

# Chapter 1

## 2005 ICP Asia Pacific and Purchasing Power Parities for Measuring Poverty

### Background of the 2005 ICP Asia Pacific

The 2005 International Comparison Program (ICP) in Asia and the Pacific (2005 ICP Asia Pacific) is a major statistical exercise undertaken in the region as part of the global statistical initiative to conduct international comparisons covering 146 countries. The Asian Development Bank (ADB) was the regional coordinator and oversaw the successful conclusion of the 2005 ICP Asia Pacific, culminating in the release of the publication *Purchasing Power Parities and Real Expenditures* (ADB 2007b). Twenty-one member-economies of ADB participated in the 2005 ICP Asia Pacific: Bangladesh; Bhutan; Brunei Darussalam; Cambodia; People's Republic of China (PRC); Fiji Islands; Hong Kong, China; India; Indonesia; Lao People's Democratic Republic (Lao PDR); Malaysia; Maldives; Mongolia; Nepal; Pakistan; Philippines; Singapore; Sri Lanka; Taipei, China; Thailand; and Viet Nam. The Islamic Republic of Iran and Macao, China also participated.

The 2005 ICP Asia Pacific represents a significant achievement as it successfully brought together the participation of the world's two most populous and fastest growing economies, the PRC and India. The PRC participated in the program for the first time. On the other hand, India last participated in 1985. The 2005 ICP Asia Pacific covered five of the eight most populous economies in the world. Major outputs of the 2005 ICP Asia Pacific include estimates of purchasing power parities (PPPs) of currencies of the participating economies

along with estimates of real gross domestic product (GDP), real per capita consumption, real government expenditure, and real investment. The results in *Purchasing Power Parities and Real Expenditures* based on data collected from complex price surveys and respective national accounts sources are crucial for evidence-based policy making and provide valuable information for research at the national, regional, and global levels.

### Regional Poverty and the Role of PPPs

The Asia and Pacific region, which is home to more than 50% of the world's population, is also a region where absolute poverty is highly prevalent. A recent study by Ravallion and Chen (2007) shows encouraging trends of poverty reduction in the region, but it also shows that more than 615 million people in the region still live in absolute poverty, with expenditure or income of less than \$1/day. Poverty incidence in the region is at a staggering level, with nearly 1.9 billion people spending less than \$2/day.

Recognizing the need to understand the level and nature of poverty in the region, the 2005 ICP Asia Pacific included a study to measure national and regional poverty (referred to in this report as poverty PPPs) using the international poverty line (IPL) of \$1/day or \$2/day. The main focus is on the role and suitability of PPP estimates derived from the 2005 ICP Asia Pacific for converting the IPL. Traditionally, PPPs of currencies derived for the consumption aggregate within the ICP have been

used in converting the IPL into local currency units for counting the poor. The World Bank has been regularly publishing estimates of national, regional, and global poverty based on IPLs of \$1/day and \$2/day. ADB has provided estimates of poverty incidence based on the IPL in the theme chapter of *Key Indicators 2004* (ADB 2004).

The use of PPP as a proxy for the consumption aggregate of the ICP has attracted considerable criticism. First, as the ICP PPPs are essentially based on prices of goods and services collected for the purpose of international comparisons at the GDP level, they may not adequately reflect the purchasing power of currencies as experienced by the poor in the region. Second, from the description of the methodology for the ICP (see ADB 2007b and Chapter 3 of this report for details), it is clear that the weights used in combining the price data to derive consumption PPPs are from national accounts and, therefore, the weights reflect the average expenditure patterns of the country as a whole. These patterns may bear little resemblance to the purchase patterns of the poor. Those are the two main criticisms against the use of consumption PPPs for estimating poverty. Consequently, a major goal set for the 2005 ICP Asia Pacific is the compilation of PPPs that are particularly suitable for assessing poverty PPPs based on IPLs.

