



I. Administrative Set-Up

The Economic and Environment Statistics Division (EESD) of the National Statistics Bureau (NSB) of Bhutan is the implementing agency that undertakes the activities of the ICP. As the ICP activities entail a similar setup and processes as the CPI compilation, the national coordinator role was delegated to staff members from the Price Section, and the deputy national coordinator role was delegated to staff from the National Accounts Section of the EESD. The 2021 ICP team comprised staff from these sections and district statistical officers. The price collection started in the second quarter (Q2) of 2021 and extended to the Q1 of 2022 due to the coronavirus disease (COVID-19) pandemic.

II. Use of Existing Infrastructure in Collecting International Comparison Program Data

The NSB carried out ICP activities using limited existing infrastructure and human resources. Statistical officers of 20 districts carried out the household price survey for the ICP in addition to the regular CPI data collection. The prices of 95 out of 432 CPI items were used for the ICP, with necessary changes in units and other specifications. The outlets for the CPI were also surveyed for the remaining ICP items. Data for non-household items such as construction machinery and equipment were collected in a few urban areas through special surveys by headquarters staff. The team used secondary data such as the data already collected from the household expenditure survey (Bhutan Living Standard Survey 2022) for the housing rental survey, and administrative data for compensation of government occupations.

Since 2017, the NSB has incorporated ICP activities in its annual work plan and the National Strategy for Development of Statistics 2018–2023. Therefore, all future rounds of the ICP will be reflected in the statistical work plan as and when the ICP is conducted.

The same editing procedures and computerized systems were used for the items overlapping in the CPI and ICP, with similar specifications. The NSB is exploring ideas to further integrate the CPI and ICP price survey collection and processes, which are done simultaneously.

III. Survey Framework

The 2021 ICP price collection for household consumption covered urban and rural areas in all 20 districts, covering the entire economy. Due to a lack of data or sampling frame of establishments, the outlet selection and allocation across 20 districts and rural and urban areas were based on purposive sampling depending on the popularity and availability of items. Prices were collected from 456 outlets. Outlets were only selected from the urban area because rural households purchase nonfood items mostly from urban areas and consume food items such as vegetables from their production.

For construction and machinery and equipment, the geographic coverage and outlet selection of the special surveys were limited to the capital city and a few urban centers. Government compensation data were sourced from the Ministry of Finance. Rental data were collected from rural and urban areas.

The frequency of price collection varied depending on the items' price volatility. Prices for most items of household price survey were collected quarterly. However, for more volatile items like vegetables, fruits, and fuel, prices were collected monthly. Prices for education, electricity, water charges, and communications were collected semiannually and annually.



IV. Gross Domestic Product Expenditure Values

The GDP expenditure for most of the 155 basic headings was estimated, except for a few basic headings that were not relevant to Bhutan. The household consumption expenditure weights for different categories were revised based on findings from the 2017 Bhutan Living Standards Survey. The consumption expenditure by nonprofit institutions serving households was not estimated separately and was included in the household consumption expenditures. The statistical discrepancy between production and expenditure was added to household consumption expenditure.

The government's final consumption expenditure was derived from the annual financial statement of the Department of Treasury and Accounts, Ministry of Finance. Data on the export and import of goods and services were sourced from the balance of payment statistics, including estimates of informal trade. The import data from the Bhutan Trade Statistics published by the Department of Revenue and Customs, Ministry of Finance, were the main data source for the machinery and equipment.

For construction and inventory, the estimates were based on the annual national accounts data.

V. Data Validation and Quality Control

Regional ICP workshops conducted by the Asian Development Bank (ADB) helped the NSB execute ICP activities for Bhutan. These workshops provided a platform for different economies to share a common understanding of the concepts and discuss issues and challenges that individual economies face. The intereconomy data validation workshops were necessary for resolving data inconsistencies and ensuring the collection of prices for the same items across economies.

