DZONGKHAG POVERTY PROFILE

ZHEMGANG DZONGKHAG

2025

NATIONAL STATISTICS BUREAU
ZHEMGANG DZONGKHAG ADMISTRATION

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Chapter 1: BACKGROUND

1.1 Introduction

The Zhemgang Dzongkhag has made poverty reduction and improvement of living standards a central development priority. Despite their geographical challenges, the Dzongkhag has demonstrated strong commitment to ensuring inclusive socio-economic progress and improving the well-being of its population. These priorities are firmly anchored in the Dzongkhag's development vision under the 13th Five Year Plan and extend into the longer-term aspirations of the 14th Five Year Plan

At the national level, Bhutan has made significant progress in improving living standards and reducing poverty through sustained investments in human development, infrastructure, and social protection. The National surveys such as the Bhutan Living Standards Survey (BLSS) have provided the primary empirical basis for poverty measurement and policy formulation. These surveys have enabled consistent monitoring of poverty trends over time while supporting evidence-based planning across sectors and administrative levels.

Within this broader global and national context, Zhemgang Dzongkhag continues to place strong emphasis on poverty reduction as a core development objective. The Dzongkhag recognizes that achieving inclusive growth requires a nuanced understanding of local living conditions and poverty dynamics. The preparation of this Poverty Analysis Compendium reflects this commitment and seeks to strengthen the analytical foundation for policy-making by providing a current, Dzongkhag-specific assessment of living standards and poverty.

1.2 Context and Rationale

The poverty assessments conducted over the years have indicated that Zhemgang Dzongkhag has been experiencing a relatively higher poverty incidence among the twenty Dzongkhags. However, these patterns have evolved over time, with poverty levels fluctuating across Dzongkhags in different survey rounds. The most recent estimates must also be interpreted in the context of methodological refinements, including revisions to the poverty threshold, which have influenced poverty levels across the country.

Recognizing the urgency of addressing poverty, the Dzongkhag has articulated ambitious development goals, including the aspiration to eradicate poverty by 2034. In pursuit of this objective, Zhemgang Dzongkhag has initiated and is implementing a range of

development programmes and policy measures. These include the formulation of a Dzongkhag Economic Development Strategy, a Tourism Development Plan, and the design of social assistance and livelihood programmes with a strong emphasis on income-generating activities. Together, these initiatives aim to address both income and non-income dimensions of poverty in a comprehensive manner.

To effectively assess the outcomes of these interventions and to enable timely policy adjustments, the Dzongkhag recognized the need for up-to-date and Dzongkhag-specific data on living standards. Accordingly, a Dzongkhag Living Standards Survey was conducted during June and July 2025. The survey was designed using the same sample as the Bhutan Living Standards Survey 2022, thereby ensuring consistency and comparability over time. Data collection was carried out by the Dzongkhag, while data processing, analysis, and report preparation were undertaken by the National Statistics Bureau.

This Poverty Analysis Compendium /report is therefore based entirely on data generated through the 2025 Dzongkhag Living Standards Survey. The analysis provides a current and reliable assessment of living standards and poverty conditions, serving as a critical input for Dzongkhag-level planning, programme design, and monitoring. By grounding analysis in internationally accepted poverty measurement principles while responding to local planning needs, this compendium/report serves as a critical tool for guiding Dzongkhag-level policy decisions and monitoring progress towards poverty eradication.

1.3 Objectives

The main objectives of the Poverty Analysis Compendium/report for Zhemgang Dzongkhag are to:
- Assess the current level of poverty and living standards in Zhemgang Dzongkhag using data from the 2025 Dzongkhag Living Standards Survey.
- Examine changes in key welfare indicators by leveraging comparability with the 2022 survey sample.
- Provide evidence-based insights to support Dzongkhag-level planning, budgeting, and prioritization of poverty reduction interventions.
- Strengthen monitoring of progress towards the Dzongkhag's medium- and long-term poverty eradication targets.
- Facilitate informed decision-making by presenting technical analysis in a clear and accessible manner for policy makers and planners.

The compendium/ report is intended to serve as a practical analytical reference for guiding development actions and tracking progress towards inclusive and sustainable socio-economic development in Zhemgang Dzongkhag.

Chapter 2: METHODOLOGY

2.1 Data Collection

The Zhemgang Living Standard Survey (ZLSS) 2025 was conducted during June–July 2025 with the objective of monitoring poverty trends by re-interviewing households that responded to the 2022 Bhutan Living Standard Survey (BLSS). In 2022, 538 out of 540 households in Zhemgang Dzongkhag participated in the BLSS.

For the 2025 survey, the target was to re-interview all 538 households from the original sample, and efforts were made to contact each of them. However, only about 380 households that had participated in the 2022 BLSS could be reached; the remaining household could not be contacted due to relocation or other reasons. To meet the target of 538 households, additional households were drawn from the 2022 BLSS PSUs as replacements. Even with these replacements, a total of 506 households ultimately completed the survey, yielding a response rate of 94.1%. Given the level of attrition and the absence of common household identifier between the 2022 and 2025 rounds, the 2025 survey is treated as a cross-sectional survey rather than a panel.

Data collection was carried out over a period of 19 days by 24 enumerators deployed by the Zhemgang Dzongkhag Administration. The questionnaire content and structure remained identical to that of the 2022 BLSS, ensuring comparability of poverty and welfare indicators over time.

