,852 and Nu. 3,352, respectively. Using this poverty line, an estimated 12.4% of the population is found to be poor.

Poverty in rural areas (17.5%) is significantly higher than urban areas (4.2%). Further, only 0.4% of the population is subsistence poor, i.e., persons belonging to households with per capita consumption below food requirements of Nu. 2,852. Poverty rates, according to 2022 PAR are observed to be high in Zhemgang, Samdrup Jongkhar, Samtse and Trongsa, compared to other *Dzongkhags*, while Thimphu and Punakha have the least poverty. The four *Thromdes* show poverty rates that are consistently below 10%.

Household Characteristics: While on average households in Bhutan have four members, poor households are larger: on an average they are composed of 5.5 individuals. This difference in family size between poor and non-poor households shows up with similar magnitudes both in urban and rural areas. The share of individuals in poverty is under 1% among households of only one member, and reaches 40.2% among households with nine members or more. Food poverty rates are virtually null for one-person households and reach 3.7% among the largest households (nine members or more).

On an average, female-headed households are observed to be less poor than male-headed households. The poverty rates are highest among households with very young heads (under 25 years of age) and for those with heads over 65: 13.3% and 20.9% respectively.

Basic Needs: Literacy rates among the poor are lower than for the rest of the population. While more than 7 out of 10 non-poor individuals are literate, among the poor this rate is less than 60%. The rate is higher in urban areas both for poor

(72%) and non-poor (83.2%) in comparison to rural areas (57.6% and 64.3%).

In terms of health, differences across the poor and non-poor groups are striking. It was observed that the non-poor population systematically declares higher levels of sickness. On average, while 20.3% of the poor population declared to have been sick in the previous year, almost 29% among the non-poor stated to have suffered some illness. These levels remain stable across areas. Out of those who were sick, not all of them visited a health facility, although the percentage is high (over 88%). Irrespective of poverty status, the percentage of households with access to improved water source is 100%. At least 99.2% of households have access to improved sanitation; between poor and non-poor households, both in urban and rural areas, the disparity is around 1%. Among the non-poor households, 99.8% have at least one mobile phone, compared to only 98.6% among poor households. At the national level, only 43.0% among the poor households have television, compared to 76.7% of the non-poor households.

Inequality: On an average, a person in the top 20% of the national population (37.3%) consumes four times more than that of a person in the bottom 20% of the population (8.8%). The Gini index, which measures inequality is 0.285 at the national level (0.29 for rural and 0.26 for urban).

Chapter 1: Introduction

The purpose of this document is to provide poverty estimates for Bhutan using newly available data from the 2022 BLSS.

Trends of inequality and poverty are not addressed in this report. The consumption aggregation methodology and poverty line estimation are optimized for 2022, and not harmonized with the past. Therefore, *the estimates reported are not comparable with earlier ones*. The estimation of inequality and poverty trends in Bhutan over time is not within the scope of this report and will be presented in a separate publication.

The document is organized as follows. Section 2 focuses on the construction of the consumption aggregate. Section 3 is devoted to the estimation of a new national poverty line, which sets a new minimum standard of living for the country, based on the cost-of-basic-needs approach (Ravallion, 2016). Section 4 provides the core set of poverty estimates; section 5 contains a basic poverty profile. Section 6 focuses on inequality.

2 Chapter 2: The consumption aggregate

The welfare indicator that is used for poverty and inequality analysis is the *real* consumption aggregate, obtained by adjusting the *nominal* consumption aggregate for household demographic characteristics and differences in the cost of living. The *nominal* consumption aggregate (CA) includes four components:

i. food consumption expenditures;
ii. non-food non-durable expenditures;
iii. consumption flow of durable goods; and
iv. housing expenditures.

A brief description of the methodology underlying the construction of the consumption aggregate is given below. Technical details, including sensitivity analysis, are available in a dedicated companion Technical Report (Inequality and Poverty Analysis in Bhutan, 2022).

The **food** component includes the value of food items consumed, whether purchased, own-produced or received for free. It also includes food consumed away from home. Expenditure in **non-food, non-durable** items is obtained by aggregating most of the expenditures recorded by the 2022 BLSS, with a few exceptions, following the guidelines provided in Mancini and Vecchi (2022). Most notably, all health expenditures are included, while some "lumpy" expenditures are excluded (e.g. purchase of durable goods, major maintenance and repairs), together with expenditures that do not represent consumption (e.g. taxes). The **consumption flow from durable goods** is estimated following the "straight line depreciation model" (Amendola and Vecchi, 2022): this approach allows for the estimation of the use-value of durable goods owned by households at the time of the interview. The **housing expenditure** component of the consumption aggregate is based on actual rent for tenants and on self-reported imputed rent for owners and non-market tenants (i.e. the answer to the question "How much do you think your household would pay per month if you had to rent this dwelling?").

A real consumption aggregate is obtained by adjusting for the differences in purchasing power between households interviewed at different times during the survey period, and in different areas of the country. The temporal price adjustment was carried out by deflating the nominal consumption aggregate with the official CPI produced by NSB. For the spatial price adjustment, a *dzongkhag*/area level food Paasche index was computed, based on information available from the survey. Table 2.1 reports the regional price deflator.

TABLE 2.1 REGIONAL PRICE DEFLATOR (FOOD PAASCHE INDEX), BY *DZONGKHAG* AND AREA

Dzongkhag (district)	Urban	Rural	Total
Bumthang	1.11	1.10	1.10
Chhukha	0.97	0.92	0.94
Phuentshogling Thromde	1.08	-	1.08
Dagana	0.90	0.85	0.87
Gasa	1.14	1.12	1.13
Haa	1.11	1.05	1.08
Lhuentse	1.03	0.89	0.96
Monggar	1.03	0.89	0.96
Paro	1.09	1.12	1.10
Pema Gatshel	1.00	0.77	0.88
Punakha	1.08	1.03	1.06
Samdrup Jongkhar	0.91	0.80	0.86
Samdrup Jongkhar Thromde	0.99	-	0.99
Samtse	0.96	0.85	0.90
Sarpang	0.99	0.98	0.98
Gelegphu Thromde	1.01	-	1.01
Thimphu	1.10	1.12	1.11
Thimphu Thromde	1.14	-	1.14
Trashigang	0.99	0.86	0.93
Trashi Yangtse	0.96	0.89	0.92
Trongsa	1.13	1.03	1.08
Tsirang	0.98	0.92	0.95
Wangdue Phodrang	1.07	1.05	1.06
Zhemgang	1.06	0.95	1.01
Bhutan	1.03	0.96	1.00

Note: in order to facilitate the interpretation of the table, the index has been rescaled so that its national mean equals 1.

Finally, no adjustments for economies of scale and different household needs are implemented. Instead, the welfare indicator is computed as a per capita amount. Table 2.2 shows summary statistics for the main components of real per capita expenditure, by decile of total real per capita expenditure.