The knowledge gained from these workshops was also helpful for conducting intraeconomy validation. The NSB conducted preparatory activities such as training on ICP concepts, definitions, and applications, and preparing a customized product catalogue to ensure high-quality data collection. Due to the COVID-19 pandemic, the intraeconomy validations could not be conducted as frequently as in the previous cycles.

The periodic regional and intraeconomy validation workshops provided opportunities to discuss issues, identify practical solutions, and plan the way forward.

VI. International Comparison Program Price Collection Tools

The ICP Asia Pacific Software Suite (ICP APSS) household consumption module offers user-friendly data entry and report generation. The Microsoft Excel-based price collection tools for machinery and equipment, construction, and government compensation were also indispensable to users. The Microsoft Excel add-in functions would be helpful for data analysis and compilation of subnational PPPs. The price validation and report generation options enhanced the data quality.



VII. Challenges in the International Comparison Program Implementation

As with previous ICP rounds, for Bhutan—as a small economy—to price items that meet the structured product descriptions for household and nonhousehold surveys remained the biggest challenge. Most items from the global and regional lists were not available in Bhutan and, when available, often deviated from the required item specifications. For example, while the machinery and equipment regional list required laptops with i7 specifications, those available in the outlets were i5. Similar specification variations existed for other products. Most items had quantities different from the regional product list; therefore, conversions into the preferred quantities had to be performed. The need to convert the quantities led to many data validation issues. For brands or qualities that were difficult to identify, items that best fit the description suggested by the survey and shopkeepers were priced. For non-household components, detailed specifications required in the ICP that were not readily available in the market were sought from online sources and subject experts.

The 2021 ICP cycle was particularly challenging due to the impact of COVID-19 on data collection through face-to-face surveys. In addition to frequent lockdowns, there were high-risk areas where movements were restricted for prolonged periods. The price collectors had to explore and implement various price collection methods. The price collection period was extended to Q1 of 2022.

Another challenge for the NSB was the human resource constraint. The price section of the EESD comprised only two staff members responsible for compiling the monthly CPI, the quarterly producer price index, and the quarterly export and import price index. With the additional responsibilities from the ICP, ensuring the timely delivery of outputs was challenging. Moreover, district statistical officers also had to conduct other major surveys or censuses administered by the NSB.

Because of the number of other quarterly survey activities, price collectors face disruptions in price collection, mainly during survey periods. Price collectors were encouraged to plan their schedules to address this, considering all relevant factors, such as overlapping survey periods.

VIII. Lessons Learned and Future Directions

The NSB ICP team learned the importance of carefully studying the product specifications to ensure regional comparability and avoid extreme prices. Because of specification mismatches, the team had to drop several products during the final validation. For the 2024 ICP cycle, the team thoroughly studied product specifications—particularly for the construction survey—and ensured accurate pricing of products from the economy. Another lesson was to consult and get as much advice and support from the ADB ICP team as possible when there is confusion in product specifications. Regarding product specifications, the NSB ICP team relies on outlet catalogs to closely follow the specifications.

The NSB ICP team will incorporate ICP data validation checks into CPI surveys to improve data processing and validation and enhance data quality.

Experience in the 2021 International Comparison Program Implementation



Given that the United Nations Statistical Commission has declared ICPs an integral part of global statistical activity, the NSB has included them as a regular activity in its annual work plan alongside the regular publication of the price indexes. The NSB ICP team has learned the importance of CPI–ICP integration, which can reduce the workload of the price collectors and minimize respondent burden. With support from ADB, the team will integrate as many CPI items as possible into the next ICP cycle.

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Annex 2: List of Members of Core International Comparison Program Team (National Statistics Bureau)

Name	Title	Responsibility
Ugyen Norbu	Chief Statistical Officer	Overall Supervisor
Penjor Gyeltshen	Deputy Chief Statistical Officer	National Coordinator (until November 2022)
Karma Deki	Statistical Officer	National Coordinator (starting December 2022)
Sonam Laendup	Deputy Chief Statistical Officer	Deputy National Coordinator
Bikash Gurung	Senior Statistical Officer	Construction, Machinery and Equipment, and Housing Volume sectors