2.2 Weights and Estimation Procedures

The sampling design, sample size determination, and base weighting procedures for the 2025 ZLSS follow those of the 2022 BLSS, with no new sampling undertaken. In 2022 Bhutan Living Standard Survey, the weights are designed as follow:

In the first stage, the probability for selection of ith PSU in a stratum is given by:

$$Pro_{ipsu} = \frac{M_i}{\sum_1^N M_i} * n \qquad (1)$$

where,
   M_i is the total number of households in the ith PSU
   n is the total number of PSUs selected in the stratum
   $\sum_1^N M_i$ is the total number of households in the stratum

In the second stage, the probability for selection of households in the ith PSU in a stratum is given by:

$$Pro_{ihhs} = \frac{n_i}{m_i} \tag{2}$$

where,

n_i is the number of households interviewed in the ith PSU

m_i is the total number of households during the fresh listing in the ith PSU

The sampling weight is the inverse of the probability of selection and thus from equation (1) and (2) the sampling weight for i^{th} PSU in a stratum is as given by the following formulae.

$$w_i = \frac{1}{\left(pro_{ipsu} * pro_{ihhs}\right)} = \left(\frac{\sum_1^N M_i}{M_i n}\right)\left(\frac{m_i}{n_i}\right)$$

To address non-response and household turnover, the original design weights were further adjusted using post-stratification based on projected population control totals.

2.3 Consumption Aggregate

The welfare indicator used for poverty and inequality analysis is the real consumption aggregate, obtained by adjusting nominal household consumption for demographic composition and differences in the cost of living. The nominal consumption aggregate includes food consumption, non-food non-durable expenditures, consumption flow from durable goods, and housing expenditures.

Food consumption covers purchased items, own-produced food, food received for free, and food consumed away from home. Non-food non-durable expenditures include regular consumption items, including health expenditures, while excluding non-consumption and lumpy expenditures. The consumption flow from durable goods is estimated using a straight-line depreciation approach, and housing expenditure is measured using actual or imputed rent.

The real consumption aggregate is obtained by applying temporal price adjustment using the official CPI produced by NSB and spatial price adjustment using a Paasche food price index constructed at the dzongkhag level, ensuring comparability of household welfare within Zhemgang Dzongkhag. Table 1 shows summary statistics for the main components of real per capita expenditure, by quintiles of total real per capita expenditure.

Table 1 Summary Statistics of Main Expenditure Components

Quintiles of real per capita expenditure	Food	Non-food non-durables	Housing	Durable goods	Total
Average real expenditures (Nu/person/month)					
1	2,077	1,227	410	167	3,881
2	3,435	1,938	560	273	6,206
3	4,982	2,819	707	354	8,863
4	6,687	4,440	1253	650	13,030
5	11,243	8,263	2884	1035	23,424
Zhemgang	5,678	3,733	1,161	495	11,067
Average Budget Shares (%)					
1	52.4	31.9	11.3	4.4	100
2	55.4	31.2	8.9	4.4	100
3	56.4	31.6	8.1	4.0	100
4	51.3	34.0	9.7	5.0	100
5	50.7	34.3	10.3	4.7	100
Zhemgang	53.2	32.6	9.7	4.5	100

Chapter 3: POVERTY PATTERNS

Based on the national poverty lines, households are classified as poor if their per capita real consumption falls below the poverty line, and as food poor if it falls below the food poverty line. Since expenditures are measured at the household level, poverty status is assigned uniformly to all household members. Poverty in Zhemgang Dzongkhag is measured using three standard indicators: poverty incidence (headcount ratio), poverty depth (poverty gap), and poverty severity (squared poverty gap), reported for the dzongkhag overall and by selected household characteristics.

3.1 National Poverty Line

Bhutan's national poverty line was re-estimated in 2022 using data from the 2022 Bhutan Living Standard Survey, following the cost-of-basic-needs (CNB) approach. For the 2025 analysis, the 2022 poverty line is retained and updated using the national food inflation rate of 13.8% and Non-food inflation rate of 7.5% to maintain comparability over time. The 2022 poverty thresholds in 2025 price is Nu. 3,245 per person per month for the food poverty line, Nu.3,603 per person per month for the non-food poverty line, and Nu. 6,848 per person per month for the total poverty line. These price adjusted poverty lines are applied in the poverty assessment for Zhemgang Dzongkhag.

Table 2 CBN National Poverty Lines (Current Nu/Person/Month)

Indicators	2022	2025
Food poverty line	2,852	3,245
Nonfood allowance	3,352	3,603
Poverty Line	6,204	6,848

3.2 Poverty Incidence

The poverty line and the food poverty line are used to estimate the incidence of poverty and food poverty, respectively. In 2025, the poverty rate in Zhemgang Dzongkhag is estimated at 37.1%, indicating that nearly 37 out of every 100 individuals live in households whose monthly per capita real consumption falls below the national poverty line of Nu 6,848 per person (current prices).

Food poverty is considerably lower, with 4.8% of the population residing in households whose monthly per capita real consumption is below the food poverty line of Nu 3,245 per person (current prices).

