

# Inequality in Income, Assets, and Access to Services: A Dzongkhag-level Analysis of Bhutan

*Milan Thomas and Sanjeev Mehta*

## **Abstract**

Since the early 2000s, sharp reductions in absolute poverty in Bhutan have coexisted with high inequality. Evidence from the Bhutan Living Standards Survey 2022 shows that there are large between-dzongkhag (district) differences in per capita consumption and income, asset ownership, and access to basic social services, but within-dzongkhag and rural-urban differences are the dominant components of income inequality. This paper documents and compares several dimensions of inequality in Bhutan. The rural poor have greater difficulty in accessing services, but inequality in access to services is less than inequality in income. The income Gini coefficient is 0.60, whereas the Gini coefficient for access to basic services (hospitals, schools, banks) is around 0.50. This reflects the constitutional commitment to universal provision of basic healthcare and education. Compared with inequality in income, inequality in access to services is more strongly determined by differences between geographic units (rather than within them). Linear regression analysis shows that physical access to services is strongly correlated with use of services at the household level, indicating the importance of continuing to build rural accessibility for achieving Bhutan's development goals.

## **Introduction**

Bhutan has achieved impressive reduction in extreme poverty over the past two decades. The headcount poverty rate based on the international poverty line (\$2.15 per person per day at 2017 purchasing power parity) has dropped steadily, from 13% in 2003 to 2% in 2012 and 0% in 2022. The rate of reduction was equally impressive against higher poverty lines. In terms of the international poverty line criteria for lower middle-income class (\$3.65 per person per day), the poverty rate declined from 42% to 1% over the same period. In terms of international poverty line for upper

middle-income countries (\$6.85 per person per day), the poverty rate has fallen from 73% in 2003 to 8% in 2022.

By the generous new national poverty line (which is about triple the international poverty line for lower middle-income countries), poverty fell from 28% to 12% between 2017 and 2022.<sup>1</sup> The battle against poverty is not over. By the national poverty line, rural poverty is over four times higher than urban poverty, and poverty is concentrated in a few rural pockets<sup>2</sup> requiring focused attention in the battle against poverty. But poverty reduction against all poverty lines has been spectacular.<sup>3</sup> Consumption inequality has also fallen recently (from 0.36 in 2012 to 0.29 in 2022) likely due to improvements in financial inclusion and social transfer programmes such as His Majesty's Relief Kidu programme, which were especially important during the COVID-19 pandemic.

However, income inequality has remained high and almost unchanged over the past decade. As Bhutan virtually eliminates extreme poverty and maintains progress by both international and national standards, domestic policymaking is increasingly shifting to economic inequality. One of the key performance indicators for the Thirteenth Five Year Plan is to quadruple the income of the bottom 40% of the population by 2034 – an ambitious goal that is implicitly about combating economic inequality.

Reducing inequality has intrinsic social value as a development goal in its own right because of the implications of inequality for welfare. The functioning and capabilities of individuals are determined in part by the societal context in which they live.<sup>4</sup> When societies are highly unequal, segments of the population are unable to fully participate in it. Reducing economic inequality also has instrumental value as an ingredient for economic growth. Empirical evidence suggests that income inequality is associated with low growth.<sup>5</sup> Income inequality also entails social costs, as it is associated with poor health outcomes, higher crime, and lower

---

1 World Bank. "Bhutan Poverty and Equity Assessment." (2024).

2 Nearly two-thirds of the rural poor are concentrated in six Dzongkhags: Samtse, Trashigang, Samdrup Jongkhar, Chukha, Mongar, and Zhemgang.

3 World Bank. Macro Poverty Outlook for Bhutan: April 2024." (2024).

4 Sen, Amartya. *Commodities and Capabilities*. Oxford University Press, 1999.

5 Ravallion, Martin. "Growth, inequality and poverty: looking beyond averages." *World Development* (2001).

social cohesion.<sup>6</sup> And inequality in access to public services, infrastructure, and credit markets hinders growth by preventing people from accessing productive economic inputs.