TABLE 2.2 SUMMARY STATISTICS OF MAIN EXPENDITURE COMPONENTS

Deciles of real per capita expenditure	Food	Non-food non-durables	Housing	Durable goods	Total
Average real expenditures (Nu/person/month)					
1	2,449	1,554	431	196	4,631
2	3,342	2,316	613	346	6,617
3	3,905	2,788	782	471	7,946
4	4,448	3,321	859	651	9,279
5	5,006	3,781	1,027	786	10,600
6	5,502	4,325	1,144	988	11,959
7	6,184	4,908	1,322	1,146	13,560
8	7,065	5,584	1,548	1,344	15,542
9	8,467	6,684	1,873	1,667	18,691
10	13,252	10,344	3,111	2,308	29,015
Bhutan	5,962	4,560	1,271	990	12,783
Average budget shares (%)					
1	52.8	34.0	9.0	4.2	100
2	51.9	34.3	8.8	5.1	100
3	50.2	35.0	8.8	6.1	100
4	48.1	35.7	9.6	6.6	100
5	47.3	36.0	9.1	7.6	100
6	46.3	35.7	9.7	8.3	100
7	45.2	36.4	9.8	8.5	100
8	44.5	36.1	10.6	8.8	100
9	44.4	36.0	10.6	9.0	100
10	45.3	35.5	11.4	7.9	100
Bhutan	47.6	35.5	9.7	7.2	100

Chapter 3: National Poverty Lines

The national poverty line used in Bhutan before 2022 was originally estimated in 2007, and has been updated via the CPI ever since. Based on the new BLSS data, new national poverty lines were estimated.

Following the cost-of-basic-needs (CBN) method (Ravallion 1994, 2016), a national poverty line was estimated by summing up a *food poverty line and a nonfood allowance*. The **food poverty line** represents the minimum cost of achieving a minimum energy requirement (for the average person in the country), set at 2,200 kilocalories/person/day. The minimum cost of one calorie was estimated as the average unit calorie cost for households belonging to the poorest decile of real per capita expenditure. Table 3.1 shows that the resulting food poverty line equals 2,852 Ngultrum/person/month.

The **non-food** component of the poverty line, also known as the nonfood allowance, was estimated in two ways, producing a lower-bound poverty line (LBPL), and an upper-bound poverty line (UBPL). The difference depends on the reference group that is the basis for the estimation of the non-food component. The lower bound nonfood allowance represents the median non-food expenditure of households for which total expenditures are "near" the food poverty line. The upper bound nonfood allowance, on the other hand, is the median non-food expenditure of households for which food expenditures are "near" the food poverty line. In practice, "near" means a two-sided interval around the food poverty line (Chen and Ravallion, 1996)[1]. Table 3.1 summarizes the national poverty lines for 2022 Bhutan.

TABLE 3.1 CBN NATIONAL POVERTY LINES (CURRENT NU/PERSON/MONTH)

Food poverty line	2,852
Nonfood allowance, lower bound	1,247
Nonfood allowance, upper bound	3,352
Lower bound poverty line	4,099
Upper bound poverty line	6,204

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1   In the case of Bhutan, an additional condition related to individual caloric consumption has been imposed to identify the upper bound non-food component of the poverty line. The non-food component estimate relies on households for which total expenditures are "near" the food poverty line and per capita caloric consumption is "near" 2,200 kilocalories per day (Inequality and Poverty Analysis in Bhutan, 2022).

Chapter 4: Poverty Patterns

Based on the national poverty lines described in the previous section, households are considered to be poor if their per capita real expenditure is below the upper-bound poverty line (Table 3.1). Households for which total expenditure is below the food poverty line are considered to be in food poverty. Given that expenditures are recorded at the household level, no intra-household analysis is feasible, therefore if a household as a whole is considered poor, then all of its members fall into this group as well.

We report the three usual measures of poverty: (i) poverty *incidence* (headcount poverty ratio): the proportion of individuals below the poverty line; (ii) poverty *depth* (poverty gap index): the extent to which those classified as poor fall below the poverty line; and (iii) poverty *severity* (or poverty gap squared index): a poverty measure sensitive to inequality among the poor. These measures are reported for the country as

a whole and by selected subgroups, such as the area of residence (urban/rural), *Dzongkhags*, characteristics of the head of the household, and other household characteristics.

4.1 Poverty Incidence

The food poverty line and the upper bound poverty line are used to compute the incidence of poverty and food poverty (ie, the percentage of poor persons), respectively. Figure 4.1 reports these poverty rates across urban and rural areas. In 2022, the poverty rate for Bhutan is 12.4%, implying that 12 out of 100 individuals belong to households whose monthly per capita real expenditure is below the upper bound poverty line of 6,204 (current Nu/person/month). As Figure 1 shows, poverty is not evenly distributed across areas: while the poverty rate reaches 17.5% in rural areas, it plummets to 4.2% in urban areas. Food poverty is low: only 0.4% of the population belongs to households where monthly per capita real expenditure is
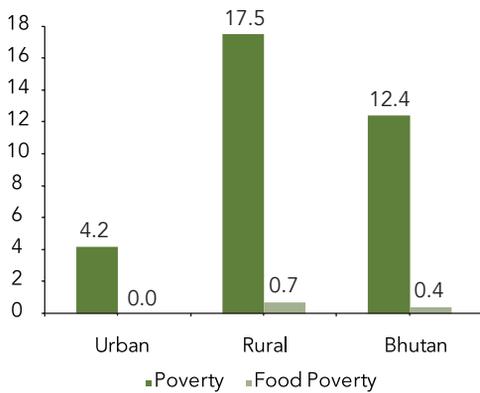
FIGURE 4.1 POVERTY INCIDENCE, BY AREA (%)

below the food poverty line of 2,852 (current Nu/person/month). In this case too, poverty incidence is larger in rural areas, accounting for 0.7%.

Given that these estimates arise from a sample survey, it is important to assess their precision. Table 4.1 shows the same poverty estimates shown in Figure 4.1, and the associated standard errors. The 95 percent confidence intervals for the poverty rate in Bhutan spans from 11.4% to 13.3%; while

the same interval for the food poverty rate is 0.3%-0.6%. The table also provides the 95 percent confidence intervals of poverty and food poverty disaggregated by area of residence of the household.

Table 4.1 also shows the contribution of each subgroup to national poverty, that is, out of all individuals that are labelled as poor in the country, which proportion resides in urban or rual areas. Results confirm that poverty and food poverty are mainly concentrated in rural areas: 87% of all poor individuals in Bhutan reside in rural areas when poverty is defined by the upper bound poverty line, while the proportion is 96.5% when using the food poverty line.

Table 4.2 shows poverty incidence across *Dzongkhags*, along with standard errors. Overlapping confidence intervals do not allow to establish a complete ranking. However, it is clear that poverty rates are

TABLE 4.1 POVERTY INCIDENCE, BY AREA

Area	Upper bound poverty line			Food poverty line		
	Rate	Standard Error	Distribution of the poor	Rate	Standard Error	Distribution of the poor
Urban	4.2	[3.0, 5.3]	13.0	0.0	[0.0, 0.1]	3.5
Rural	17.5	[16.2, 18.9]	87.0	0.7	[0.4, 0.9]	96.5
Bhutan	12.4	[11.4, 13.3]	100	0.4	[0.3, 0.6]	100

Note: 95% C.I. in parentheses.