Figure 1 Poverty Incidence, by Year (%)
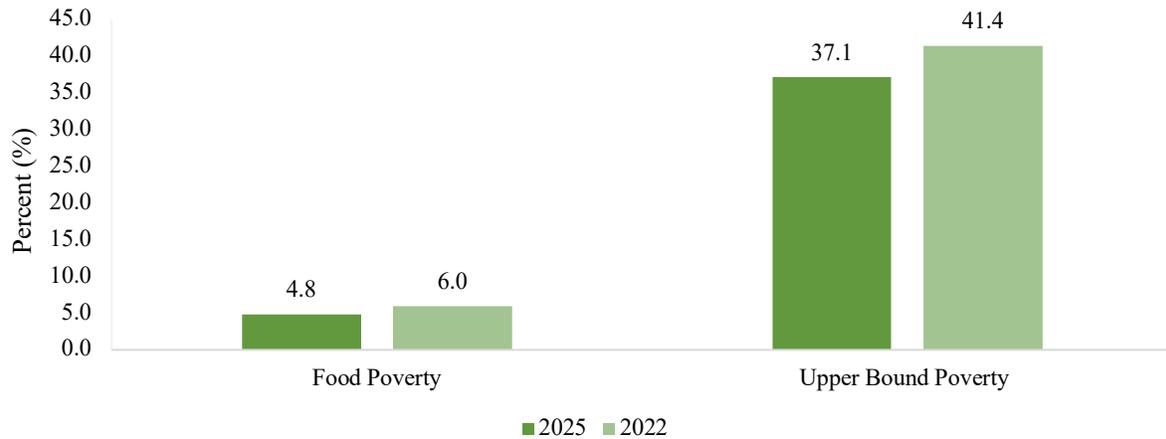
3.3 Depth and Severity of Poverty

The poverty gap and squared poverty gap indices capture the depth and severity of poverty, respectively. The poverty gap reflects how far, on average, poor individuals' expenditures fall below the poverty line, expressed as a proportion of that line. The squared poverty gap places greater weight on those who are farthest below the poverty line, thereby accounting for inequality among the poor.
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In 2022, the poverty gap was 12.3%, indicating that poor households were, on average, were 12.3% below the basic living standard. By 2025, the gap has declined to 10.7%, suggesting that poor households have moved closer to the poverty line and that the overall depth of poverty is easing.

Similarly, the poverty gap squared fell from 4.9% in 2022 to 4.5% in 2025, reflecting a slight reduction in severe poverty. These changes suggest that, over the period, both the intensity and severity of poverty have lessened, pointing to potential improvements in living standards among poor households.

Figure 2 Depth and Severity of Poverty
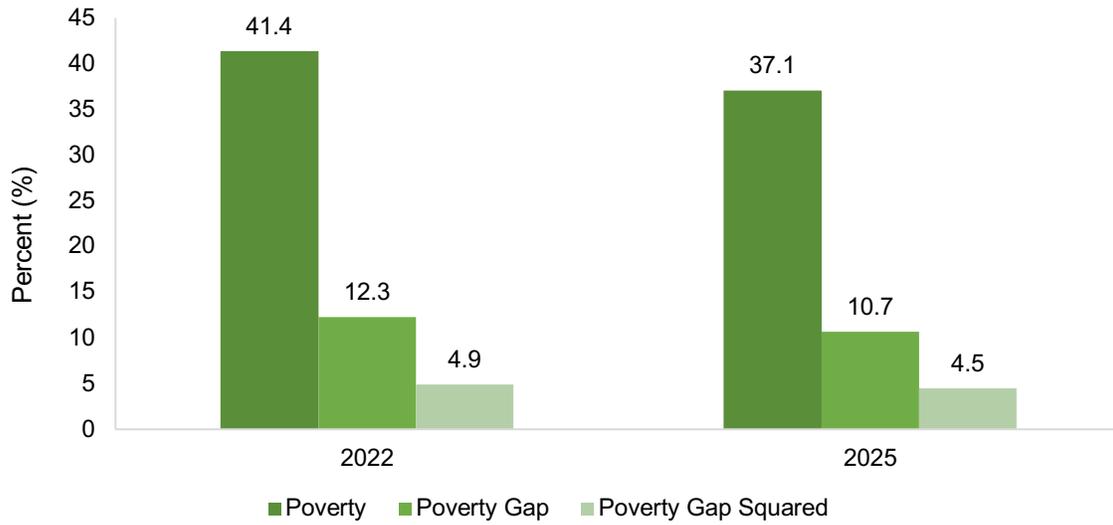
3.4 Poverty by Household Characteristics

Poor households differ from the rest of the population in both demographic composition and social characteristics. The results indicate a strong positive relationship between household size and poverty. Poverty is rare among small households, but it rises steadily as household size increases. Households with 1-3 members have low poverty rates and shallow poverty, while nearly three in ten individuals in 4-6 member households are poor (Table 3).

Poverty is substantially more severe among large households. More than two-thirds of individuals living in households with seven or more members are poor and experience large shortfalls from the poverty line.