Analyses of inequality in Bhutan have improved with methodological improvements and data collection advances over the past 40 years. In the early 1980s, the richest 15% households accounted for 33% of income according to a government estimate that was based on a sectoral breakdown of GDP and labour force.<sup>7</sup> About two decades later, a new estimate based on an undisclosed methodology reflected that the top quintile accounted for 49% of the income.<sup>8</sup> A 2007 study based on a sample of 456 households found that the top quintile of the population received 68% of national income.<sup>9</sup> These three studies together indicate that income inequality widened between 1980 and 2007, a period during which Bhutan's economy was growing rapidly. This is consistent with the Kuznets Hypothesis<sup>10</sup>, with Bhutan at an early stage of development in which inequality rises with average income. Income inequality has widened further in the last 15 years. The income-based Gini coefficient has increased from 0.55 in 2007 to 0.63 in 2012<sup>11</sup>, and declined somewhat to 0.60 in 2022.<sup>12</sup>

Poverty and consumption inequality measures are updated at five-year intervals in Poverty Analysis Reports released by the National Statistics Bureau in partnership with the World Bank. Income inequality measures have received less attention and will become increasingly important as Bhutan aspires to transition from a lower middle- to upper middle-income country. In addition, since the Constitution of Bhutan commits to free basic health services and education, it is important to analyse inequality of access to these services in tandem with income inequality. Similar to reducing income inequality, increasing equal access to basic services has both intrinsic and instrumental value for development. Access to basic services is rooted in the right to life, liberty, and the pursuit of happiness,

6 Polacko, Matthew. "Causes and consequences of income inequality—an overview." *Statistics, Politics and Policy* (2021).

7 Royal Government of Bhutan Planning Commission. "Fifth Five Year Plan." (1981).

8 UNICEF. "State of the World's Children." (2003).

9 Mehta, Sanjeev. "Inter-regional variations in the inequality and poverty in Bhutan." *Journal of Bhutan Studies*. (2007).

10 Kuznets, Simon. "International differences in capital formation and financing." In *Capital Formation and Economic Growth*. (1955).

11 Royal Government of Bhutan National Statistics Bureau. "Bhutan Living Standards Survey." (2012).

12 Royal Government of Bhutan National Statistics Bureau. "Bhutan Living Standards Survey." (2022).

and equips people with the productive human and physical capital for improving their livelihoods.

This paper makes descriptive contributions to discourse on economic inequality through two research questions:

1. **Dimensions of geographic inequality:** How do average income, poverty, asset ownership, and access to essential services vary between dzongkhags (districts), within dzongkhags, and between rural vs. urban areas?
2. **Is inequality in access to services less severe than income inequality,** as one would expect given national constitutional commitments?

## Methods and Data

BLSS (Bhutan Living Standard Survey) 2022 is used to analyse inequality between and within dzongkhags to answers both research questions. This paper uses several measures to capture inequality.

**Per Capita Income:** Household income per person per year in Bhutanese Ngultrum (BTN) and in terms of current USD and purchasing power parity (PPP) based USD. We convert figures in BTN to USD using median USD-BTN exchange rate in 2022 (BTN 80).

**Gini Coefficient:** This is an index of income inequality ranging between 0 and 1, wherein 0 means perfect equality (all households have equal shares of national income), and 1 means perfect inequality (one household owns all of national income).<sup>13</sup>

**Access to basic services:** This paper measures access to basic services using travel time to the nearest access point. Five social services are included for analysis: post office, hospital, bank, Early Childhood Care and Development (ECCD) centre, and school.

Given the substantial coverage of consumption inequality in other studies of Bhutan, this paper focuses on three household-level variables for the analysis of inequality – income, assets (land, livestock, and financial stocks) and access to basic services.

<sup>13</sup> Todaro, Michael P., and Stephen C. Smith. Economic development. Pearson UK, 2020.

## Results

### 1. *Inequality in income*

In 2007, Bhutan's income Gini coefficient value was 0.55. It increased to 0.63 in 2012 and then declined to 0.60 in 2022. Income shares of the ten deciles have not moved much over the past ten years (Table 1).

Simple decomposition analysis of BLSS 2022 shows that national inequality is mostly due to inequality within geographic areas (rural areas, urban areas, and dzongkhags), not between them. Ninety-three percent of the total inequality in income is explained by within dzongkhag differences in the income, and only 7% of total inequality is explained by between dzongkhags differences. Similarly, 93% of national inequality is due to inequality within rural and urban areas, with the remaining 7% of inequality due to between rural and urban differences.