TABLE 4.2 POVERTY INCIDENCE (%) AND DISTRIBUTION OF THE POOR POPULATION, BY *DZONGKHAGS*

	Poverty rate	Standard Error	Distribution of the poor
Bumthang	9.8	(2.04)	1.9
Chhukha	18.9	(3.23)	7.9
Phuentshogling Thromde	6.9	(1.35)	1.9
Dagana	9.9	(1.5)	3.1
Gasa	8.2	(2.01)	0.4
Haa	9.7	(2.31)	1.2
Lhuentse	15.7	(2.47)	2.7
Monggar	17.8	(2.72)	7.7
Paro	6.0	(1.37)	3.3
Pema Gatshel	17.9	(2.44)	4.7
Punakha	2.9	(0.97)	0.8
Samdrup Jongkhar	24.7	(2.99)	7.0
Samdrup Jongkhar Thromde	6.6	(1.83)	0.6
Samtse	21.9	(2.44)	15.1
Sarpang	5.0	(1.4)	2.0
Gelegphu Thromde	7.8	(1.77)	0.9
Thimphu	1.5	(0.8)	0.4
Thimphu Thromde	2.2	(0.92)	3.4
Trashigang	20.6	(2.27)	9.5
Trashi Yangtse	16.5	(1.93)	2.9
Trongsa	21.7	(2.95)	3.6
Tsirang	19.5	(2.42)	5.2
Wangdue Phodrang	15.9	(2.82)	6.2
Zhemgang	41.4	(3.45)	7.8
Bhutan	12.4	(0.48)	100

higher in Zhemgang, Samdrup, Jongkhar, Samtse and Trongsa, while the lowest poverty rates are found in Thimphu and Punakha. The four *Thromdes* show poverty rates that are consistently below 10%.

Samtse shows the largest share of poor indidivuals, out of the total in the country, accounting for 15.1%, followed by Trashigang (9.5%) and Monggar (7.7%).

4.2 Depth and Severity of Poverty

The poverty gap and squared poverty gap indices measure the depth and severity of poverty, respectively. The former refers to the distance between a poor individual's expenditure and the poverty line. The poverty gap index measures the average extent by which the poor population falls behind the poverty line, and expresses it as a percentage of the poverty line. The poverty gap squared index gives more weight to the very poor, accounting for inequality among the poor population.

Figure 4.2 shows that poverty is both deeper and more severe in rural areas than in urban areas. While the urban poverty gap is 0.7, the rural poverty gap is 3.8. The same pattern can be observed for the poverty gap squared, which amounts to 0.2 in urban areas and 1.2 in rural areas. The depth and severity of poverty across *Dzongkhags* are shown in Table A1 in the Annex.

4.3 Poverty by Household Characteristics

Poor households differ from the rest of the population, both in terms of demographic composition and social characteristics. As shown in Table 4.2, while on average in
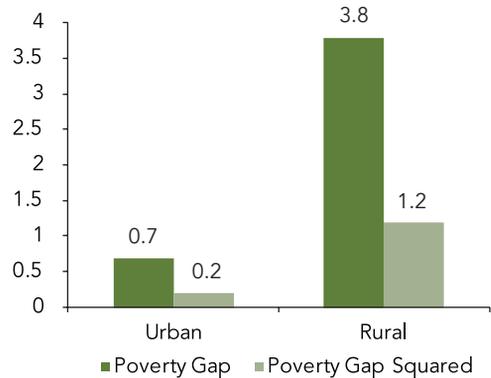
FIGURE 4.2 DEPTH AND SEVERITY OF POVERTY, BY AREA

TABLE 4.3 AVERAGE HOUSEHOLD SIZE, BY AREA, POVERTY STATUS, AND SEX OF THE HOUSEHOLD HEAD

Area	Household Head		Total
	Male	**Female**	
Urban	3.9	3.5	3.8
Poor	5.4	4.9	5.3
Non-Poor	3.9	3.4	3.7
Rural	4.1	4.1	4.1
Poor	5.6	5.6	5.6
Non-Poor	3.9	3.8	3.9
Bhutan	4.0	3.9	4.0
Poor	5.5	5.6	5.5
Non-Poor	3.9	3.7	3.8

Bhutan housheolds have four members, poor households are larger: on average they are composed of 5.5 individuals. This difference in family size between poor and non-poor households shows up with similar magnitudes both in urban and rural areas.

On an average, family size does not vary much with the gender of the head of household. However, the gap in family size between poor and non-poor households is slightly wider for female-headed households.

As shown in Table 4.4, both poverty and food poverty incidence rise with household size. However, while the former increases sharply with increases in family size, food poverty shows a less steep path. The share of individuals in poverty is under 1% among households of only one member, and reaches 40.2% among households with 9 members or more. Food poverty rates are virtually null for one-person households and reach 3.7% among the largest households (9 members or more). However, the share of individuals living in such large households is only 4.2%. The typical household has between 4 and 5 members (44%); for those

TABLE 4.4 POVERTY INCIDENCE (%), BY HOUSEHOLD SIZE

	Poverty incidence		Share of individuals by household type
	Upper bound poverty line	Food poverty line	
1 HH member	0.9	0.0	7.4
2-3 HH members	3.2	0.0	35.4
4-5 HH members	8.9	0.1	39.6
6-8 HH members	22.7	0.7	16.0
9+ HH members	40.2	3.7	1.7

households, on an average the poverty rate is 8.9%. Table A2 in the Annex shows the poverty depth and severity for households of different sizes.

Interacting poverty with household demographics and head characteristics sheds some light on the covariates of poverty. To begin with, in Bhutan poverty rates are similar in female and