Table 3 Poverty Incidence (%) by Household Size

Household Size	Poverty Rate	Food Poverty	Share of individuals by household type
1-3 HH members	11.0	0.0	38.5
4-6 HH members	32.1	1.3	50.1
7+ HH members	73.9	18.2	11.4

The table 4 presents poverty incidence by the sex of the household head, showing both poverty Incidence and food poverty. Overall, female-headed households experience higher poverty than male-headed households. Under the total poverty line, 40.6% of individuals in female-headed households are poor, compared with 33.8% in male-headed households. Female-headed households also account for a slightly larger share of the poor population (53.6%) than male-headed households (46.4%).
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For the food poverty line, poverty is generally lower, but the pattern differs, 6.0% of individuals in male-headed households are food-poor, compared with 3.5% in female-headed households. Consistently, male-headed households account for a larger share of the food-poor population (63.8%) than female-headed households (36.2%).

Table 4 Poverty Incidence (%) by Sex of the Household Head

Sex of Household Head	Poverty Line		Food Poverty Line		Share of individuals by Household Type
	Poverty Rate	Distribution of Poor	Poverty Rate	Distribution of Poor	
Male	33.8	46.4	6.0	63.8	50.9
Female	40.6	53.6	3.5	36.2	49.1
Zhemgang	37.1	100.0	4.8	100.0	100.0

As expected, the figure 3 shows a strong inverse relationship between the educational attainment of the household head and poverty incidence. Poverty is highest among households with no formal education (44.8%) and declines steadily as education increases, falling to 35.0% for those with at most Grade VIII, 20.6% for Grade IX–XII, and 14.9% for education beyond Grade XII.

Figure 3 Poverty Incidence (%), by Educational Attainment of Household Head
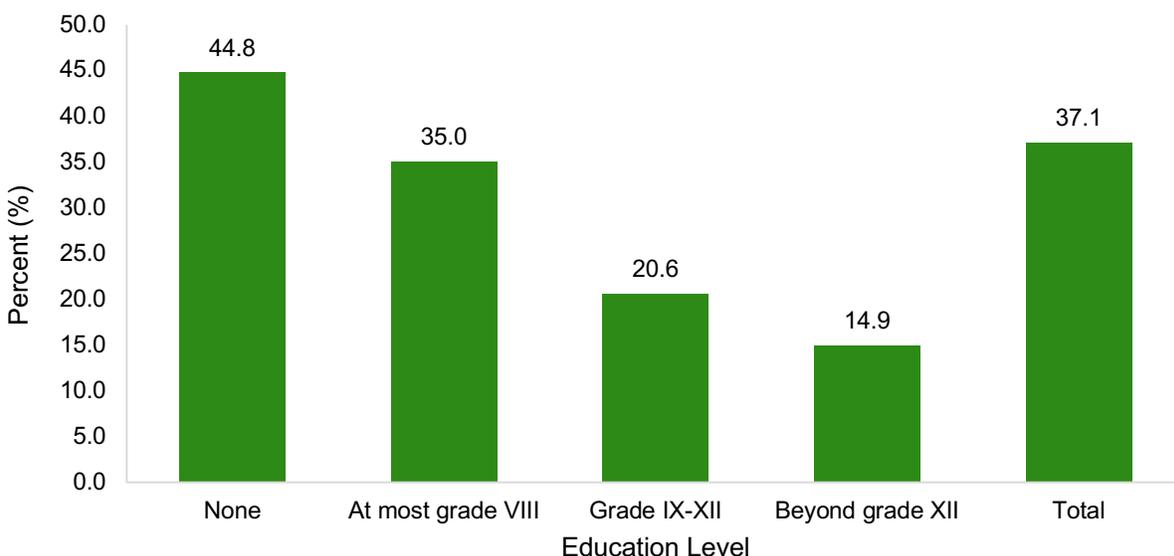
The age of the household head is also associated with poverty outcomes. The table indicates that poverty tends to be lower among households headed by younger individuals and increases with age, particularly among households with older heads. Although households with very young heads represent a small share of the population and contribute little to overall poverty, households headed by older individuals account for a substantial share of the poor.

A similar pattern is observed for food poverty, which is generally low among younger age groups but becomes more prevalent among households with older heads. This suggests that both total poverty and food poverty are more concentrated among households headed by older individuals, highlighting age as an important correlate of poverty.

Table 5 Poverty Incidence (%), by Age of Household Head

Age of Household Head	Poverty Line		Food Poverty Line		Share of individuals by Household Type
	Poverty Rate	Distribution of Poor	Poverty Rate	Distribution of Poor	
<25	0.0	0.0	0.0	0.0	0.7
25-34	26.8	12.0	0.0	0.0	16.6
35-44	42.4	33.3	3.8	23.2	29.2
45-54	36.7	21.3	6.9	31.0	21.5
55-64	29.4	11.6	3.5	10.7	14.7
65+	46.7	21.8	9.7	35.1	17.3

Table 6 highlight clear differences in poverty incidence by dwelling characteristics, particularly wall and floor materials. Overall, households living in dwellings constructed with more durable materials tend to experience lower poverty, while those using less durable or traditional materials face higher poverty incidence.

In terms of wall materials, poverty is relatively lower among households with brick or stone/cement walls, whereas it is noticeably higher among households living in dwellings with stone/mud or wood plank walls. A similar pattern is observed for floor materials, where households with more solid flooring options generally show lower poverty incidence compared with those using fewer durable materials. These patterns suggest that housing quality is closely associated with household welfare, with poorer housing conditions linked to higher poverty levels in Zhemgang.