*Table 1: Income share of population deciles (%)*

Deciles	2012	2022
0-10	0.38	0.69
10-20	1.29	1.85
20-30	2.42	2.92
30-40	3.62	3.95
40-50	4.87	5.21
50-60	5.99	6.54
60-70	7.64	8.23
70-80	10.24	10.34
80-90	15.00	14.15
90-100	48.56	46.14

*Source: Derived from BLSS 2012 and 2022*

Economic growth in the last 60 years in Bhutan has been unevenly shared, and this is reflected in the distribution of per capita income between dzongkhags. Based on BLSS 2022, the per capita income of Bhutan is \$2,895, with large geographic variation. Gasa and Thimphu have the highest per capita income at \$5,102 and \$4,473 respectively. Samtse is at the bottom, with a per capita income of \$1,472. Two dzongkhags, Thimphu

and Chukha, together contribute almost one fourth of the country's income. About 43% of the business enterprises are in these two dzongkhags alone. Economic growth has benefitted western Bhutan the most, with a per capita income of \$3,418, while the per capita income of central and eastern Bhutan is \$2,355 and \$2,328, respectively. Ten dzongkhags of northern Bhutan have per capita income of \$3,660, while the 10 dzongkhags of Southern Bhutan have much lower per capita income \$2,064.

Per capita income differs widely between rural and urban areas and across dzongkhags. In the urban areas, per capita income is \$4,202, almost double that in rural areas (\$2,015). Per capita income in the urban areas of Trashigang is \$7,472, which is equivalent to an upper middle-income country. At another extreme, per capita income of the rural Mongar is \$917, equivalent to a low-income country. Within dzongkhags, staggering disparity exists between urban and rural areas. In Lhuentse, urban per capita income is four times higher than the rural income. In Trashigang, Pemagatshel and Mongar, urban per capita income is over three times higher than for their rural counterparts.

Within dzongkhags, the income inequality is highest in Trashigang, with a Gini coefficient of 0.70, and lowest in Tsirang, with a Gini coefficient of 0.48. Dzongkhags whose per capita income is lower than national average tend to have low inequality, while the dzongkhags with higher-than-average per capita income tend to have high inequality. At one extreme, Paro has similar per capita income but much lower income inequality than Trashigang, Trongsa, and Punakha. Lhuentse, Trashiyangtse, Pemagatshel, and Zhemgang have much lower per capita income than Gasa and Thimphu but have comparable levels of inequality.

## ***2. Inequality in asset ownership***

Unequal distribution of productive assets is a major driver of income inequality. Three major assets are analysed - land, cattle, and financial assets. The average size of landholding in Bhutan is 1.8 acres. It is the lowest (0.7 acres) in Thimphu and largest (3.2 acres) in Bumthang. About 75 percent of landowners are marginal landowners (owning less than 2.5 acres of land), while 16% are small landowners (owning 2.5-5 acres), which together account for 91% of landowners in Bhutan. However, the marginal and small landowners own only 57% of the land. About 9% of landowners

are medium landowners (owning 5-25 acres), who own about 43% of the land. Only 0.02% of landowners are large (owning more than 25 acres), and they account for 0.3% of the land. With a national Gini coefficient of 0.67, the distribution of land is more skewed than the distribution for income (0.60).

After land, cattle are the most important productive asset for households in Bhutan. Cattle ownership is positively related to social prestige and power, as it is an important source of farm income for rural households. About 40% of households own cattle. In rural areas, about 56% of households own cattle, while in urban areas only 4% own cattle. The average number of cattle owned per household is 1.9. It is lowest in Thimphu (0.2), and highest in Samtse (3.5). If we consider only the cattle owning households, the average number of cattle owned per household is 5.3, while it varies from 7.7 in Wangdue Phodrang to 3.3 in Pemagatshel. The Gini coefficient for cattle ownership is 0.77, which is even more skewed than the Gini coefficient for land holding. The Gini coefficient for cattle ownership is 0.67 in rural areas.