TABLE 4.5 POVERTY INCIDENCE (%), BY AREA AND SEX OF HOUSEHOLD HEAD

Area/ Household head	Upper bound Poverty Line		Food Poverty Line		Share of individuals by household type
	Rate	Distribution of the poor	Rate	Distribution of the poor	
Urban	4.2	13.0	0.0	3.5	38.6
Male	4.6	10.5	0.1	3.5	28.3
Female	3.0	2.5	0.0	0.0	10.4
Rural	17.5	87.0	0.7	96.5	61.4
Male	17.8	57.3	0.7	63.3	39.8
Female	17.0	29.7	0.6	33.1	21.6
Bhutan	12.4	100	0.4	100	100.0
Male	12.3	67.8	0.4	66.9	68.0
Female	12.5	32.2	0.4	33.1	32.0
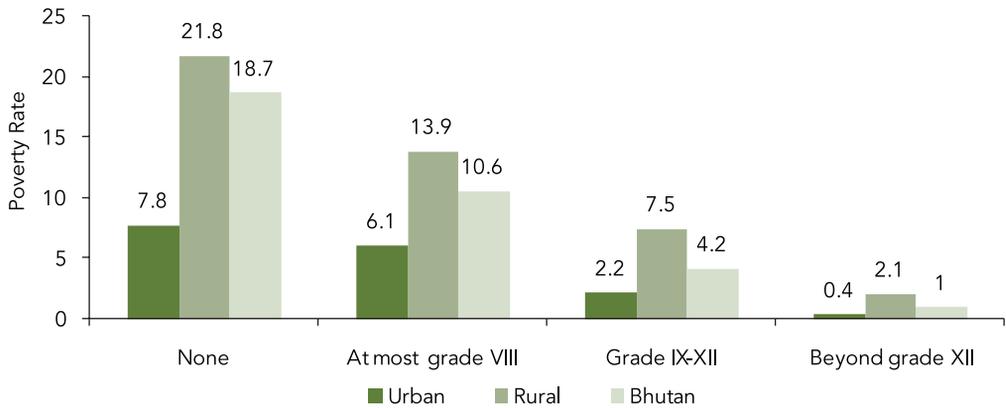
FIGURE 4.3 POVERTY INCIDENCE (%), BY EDUCATIONAL ATTAINMENT OF HOUSEHOLD HEAD AND AREA

male-headed households (see Table 8). In fact, in both urban and rural areas, poverty rates are slightly larger in households led by a man (4.6% vs. 3.0% in urban areas and 17.8% vs. 17.0% in rural areas). Food poverty is very low and shows no significant differences across the gender of the household head. All in all, households led by man hold a larger share of poor population (almost 68%). In fact, female urban households hold the smaller share of poor population (2.5%) and male headed rural households show the largest share (57.3%). Food poverty is mainly concentrated in rural households led by a man (63.3%). Table A3 in the Annex shows the poverty depth and severity separately for households with female and male heads of households.

Poverty varies strongly with educational attainment of the head of household. As expected, Figure 4.3 shows that poverty drops sharply with educational attainment: it is only 1% for households whose head has 12th grade or higher education. In contrast, it rises to 18.7% for those households where the head did not attend school. This sharp decline is present in urban and rural areas alike, although urban areas show lower poverty rates irrespective of the educational attainment of the head of household.

The age of the household head is also correlated with poverty rates. Table 4.6 shows that poverty rates are highest among households with very young heads (under 25 years of age) and for those with heads over 65: 13.3% and 20.9% respectively. However, although the former group is rather small and

TABLE 4.6 POVERTY INCIDENCE (%), BY AGE OF HOUSEHOLD HEAD

Age of HH head	Upper bound poverty line		Food poverty line		Share of individuals by household type
	Poverty rate	Distribution of the poor	Poverty rate	Distribution of the poor	
<25	13.3	1.8	0.0	0.0	1.7
25-34	7.0	11.1	0.9	7.2	19.7
35-44	10.9	25.9	2.3	26.9	29.5
45-54	12.8	23.4	3.0	26.0	22.6
55-64	14.8	17.3	3.2	17.8	14.4
65+	20.9	20.6	4.6	22.2	12.2
All ages	12.4	100	2.6	100	100

thus accounts for a lower share of the poor population (under 1.8%) the latter accounts for over 20% of the poor. In terms of food poverty, households with older heads tend to show higher poverty rates as well. Table A4 in the Annex reports the poverty depth and severity for households for different age groups of the household head.

Figures 4.4 and 4.5 show the poverty incidence by dwelling characteristics, that is, type of floor and wall material. Regarding the former, households living in dwellings with floors made of tiles and concrete show the lowest levels of poverty nationally (0.6% and 4.3%), while the highest poverty levels are among households living in dwellings with floors made of "other" materials (including terrazo, clay, wood block, bamboo and wood logs): around 24%. Patterns, however, vary across areas. For instance, in urban areas, households with cement floors show higher poverty rates than those with plank floors, while in rural areas this pattern is reversed. In urban areas, households with brick and cement walls show the lowest levels of poverty (under 4%), while those with floors made of stone/mud, wood planks or "other" materials show the highest ones (between 5.5% and 11.4%). In this case, atterns in urban and rural areas are similar.
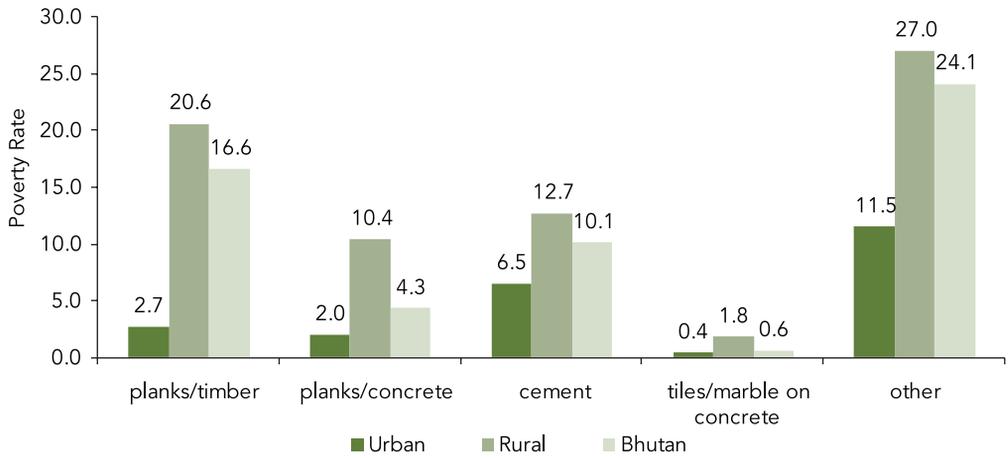
FIGURE 4.4 POVERTY INCIDENCE (%), BY FLOOR MATERIAL AND BY AREA
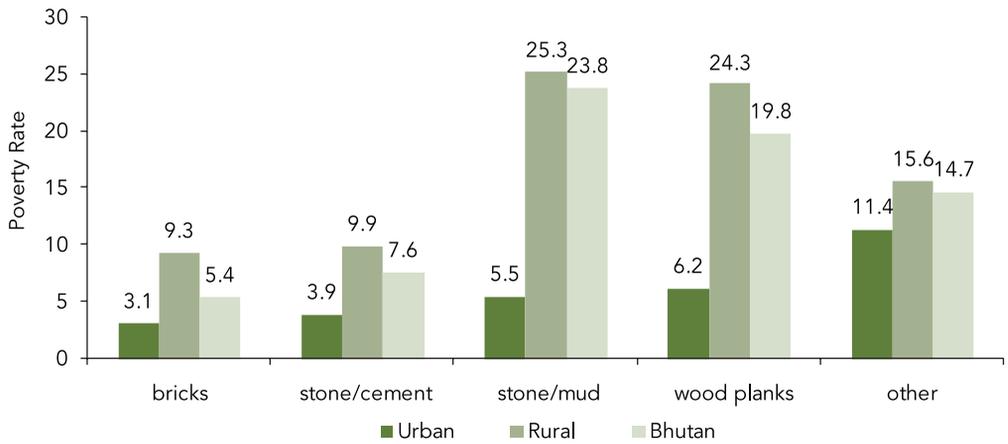
FIGURE 4.5 POVERTY INCIDENCE (%), BY WALL MATERIAL AND BY AREA

Chapter 5:
Basic Needs: Non-monetary Indicators

Non-monetary indicators of wellbeing are a useful complement to the analysis based on expenditure. Literacy, educational attainment, health and access to public services undoubtedly contribute to the quality of life. And although in many occasions the correlation with income and expenditure is very strong, this is not always the case, which makes these other facets of wellbeing worth exploring.