Table 6 Poverty Incidence (%), by Floor and Wall Material

Wall Materials	Poverty Incidence (%)	Floor Materials	Poverty Incidence (%)
Bricks	25.5	Planks/timber	48.3
Stone/cement	22.4	Planks/concrete	24.8
Stone/mud	44.6	Cement	31.7
Wood planks	47.1	Other	21.7
Other	38.8	Zhemgang	37.1
Zhemgang	37.1		

3.5 Basic Needs: Nonmonetary Indicators

Non-monetary indicators provide an important complement to expenditure-based measures of wellbeing. Factors such as literacy, education, health, and access to public services play a key role in quality of life and do not always move in line with income or expenditure, making them essential to consider.

The literacy rate[1] among adults in Zhemgang shows a noticeable difference by poverty status. Non-poor individuals have the highest literacy rate at 70.4%, indicating that over seven in ten non-poor adults can read and write. Literacy among poor individuals is lower at 63.4%, suggesting that the ability to read and write is less common in this group. Overall, Zhemgang's average literacy rate is 67.7%, reflecting the combined effect of both poor and non-poor populations. These figures highlight a clear literacy gap between the poor and non-poor, with the non-poor being more literate than the poor.

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[1] *Literacy defined as individuals aged 6 and over being able to read and write a short text in dzongkha/English/Lhotsam/Other*

Figure 4 Literacy Rate (%) and Educational Attainment (%), by Poverty Status
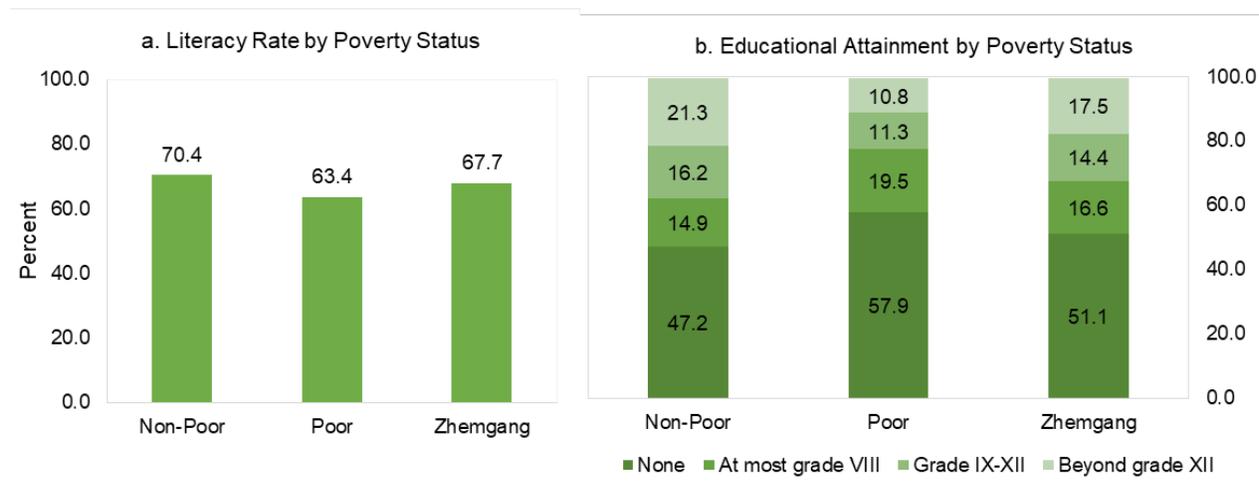

Figure 4b shows the educational attainment of adults aged 15 and older in Zhemgang by poverty status. Overall, 51.1% of adults have never attended school, higher among the poor (57.9%) than the non-poor (47.2%). About 16.6% have completed at most grade VIII, 14.4% grades IX–XII, and 17.5% beyond grade XII, with higher education levels concentrated among the non-poor. These figures highlight a clear education gap, with poor adults more likely to have lower education.

Housing amenities and access to basic public services are key indicators of wellbeing. In Zhemgang, access to improved water sources[2] is nearly universal, with more than 99% of both poor and non-poor households reporting having access. Improved water sources include piped water in the dwelling or compound, neighbors' pipes, public outdoor taps, protected wells or springs, and rainwater collection.
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[2] *Improved water Sources includes piped in dwelling, pipe in compound, neighbors' pipe, public outdoor tap, protected well, protected spring, and rainwater collection.*

Figure 5 Percentage of Households with Access to Improved Water, Improved Sanitation and Access to Electricity by Poverty Status
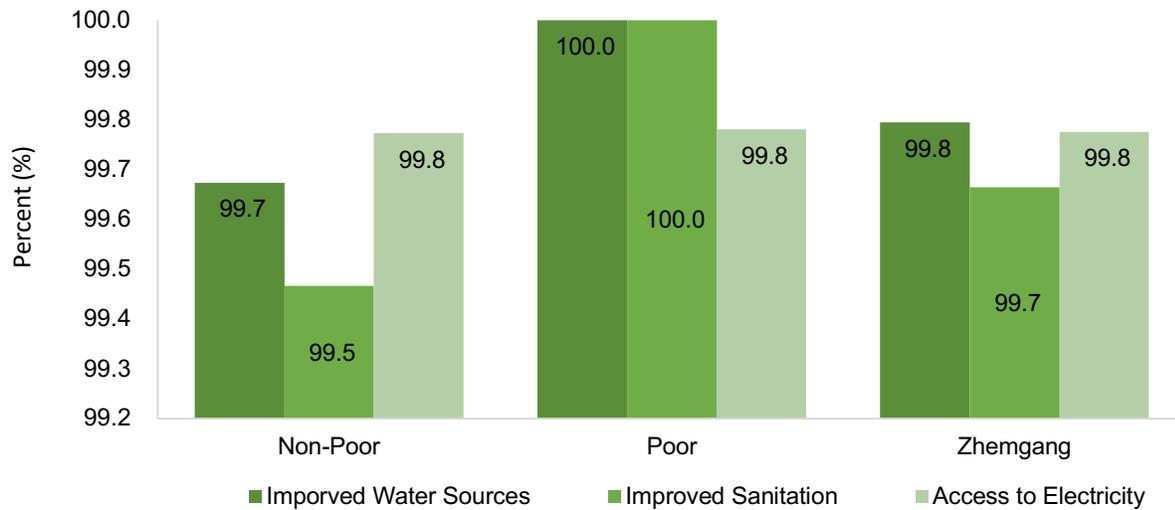