## Poverty PPP Study in the Region

Poverty PPPs are important to accurately measure poverty incidence and formulate policies to reduce poverty in the region. Of the 23 participating economies in the 2005 ICP Asia Pacific, 16 expressed their commitment to the poverty PPP study, namely, Bangladesh, Bhutan, Cambodia, Fiji Islands, India, Indonesia, Lao PDR, Malaysia, Maldives, Mongolia, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, and Viet Nam. The 16 devoted additional effort and resources to generate the poverty PPPs.

The principal goal of the study on poverty PPPs was to provide estimates of PPPs that represent a significant improvement over the currently used PPPs for converting the IPL. In pursuing this goal, it was agreed that the poverty PPPs for the 2005 ICP Asia Pacific would be generated by strictly adhering to the guidelines set by the Poverty Advisory Group (PAG) established by the Global Office of the ICP at the World Bank. The PAG approach served as the baseline approach in compiling poverty PPPs.

At the initial stages of the poverty PPP study in the region, it was realized that compilation of meaningful and satisfactory poverty PPPs would require much research on the sensitivity of poverty PPPs to the use of different sources of price data and index number methodologies. While there has been considerable research over the last two decades on methods for general international comparisons,<sup>1</sup> surprisingly, little work has focused on producing meaningful PPPs for the study of poverty incidence.

The poverty PPPs component of the 2005 ICP Asia Pacific is essentially a research initiative designed to provide useful input into future work on the compilation of poverty PPPs. Two modest objectives were set for the poverty PPP study in the region. The first was to compile a set of PPPs for currencies of the 16 participating countries for the purpose of converting the IPL based on the methodology endorsed by the PAG. The second objective was to conduct a major investigation into the sensitivity of the estimated PPPs to different sources of price data in addition to the price data gathered as part of the 2005 ICP Asia Pacific. The study would also examine if the derived PPPs are sensitive to the different sets of weights and different aggregation methodologies. The output generated from this objective would serve as a major input into the deliberations on the identification of a suitable approach and methodology for compiling poverty PPPs in the future.

## Structure of the Report

The report gives an overview of the work on poverty PPPs and is designed to serve as a research document for future use. The determination and use of the IPL and the role of PPPs for converting the IPL are not commonly known and appreciated even though governments, the general public, and various international aid organizations appear to regularly monitor estimates of the incidence of national, regional, and global poverty. Hence, a major objective of this report is to provide the reader with the general background, conceptual framework, and methodology employed in poverty PPP-related work. In addition, the report also serves as a record of the major findings emanating from this research. It is hoped that the findings will form the basis for further improvements in compiling poverty PPPs in the future.

<sup>1</sup> These are adequately documented in the *ICP 2003–2006 Handbook* (World Bank 2007).

Chapter 2 gives a brief overview of the basic steps involved in measuring national and regional poverty using the IPL and sets the background for the rest of the report. Chapter 3 reviews the principal aspects of the compilation of PPPs and real aggregates as part of the 2005 ICP Asia Pacific. A proper understanding of the concepts and methods underlying the computation of PPPs for GDP and consumption is deemed necessary to understand the limitations of these PPPs in converting the IPL. Chapter 4 describes a general framework that underpins the compilation of poverty PPPs. The central issues surrounding this activity are described in detail. Chapter 5 presents the methodology for compiling poverty PPPs for the 2005 ICP Asia Pacific

recommended by the PAG. Chapter 6 is devoted to the central research effort of the study. The core of the chapter is the design and conduct of poverty-specific price surveys, and a comparison of the results from the poverty and ICP price surveys. Chapter 7 presents alternative sets of poverty PPPs derived using different sources of price data and different methodologies. The sensitivity analysis in the chapter provides important clues to the future direction of work in this area. Chapter 8 describes the steps and processes involved in determining the IPL and presents several IPLs derived using results from the study. Chapter 9 gives a brief summary and identifies future directions for further work in this important area.