5.1 Education

Literacy rates among the poor are lower than for the rest of the population. As Figure 5.1 shows, while more than 7 out of 10 non-poor individuals are literate, among the poor this rate is less than 60%. As expected, literacy rates are higher in urban areas, both for the poor and the non-poor (72 and 83.2 percent respectively) in comparison to rural areas (57.6 and 64.3). However, the gap between the two groups is larger in urban areas (over 10 percentage points) than in rural ones (less than 7 percentage points). Table A5 in the Annex shows
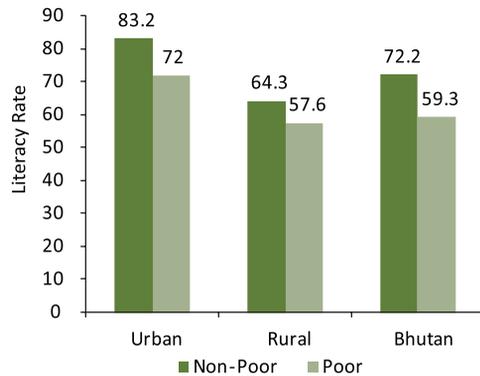
Note: literacy defined as individuals aged 6 and over being able to read and write a short text in dzongkha/English/Lhotsam/Others.

FIGURE 5.1 LITERACY RATE (%), BY POVERTY STATUS AND AREA

the literacy rate for individuals aged 6 years old and above by *Dzongkhag* and poverty status.

Figure 5.2 shows the distribution of educational attainment of adults aged 15 years and older by poverty status. About 43% of individuals in Bhutan have never atended school. This rate is greater among the poor: 59.7% in contrast to 41.2% among the non-poor. Consistently, share of individuals with 12th grade and higher levels of education is greater among the

non-poor: 27.2%. In contrast, only 9% of the poor achieved that level.

5.2 Health

The 2022 BLSS contains information on the health conditions and access to health services of all household members. Household members were asked whether they suffered from sickness or injury in the last 12 months prior to the survey.

Differences across the poor and non-poor groups are striking. Figure 5.3 shows that the non-poor population systematically declares higher levels of sickness. On an average, while 20.3% of the poor population declared to have been sick in the previous year, almost 29% among the non-poor stated to have suffered some illness. These levels remain stable across areas. Of those that declared to have been sick, not all of them visited a health facility, although the percentage is high (over 88% on average). These gaps seem to be smaller among the poor than among the non-poor. Table A6 in the Annex presents the percentage of indviduals who reported Sick/Injured twelve months prior to the survey, by *Dzongkhag* and poverty status.

Regarding antenatal care, rates are almost 100% across the country. As Figure 5.4 shows, almost all women that gave birth
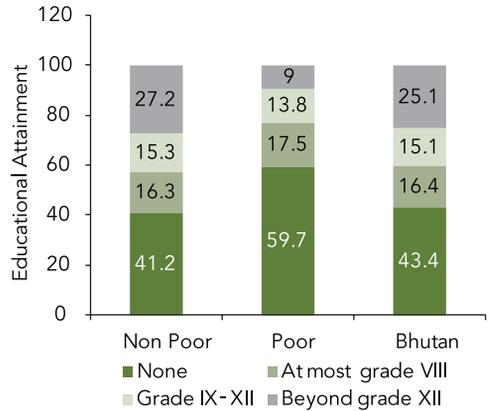
Note: individuals aged 15+.

FIGURE 5.2 EDUCATIONAL ATTAINMENT (%), BY POVERTY STATUS
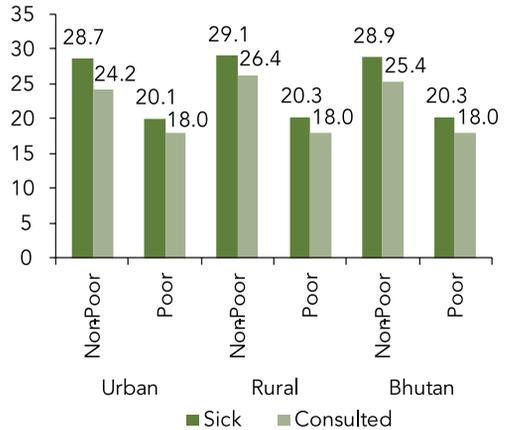
Note: "sick" refers to individual being sick or injured in the 12 months prior to the interview; "consulted" refers to individual visiting health facility.

FIGURE 5.3 PERCENTAGE OF INDIVIDUALS REPORTING SICK OR INJURED AND VISTING A HEALTH FACILITY IN THE 12 MONTHS PRIOR TO THE SURVEY, BY AREA AND POVERTY STATUS

in the year prior to the interview, either poor or not, from urban or rural areas, received antenatal care.
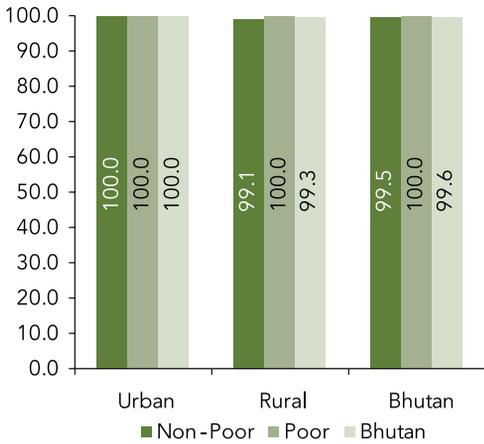
FIGURE 5.4 PERCENTAGE OF PREGNANT WOMEN WHO RECEIVED ANTENATAL CARE, BY AREA AND POVERTY STATUS

5.3 Household Amenities, Assets, and Access to Services

Housing amenities and access to public services such as improved wáter and sanitation are important indicators of wellbeing. Figures 5.5 and 5.6 show the proportion of households with improved water access and sanitation. Rates are all near or at 100% across Bhutan. Indeed, all households, whether poor or not, urban or rural, have access to improved wáter sources, including piped in dwelling, pipe in compound, neighbors' pipe, public outdoor tap, protected well, protected spring, and rainwater collection. The same is true for improved sanitation, although levels are slightly lower. Improved sanitation includes sewers or septic tanks, flush-latrines,

Note: "improved water" includes piped in dwelling, pipe in compound, neighbors' pipe, public outdoor tap, protected well, protected spring, and rainwater collection.