Similarly, access to improved sanitation[3] is almost universal, with coverage close to 100% across poverty groups. Improved sanitation comprises sewer or septic systems, flush latrines, pit latrines with slabs, and ventilated improved pit latrines. Access to electricity is also virtually universal, with 99.8% of households having access, regardless of poverty status. Overall, the table indicates minimal disparity in access to essential housing amenities and public services in Zhemgang.

Access to communication amenities in Zhemgang is generally high across poverty groups. Mobile phone ownership is universal, with all poor and non-poor households reporting having access. Internet access, which includes mobile data on phones and home routers, is also widespread, exceeding 97 percent for both groups, with only minor differences.

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[3] *Improved sanitation includes sewers or septic tanks, flush-latrines, pit with slab, or ventilated improved pit latrines.*

Figure 6 Percentage of Households with Ownership of Mobile Phone, TV and Internet Connection, by Poverty Status
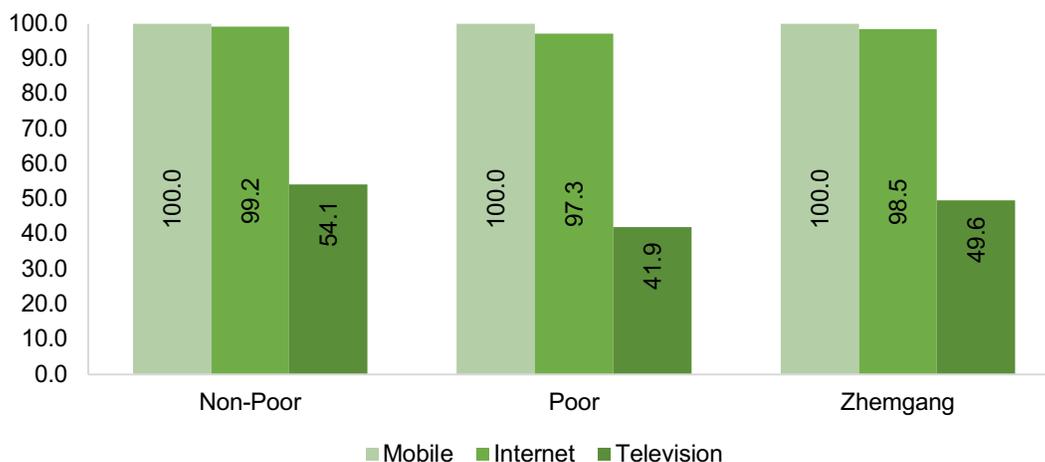
In contrast, television ownership is lower among the poor households. While 54.1% of non-poor households have a television, only 41.9% of poor households have the same. Overall, 49.6% of households in Zhemgang report having a television, indicating that TV ownership remains less common compared to mobile and internet access.

3.6 Perceived Poverty

As a measure of subjective poverty, households in Zhemgang Dzongkhag were asked to report their own perception of poverty. Specifically, the respondents were asked whether they considered their household to be poor, providing a self-assessed view of economic well-being.

Among households classified as poor, most respondents (63.7%) perceive themselves as 'Neither poor nor rich', while 16.1% consider themselves not poor at all. Only a small share recognizes their situation as 'Poor' (7.2%) or 'Very poor' (0.8%). This indicates that many poor households do not fully acknowledge their economic disadvantage, highlighting the difference between objective poverty measures and the respondents' own perception of their economic condition in the district.

Table 7 Household Distribution of Subjective Poverty, by Monetary Poverty Status

Poverty Status	Perceived Poverty					
	No	Neither poor nor rich	Poor	Very poor	Don't know	Total
Non-Poor	29.9	63.7	6.3	0.1	0.1	100.0
Poor	16.1	75.1	7.2	0.8	0.8	100.0
Total	24.8	67.9	6.6	0.3	0.3	100.0

Chapter 4: INEQUALITY

This section examines another dimension of wellbeing-inequality. While inequality is closely related to poverty, it looks beyond only poor households and considers how consumption is distributed across all households within the district, providing a broader picture of living standards in Zhemgang Dzongkhag.