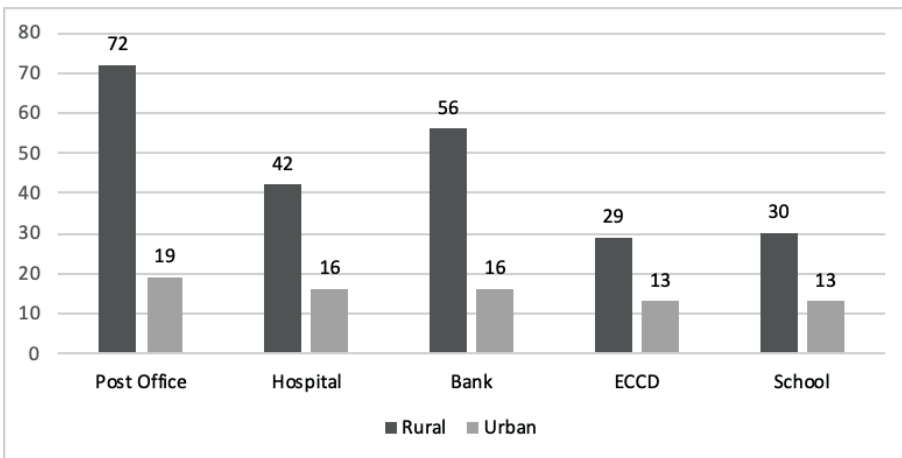
Turning to financial assets, 94% Bhutanese households do not hold any shares or stocks. In Pemagatshel, about 20% of households own shares/stocks, the highest in the country. In Trashiyangtse, Trongsa, Samdrup Jongkhar and Thimphu, 10-15% of the population own shares, while in other dzongkhags ownership is less than 5%. Ten percent of urban households own stocks/shares and only 4% of rural households own stocks/shares. The Gini coefficient for stocks/shares is 0.94. This shows that only a few households in the country own stocks and shares.

### ***3. Inequality in access to basic services***

Bhutan's mountainous terrain and low population density impose heavy financial and logistical burdens to providing and maintaining a wide range of social services. Regional differences in access to social services are both a cause and consequence of differences in economic performance. The ease with which people access basic services is a crucial non-income element of welfare and is thus important to include in any investigation of inequality. Travel time to the nearest facility (using any means of transport) is one measure of ease of access to services (although other indicators, such as procedural complexity, are also important).

Nationally, the average travel times to the nearest hospital, bank, and school are 34, 43, and 24 minutes, respectively. There is substantial variation in access by dzongkhag. A typical household in Thimphu is located within 18 minutes’ of the nearest hospital, as compared to 64 minutes in Lhuentse. In seven dzongkhags, households are within an hour of the hospital. Physical access to banks is more skewed. In Thimphu and Paro, the average household is about 15 minutes from the bank, while households in four dzongkhags take more than an hour to get to the nearest bank.

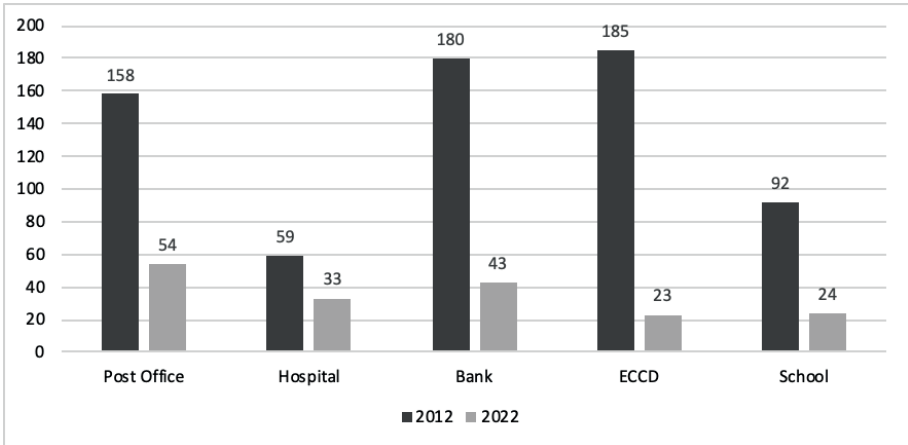
**Figure 1: Rural-urban differences in access to services (in terms of distance in minutes)**



Source: Derived from BLSS 2022

Like the results for income and asset inequality, access inequality is more marked along rural-urban lines than dzongkhag lines (Figure 1). Rural areas are far behind urban areas in terms of access to basic services. For instance, a rural household takes 56 minutes to get to the nearest bank, as compared to 16 minutes for an urban household. The geographic gaps in service accessibility are large, but Figure 2 shows that significant progress has been made across the country in improving access to basic services over the past decade. The average time to the nearest service location has declined considerably since 2012, especially to banks and schools. Furthermore, improvements have been largest in rural areas.