FIGURE 5.5 PERCENTAGE OF HOUSEHOLDS WITH ACCESS TO IMPROVED WATER, BY POVERTY STATUS AND AREA
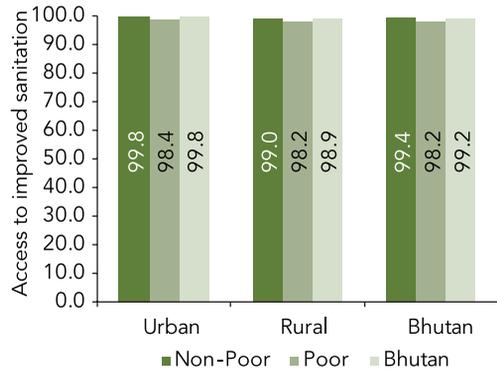
Note: "improved sanitation" includes sewers or septic tanks, flush-latrines, pit with slab, or ventilated improved pit latrines.

FIGURE 5.6 PERCENTAGE OF HOUSEHOLDS WITH ACCESS TO IMPROVED SANITATION, BY POVERTY STATUS AND AREA

pit with slab, or ventilated improved pit latrines. Tables A7 and A8 in the Annex present the percentage of individuals with access to improved water source, by *Dzongkhag* and poverty status.
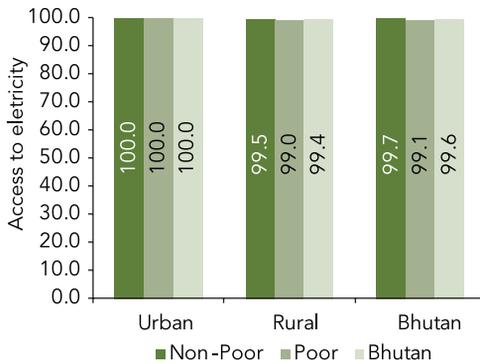
FIGURE 5.7 PERCENTAGE OF HOUSEHOLDS WITH ACCESS TO ELECTRICITY, BY POVERTY STATUS AND AREA

FIGURE 5.8 PERCENTAGE OF HOUSEHOLDS WITH OWNERSHIP OF MOBILE PHONE, TV AND INTERNET CONNECTION, BY POVERTY STATUS AND AREA

Similarly, virtually all households across the country have access to electrictiy. There is hardly any difference between the poor and the non-poor, or households residing in rural or urban areas, as Figure 5.7 shows. Finally, ownership of mobile phones is almost universal across poor and non-poor groups and urban and rural areas, yet internet access is slightly lower among the poor (see Figure 5.8). In contrast, having a TV connection is less common in Bhutan. While on average the percentage of households with TV connection is around 72.5%, this rate is 43% among the poor.

5.4 Perceived Poverty

As a way of measuring subjective poverty, in 2022 BLSS, households were asked to assess their own perception regarding poverty. The head of the household was asked if he/she believed the household to be poor. Across Bhutan, almost 13% of households reported that they considered themselves poor, as shown in Table 10. The perceived poverty is higher among rural areas (16.6%) and much lower in urban areas (6.6%). Perceived poverty, in rural as well as in urban areas, is consistent with monetary poverty. As expected, the perception of poverty rises in groups that are labelled as poor by a monetary welfare indicator. The perceived poverty among the monetary poor is about 27% in Bhutan, with a larger incidence in rural areas (28.3%) and a lower in urban areas (16.6%). A very few households perceived themself as "very poor".

TABLE 5.1 HOUSEHOLD DISTRIBUTION OF SUBJECTIVE POVERTY, BY AREA AND BY MONETARY POVERTY STATUS

Area /monetary poverty status	Not Poor	Neither poor nor non-poor	Poor	Very Poor	Don't know
Urban	7.3	85.4	6.6	0.3	0.0
Poor	2.3	80.1	16.6	1.0	0.0
Non-Poor	7.5	85.7	6.2	0.2	0.0
Rural	9.7	72.1	16.6	1.3	0.0
Poor	4.4	64.1	28.3	2.8	0.0
Non-Poor	10.9	73.8	14.1	0.9	0.0
Bhutan	8.8	77.3	12.7	0.9	0.0
Poor	4.1	66.2	26.8	2.5	0.0
Non-Poor	9.4	78.8	10.7	0.7	0.0

Chapter 6: Inequality

This section focuses on another aspect of wellbeing, namely inequality. While often inequality and poverty are related, the former allows to focus on the whole population and not only on those households that are at the bottom of the expenditure distribution.

6.1 Expenditure Quintiles

One way to assess inequality is by focusing on consumption quintiles. This implies ranking the population in ascending order of per capita consumption and then dividing the population in fifths. Figure 6.1 shows the share of per capita

expenditure held by each quintile, by área. In Bhutan, the share of expenditure held by the poorest 20% of the population is 8.8%. In contrast, the richest 20% hold 37.3% of the per capita real expenditure in Bhutan, more than four times that of the poorest. Differences across areas do not seem to be very significant, with urban areas showing a slightly more equitable distribution.

Table 6.1 shows the sharp increase in per capita expenditure as we get to the higher quintiles. In fact, a person belonging to the first quintile consumes on an average four times less than one in the top quintile
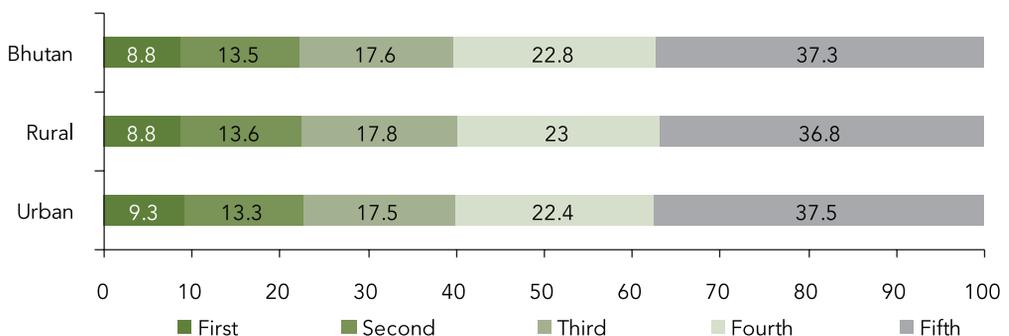
FIGURE 6.1 PER CAPITA EXPENDITURE, BY QUINTILES AND AREA

TABLE 6.1 AVERAGE REAL CONSUMPTION (NGULTRUM/PERSON/MONTH), SHARE IN NATIONAL CONSUMPTION, AVERAGE HOUSEHOLD SIZE BY CONSUMPTION QUINTILE

	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
Average per capita expenditure	5,625	8,611	11,280	14,551	23,853	12,783
Share of national consumption	8.8	13.5	17.6	22.8	37.3	0
Household size	5.4	4.7	4.3	3.8	2.7	4.0

of the distribution. An average person in Bhutan consumes about half of what the richest do. This clearly has a strong link with household size: the richest group has almost half the number of members compared to the poorest 20% of the population.