4.1 Expenditure Quintiles

One way to assess inequality is by examining consumption quintiles, which are constructed by ranking the population in ascending order of per capita consumption and dividing it into five equal groups. The table compares the distribution of per capita expenditure across these quintiles between 2022 and 2025. In both years, the richest quintile holds the largest share of expenditure, while the poorest quintile accounts for the smallest share. Over this period, the share of expenditure held by the poorest quintile declined, whereas the share of the richest quintile increased, indicating a slight rise in consumption inequality. Middle quintiles also experienced modest changes in their shares.

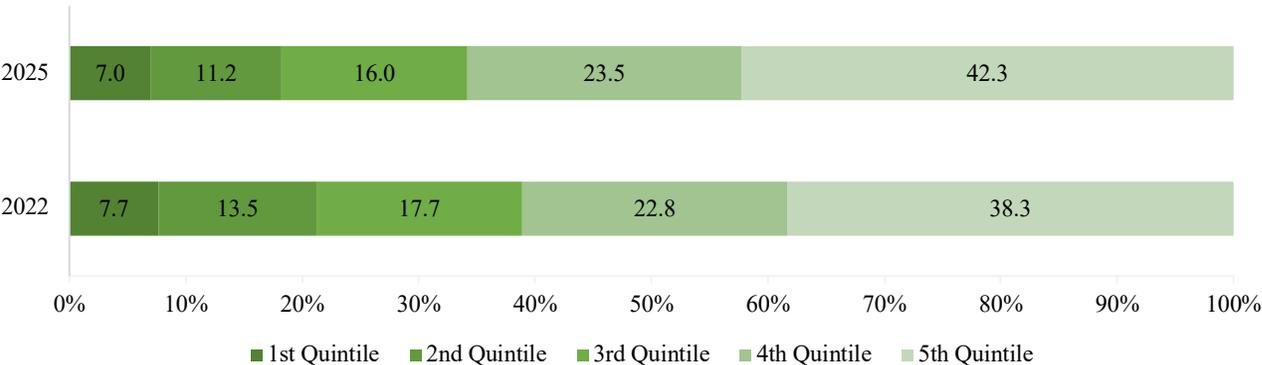**Figure 7 Per Capita Expenditure, by Quintile**

Table 7 highlights the sharp rise in per capita expenditure across consumption quintiles. Individuals in the lowest quintile consume on average much less than those in higher quintiles, with the richest quintile consuming nearly six times more than the poorest. On average, a person in Zhemgang consumes about half of what an individual in the richest quintile does. This pattern is closely linked to household size, poorer households tend to be larger, averaging 6.2 members in the bottom quintile, while the richest households are much smaller, with an average of 2.7 members.

Table 8 Average Real Consumption (Ngultrum/Person/Month), Share in National Consumption, Average Household Size by Consumption Quintile

	1st Quintile	2nd Quintile	3rd Quintile	4th Quintile	5th Quintile	Total
Average per capita expenditure	3,881	6,206	8,863	13,030	23,424	11,067
Share of national consumption	7.0	11.2	16.0	23.5	42.3	
Household Size	6.2	5.1	4.4	3.9	2.7	4.2

4.2 Gini Index

The Lorenz curve is a valuable graphical method for examining inequality. It shows the cumulative share of consumption on the vertical axis against the cumulative share of the population on the horizontal axis. The 45-degree line, called the line of perfect equality, represents a scenario where all households have the same level of expenditure. The greater the distance between the Lorenz curve and this line, the higher the degree of inequality in the population.

Figure 8 presents the Lorenz Curve for real per capita expenditure in Zhemgang Dzongkhag for 2022 and 2025. It can be observed that in 2025, the curve lies further away from the line of perfect equality compared to 2022. This indicates a higher degree of inequality in the population of Zhemgang Dzongkhag in 2025.

Figure 8 Lorenz Curve of Real Per Capita Consumption
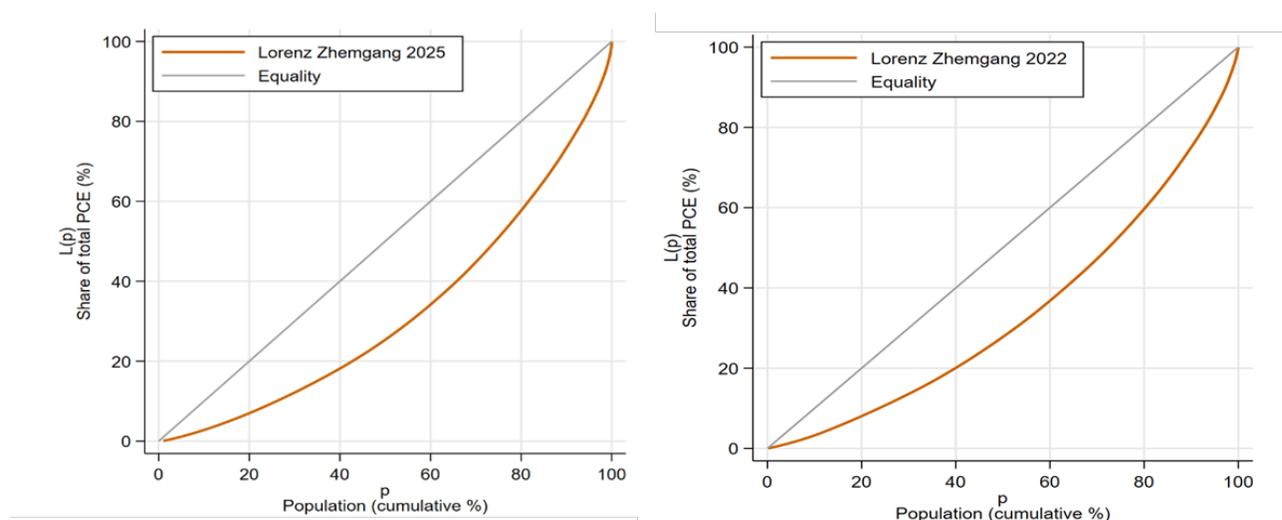
The Gini coefficient provides a way to quantify inequality using a single measure. It is calculated as the ratio of the area between the Lorenz curve and the line of perfect equality to the total area under the line of perfect equality. The index ranges from 0 to 1, where 0 represents perfect equality and 1 represents complete inequality.