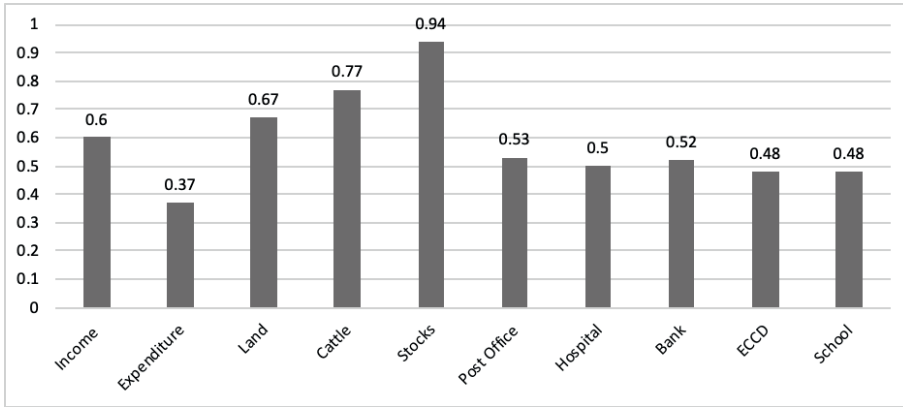
*Figure 2: Access to services (in terms of travel time)*

*Source: Derived from BLSS 2022 and BLSS2012*

Building on this progress will be essential as Bhutan looks to build a just and harmonious society under the Thirteen Five Year Plan. Access to services is essential for building the human capital (health, education) needed to prepare Bhutan's youth for the 21<sup>st</sup> century workforce. Regression analysis of BLSS 2022 shows that a 1% increase in travel time to the nearest service access point lowers the probability of using that service by 0.7 percentage points. This underscores the importance of improving physical access to schools and hospitals for improving performance in maternal and child health and education. This is consistent with data from BLSS 2022 showing that a plurality of Bhutanese feel that further investment in roads is the most important way that the government can directly support their household.

Figure 3 provides an overview of the dimensions of inequality discussed in this paper - income and consumption, asset ownership, and access to basic services. Income and asset inequality are much higher than consumption, while inequality in access to basic services falls in between, reflecting some success (and some room to grow) in delivering on the constitutional commitments to publicly provided basic healthcare and education.

**Figure 3: Gini coefficients for various types of inequality**



Source: Derived from BLSS 2022

### Conclusion

While absolute poverty has fallen steadily in Bhutan over the past decade, inequality has remained high and persistent. Analysis of the latest Bhutan Living Standards Survey (2022) shows that there are large differences between dzongkhags in terms of per capita income, poverty, asset ownership, and access to services. However, between dzongkhag differences and the rural-urban divide account for only around 7% of total national income inequality. Inequality in the ownership of key assets (land, livestock, financial) is even higher than for income. On the other hand, access to basic services, which is a strong determinant of utilisation of services and health and education outcomes, is less unequal than income. Access to various public services has improved substantially since 2012. This cannot be taken for granted given the challenging geography of Bhutan, and it is critical to build on this progress in pursuit of the Sustainable Development Goals and a just and harmonious society.

## References

- Mehta, Sanjeev. "Inter-regional variations in the inequality and poverty in Bhutan." *Journal of Bhutan Studies*. (2007).
- Nearly two-thirds of the rural poor are concentrated in six dzongkhags: Samtse, Trashigang, Samdrup Jongkhar, Chukha, Mongar, and Zhemgang.
- Polacko, Matthew. "Causes and consequences of income inequality—an overview." *Statistics, Politics and Policy* (2021).
- Ravallion, Martin. "Growth, inequality and poverty: looking beyond averages." *World Development* (2001).
- Royal Government of Bhutan National Statistics Bureau. "Bhutan Living Standards Survey." (2012).
- Royal Government of Bhutan National Statistics Bureau. "Bhutan Living Standards Survey." (2022).
- Royal Government of Bhutan Planning Commission. "Fifth Five Year Plan." (1981). Sen, Amartya. *Commodities and Capabilities*. Oxford University Press, 1999.
- Todaro, Michael P., and Stephen C. Smith. *Economic development*. Pearson UK, 2020.
- UNICEF. "State of the World's Children." (2003).
- World Bank: "Bhutan Poverty and Equity Assessment." (2024). World Bank. *Macro Poverty Outlook for Bhutan: April 2024*.