6.2 Gini Index

The Lorenz curve is a useful graphical tool for exploring inequality. It plots the cumulative consumption share (vertical axis) against cumulative shares of the population (horizontal axis). The 45-degree line is known as the line of perfect equality, and represents a situation in which each household had the same level of expenditure. The further away the Lorenz curve is from this line, the higher the level of inequality in the population.

Figure 6.2 shows the Lorenz curve for real per capita expenditure in Bhutan, and also in urban and rural areas. The curve is far from the line of perfect
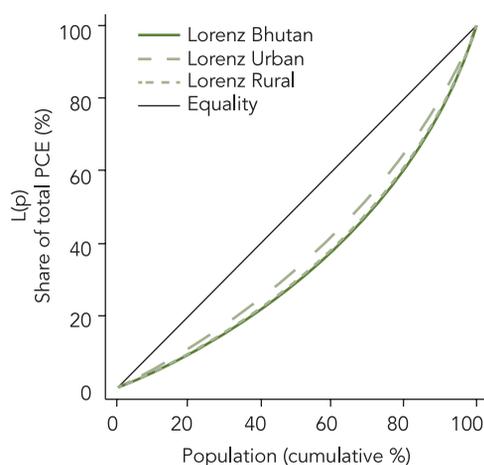
FIGURE 6.2 LORENZ CURVE OF REAL PER CAPITA CONSUMPTION, BY AREA

equality. Urban areas, however, show a slightly less unequal distribution, while rural areas show almost the same level of inequality than the national level.

The Gini coefficient allows to quantify inequality via a single metric. It measures the ratio of the area between the line of perfect equality and the Lorenz curve, to the whole area underlying the line of perfect equality. The Gini index ranges

between 0 and 1 (with zero meaning perfect equality and one meaning perfect inequality). Figure 6.3 shows the Gini index in urban and rural areas. Consistent with what was shown in Figure 15, the gini index is larger for rural areas (0.29) than for the urban areas (0.26).
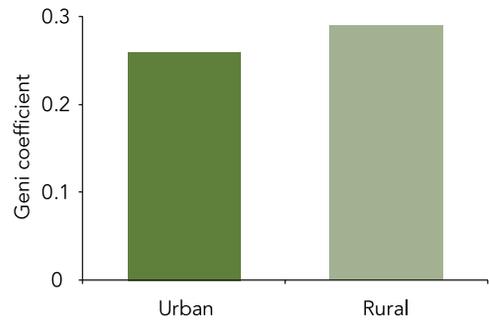
FIGURE 6.3 GINI COEFFICIENT, BY AREA

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ANNEX

	Upper-bound poverty line		Food Poverty Line	
	PG	PG2	PG	PG2
Bumthang	1.4	0.3	0.1	0
Chhukha	4.5	1.5	0.7	0.1
Phuentshogling Thromde	0.9	0.2	0	0
Dagana	2.1	0.7	0.3	0.1
Gasa	2.1	0.8	0.5	0.1
Haa	1.9	0.5	0.1	0
Lhuentse	2.9	0.9	0.3	0.1
Monggar	3.9	1.2	0.5	0.1
Paro	1	0.3	0.1	0
Pema Gatshel	3.4	1	0.4	0.1
Punakha	0.4	0.1	0	0
Samdrup Jongkhar	6.5	2.5	1.6	0.5
Samdrup Jongkhar Thromde	0.9	0.2	0	0
Samtse	3.8	1.1	0.3	0
Sarpang	1	0.3	0.2	0.1
Gelegphu Thromde	1.4	0.4	0.1	0
Thimphu	0.2	0	0	0
Thimphu Thromde	0.3	0.1	0.1	0
Trashigang	4.8	1.6	0.8	0.2
Trashi Yangtse	2.6	0.6	0	0
Trongsa	4.5	1.4	0.5	0.1
Tsirang	4.2	1.3	0.4	0.1
Wangdue Phodrang	3.6	1.3	0.9	0.3
Zhemgang	12.3	4.9	3.3	1.1
Bhutan	2.6	0.8	0.4	0.1

TABLE A2 POVERTY RATE, POVERTY GAP AND POVERTY SQUARED GAP BY AREA AND HOUSEHOLD SIZE

Area / HH size	Poverty Rate		Poverty Gap		Poverty Gap Squared	
	Index	Share	Index	Share	Index	Share
Urban	4.2	13.0	0.7	10.1	0.2	8.9
1 HH member	0.0	0.0	0.0	0.0	0.0	0.0
2-3 HH members	1.1	6.3	0.2	5.7	0.0	4.1
4-5 HH members	3.5	40.9	0.5	36.0	0.1	36.0
6-8 HH members	8.2	42.9	1.6	52.2	0.5	56.3
9+ HH members	20.5	10.0	2.0	6.1	0.3	3.6
Rural	17.5	87.0	3.8	89.9	1.2	91.1
1 HH member	1.7	0.2	0.3	0.1	0.1	0.1
2-3 HH members	4.8	5.9	0.9	5.1	0.3	4.6
4-5 HH members	12.8	30.4	2.2	24.3	0.6	20.7
6-8 HH members	29.5	49.2	6.7	51.4	2.2	51.7
9+ HH members	44.7	14.3	13.0	19.1	5.1	22.8
Bhutan	12.4	100	2.6	100	0.8	100
1 HH member	0.9	0.9	0.2	0.2	0.0	0.0
2-3 HH members	3.2	3.2	0.6	0.6	0.2	0.2
4-5 HH members	8.9	8.9	1.5	1.5	0.4	0.4
6-8 HH members	22.7	22.7	5.1	5.1	1.7	1.7
9+ HH members	40.2	40.2	10.9	10.9	4.2	4.2

TABLE A3 POVERTY RATE, POVERTY GAP AND POVERTY SQUARED GAP BY AREA AND SEX OF HOUSEHOLD HEAD

Area / Household head	Poverty Rate		Poverty Gap		Poverty Gap Squared	
	Index	Share	Index	Share	Index	Share
Urban	4.2	13.0	0.7	10.1	0.2	8.9
Male	4.6	80.7	0.7	80.1	0.2	81.9
Female	3.0	19.3	0.5	19.9	0.1	18.1
Rural	17.5	87.0	3.8	89.9	1.2	91.1
Male	17.8	65.9	3.9	65.9	1.3	66.5
Female	17.0	34.1	3.7	34.1	1.2	33.5
Bhutan	12.4	100.0	2.6	100.0	0.8	100.0
Male	12.3	67.8	0.0	67.4	0.2	67.9
Female	12.5	32.2	0.0	32.6	1.2	32.1