Figure 9 presents the Gini index for Zhemgang Dzongkhag in 2022 and 2025, showing that inequality increased slightly over the period, with the index rising from 0.32 in 2022 to 0.36 in 2025. This pattern is consistent with the trends observed in the Lorenz curve, indicating a modest rise in inequality within the Dzongkhag.

Figure 9 Gini Coefficient for the Year 2022 and 2025 for Zhemgang Dzongkhag
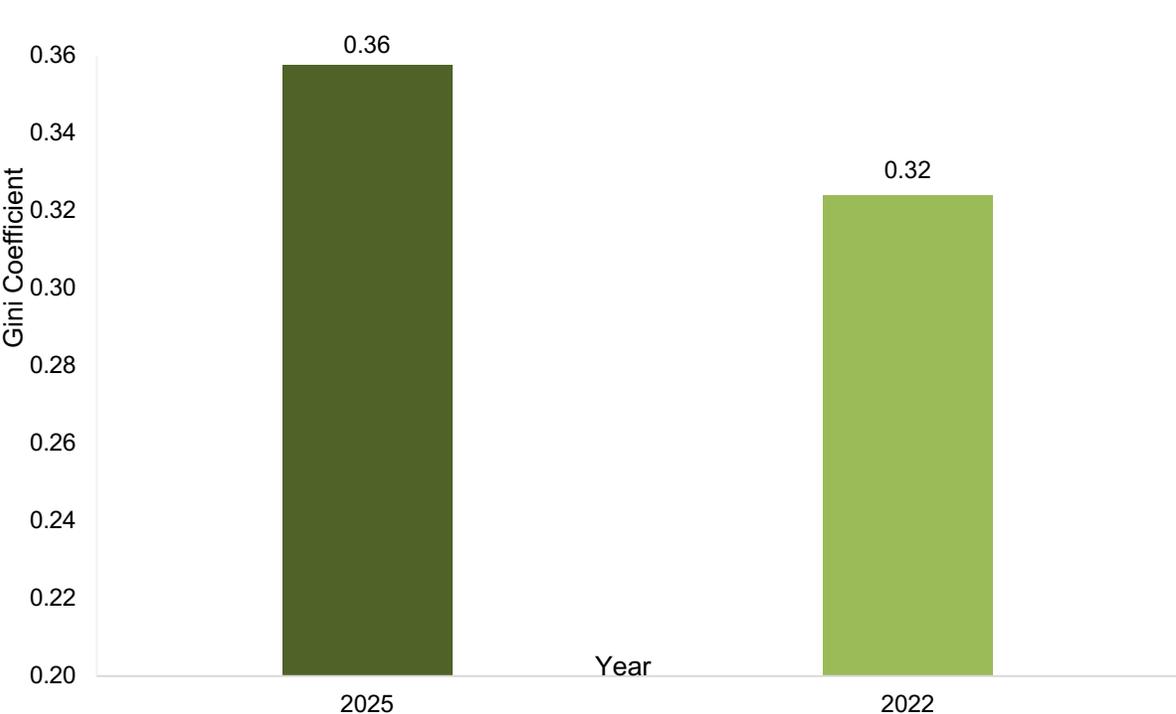
LIMITATIONS

The Zhemgang Living Standard Survey was initially intended to generate panel data comparable to the 2022 Bhutan Living Standard Survey (BLSS). However, due to population mobility, some households interviewed in 2022 had moved out of Zhemgang and could not be re-interviewed. In such cases, the households currently occupying those dwellings were interviewed instead. As a result, the survey does not constitute a true panel; rather, it should be treated as a cross-sectional survey. Consequently, comparisons with the 2022 BLSS should be interpreted with caution.

The sampling frame, survey design, sample size, and base weights were derived from the 2022 BLSS for Zhemgang Dzongkhag. No fresh household listing was conducted prior to data collection, as the survey was anchored on the households selected in 2022. In addition, estimates in this study are based on post-stratification weights calibrated to the projected population of Zhemgang Dzongkhag. Since the projections were based on patterns observed between the 2005 and 2017 censuses, they may not capture the recent increase in mobility.

Poverty indicators for Zhemgang are disaggregated by housing characteristics and selected non-monetary indicators such as education and asset ownership. While similar disaggregation was produced at the national level in the 2022 BLSS, this study presents them at the district level. Given the relatively small sample size, some disaggregated estimates may be subject to higher sampling variability and lower precision compared to national-level estimates from the 2022 BLSS. Readers are therefore cautioned to interpret these results carefully, particularly when making comparisons across sub-groups or over time.
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