TABLE A4 POVERTY RATE, POVERTY GAP AND POVERTY SQUARED GAP BY AREA AND AGE OF HOUSEHOLD HEAD

Area / Age of HH head	Poverty Rate		Poverty Gap		Poverty Gap Squared	
	Index	Share	Index	Share	Index	Share
Urban	4.2	13.0	0.7	10.1	0.2	8.9
<25	12.8	8.5	0.9	3.5	0.1	0.9
25-34	2.8	17.9	0.3	13.2	0.1	10.0
35-44	4.5	38.8	0.8	42.3	0.2	42.9
45-54	5.4	27.7	1.0	31.6	0.3	35.7
55-64	1.9	3.6	0.5	5.7	0.2	7.1
65+	3.1	3.6	0.5	3.7	0.1	3.4
Rural	17.5	87.0	3.8	89.9	1.2	91.1
<25	14.2	0.8	3.0	0.8	0.8	0.6
25-34	11.5	10.1	2.2	9.0	0.7	8.1
35-44	16.7	23.9	3.5	23.3	1.2	23.5
45-54	17.1	22.7	3.8	22.9	1.2	22.9
55-64	18.4	19.3	4.1	19.9	1.4	20.4
65+	24.1	23.2	5.4	24.1	1.8	24.5
Bhutan	12.4	100	2.6	100	0.8	100
<25	13.3	1.8	1.6	1.0	0.3	0.6
25-34	7.0	11.1	1.3	9.5	0.4	8.3
35-44	10.9	25.9	2.2	25.2	0.7	25.2
45-54	12.8	23.4	2.7	23.8	0.9	24.1
55-64	14.8	17.3	3.3	18.5	1.1	19.2
65+	20.9	20.6	4.7	22.0	1.6	22.6

TABLE A5 LITERACY RATE FOR AGED SIX YEARS AND ABOVE BY *DZONGKHAG* AND POVERTY STATUS

Regions	Non-Poor	Poor	Total
Bumthang	72.9	66.9	72.3
Chhukha	65.9	56.6	64.2
Phuentshogling Thromde	84.2	66.0	82.9
Dagana	68.6	64.0	68.2
Gasa	60.8	57.1	60.5
Haa	65.7	65.9	65.7
Lhuentse	63.3	60.3	62.8
Monggar	64.9	52.6	62.7
Paro	74.7	59.2	73.8
Pema Gatshel	68.8	63.4	67.8
Punakha	69.3	53.9	68.8
Samdrup Jongkhar	69.4	61.4	67.4
Samdrup Jongkhar Thromde	84.9	81.4	84.6
Samtse	62.2	52.0	60.0
Sarpang	70.8	70.3	70.8
Gelegphu Thromde	81.6	78.5	81.4
Thimphu	77.1	71.0	77.0
Thimphu Thromde	82.7	68.7	82.4
Trashigang	65.1	56.6	63.4
Trashi Yangtse	61.7	64.7	62.2
Trongsa	71.5	65.2	70.1
Tsirang	65.9	62.5	65.3
Wangdue Phodrang	70.0	63.8	69.0
Zhemgang	66.7	57.1	62.7
Bhutan	72.2	59.5	70.6

TABLE A6 PERCENTAGE OF INDIVIDUALS WHO REPORTED SICK/INJURED TWELVE MONTHS PRIOR TO THE SURVEY, BY *DZONGKHAG* AND POVERTY STATUS

Region	Non-Poor	Poor	Total
Bumthang	27.5	17.9	26.5
Chhukha	21.7	21.0	21.6
Phuentshogling Thromde	33.9	29.1	33.6
Dagana	26.3	25.3	26.2
Gasa	19.3	29.9	20.1
Haa	31.1	26.5	30.6
Lhuentse	25.9	19.0	24.8
Monggar	20.8	11.2	19.1
Paro	35.0	42.1	35.4
Pema Gatshel	31.5	19.7	29.4
Punakha	41.1	28.5	40.8
Samdrup Jongkhar	27.5	16.0	24.6
Samdrup Jongkhar Thromde	26.1	22.9	25.9
Samtse	38.3	29.6	36.4
Sarpang	26.8	20.0	26.4
Gelegphu Thromde	36.0	41.6	36.4
Thimphu	32.6	32.9	32.6
Thimphu Thromde	27.8	8.1	27.4
Trashigang	21.5	10.8	19.3
Trashi Yangtse	19.2	10.7	17.8
Trongsa	16.6	12.6	15.7
Tsirang	32.0	24.4	30.5
Wangdue Phodrang	33.2	26.9	32.2
Zhemgang	17.1	13.4	15.6
Bhutan	28.9	20.3	27.9

TABLE A7 PERCENTAGE OF INDIVIDUALS WITH ACCESS TO IMPROVED WATER SOURCE, BY *DZONGKHAG* AND POVERTY STATUS

Regions	Non-Poor	Poor	Total
Bumthang	99.7	100	99.7
Chhukha	100	100	100
Phuentshogling Thromde	100	100	100
Dagana	100	100	100
Gasa	100	100	100
Haa	100	100	100
Lhuentse	100	100	100
Monggar	100	100	100
Paro	100	100	100
Pema Gatshel	100	100	100
Punakha	100	96.8	99.9
Samdrup Jongkhar	99.9	100	99.9
Samdrup Jongkhar Thromde	99.8	97.2	99.7
Samtse	100	100	100
Sarpang	100	100	100
Gelegphu Thromde	100	100	100
Thimphu	100	100	100
Thimphu Thromde	100	100	100
Trashigang	99.9	100	100
Trashi Yangtse	100	100	100
Trongsa	100	100	100
Tsirang	100	100	100
Wangdue Phodrang	100	100	100
Zhemgang	100	100	100
Bhutan	100	100	100

PERCENTAGE OF INDIVIDUALS WITH ACCESS TO IMPROVED SANITATION, BY *DZONGKHAG* **AND POVERTY STATUS**

Regions	Non-Poor	Poor	Total
Bumthang	97	88.1	96.2
Chhukha	100	100	100
Phuentshogling Thromde	100	100	100
Dagana	100	100	100
Gasa	85.1	88.5	85.4
Haa	99.2	96.5	98.9
Lhuentse	99.9	99.2	99.7
Monggar	99	97.4	98.7
Paro	98.7	97.2	98.6
Pema Gatshel	99.2	97.6	98.9
Punakha	98.4	82	97.9
Samdrup Jongkhar	99.9	99.3	99.8
Samdrup Jongkhar Thromde	99.9	100	99.9
Samtse	99.1	98.2	98.9
Sarpang	99.8	100	99.9
Gelegphu Thromde	99.3	100	99.3
Thimphu	98.2	100	98.2
Thimphu Thromde	100	93.7	99.8
Trashigang	99.8	99.3	99.7
Trashi Yangtse	99.3	100	99.4
Trongsa	99.5	99.1	99.5
Tsirang	99.8	100	99.9
Wangdue Phodrang	99.8	100	99.8
Zhemgang	98.9	96.2	97.8
Bhutan	99.4	98.2	99.2

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