



<http://www.wunrn.com/2015/01/asia-at-a-crossroads-rising-inequality-extreme-poverty-especially-women-girls/>
Tondo slum in Manila, Philippines (2014). Credit: Dewald Brand / Miran for Oxfam

International Seminar on SDGs: Data disaggregation

Session 6

Statistical Capacity Initiatives

**Data and Statistics for the Post 2015 Development Agenda:
Statistics Capacity Building Efforts in Asia and the Pacific**

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KEY INDICATORS
 FOR ASIA AND THE PACIFIC
2016
 47TH EDITION

ASIAN DEVELOPMENT BANK



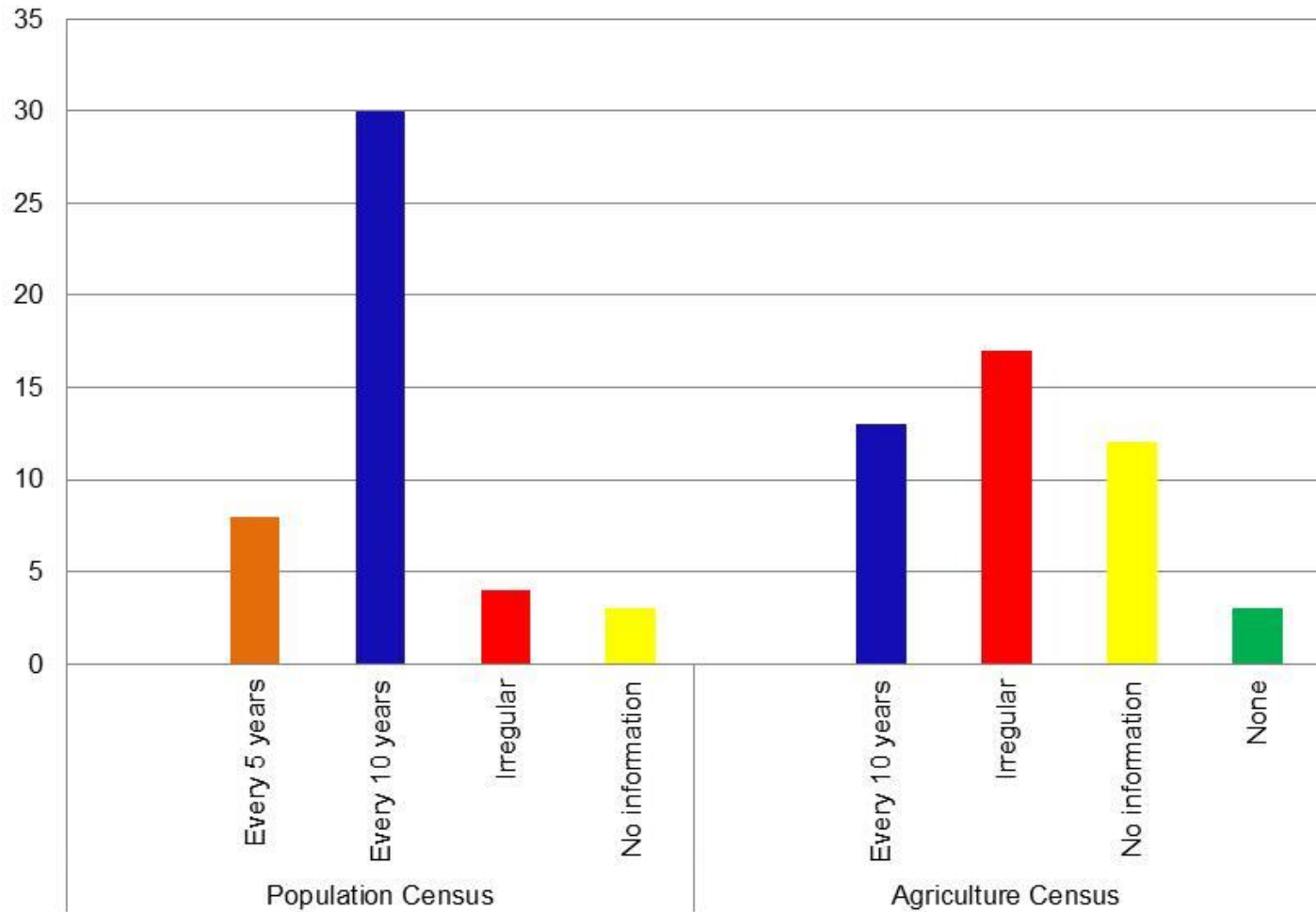
PART I
Sustainable Development Goals
Trends and Tables



Traditional Data Sources for Compiling Indicators

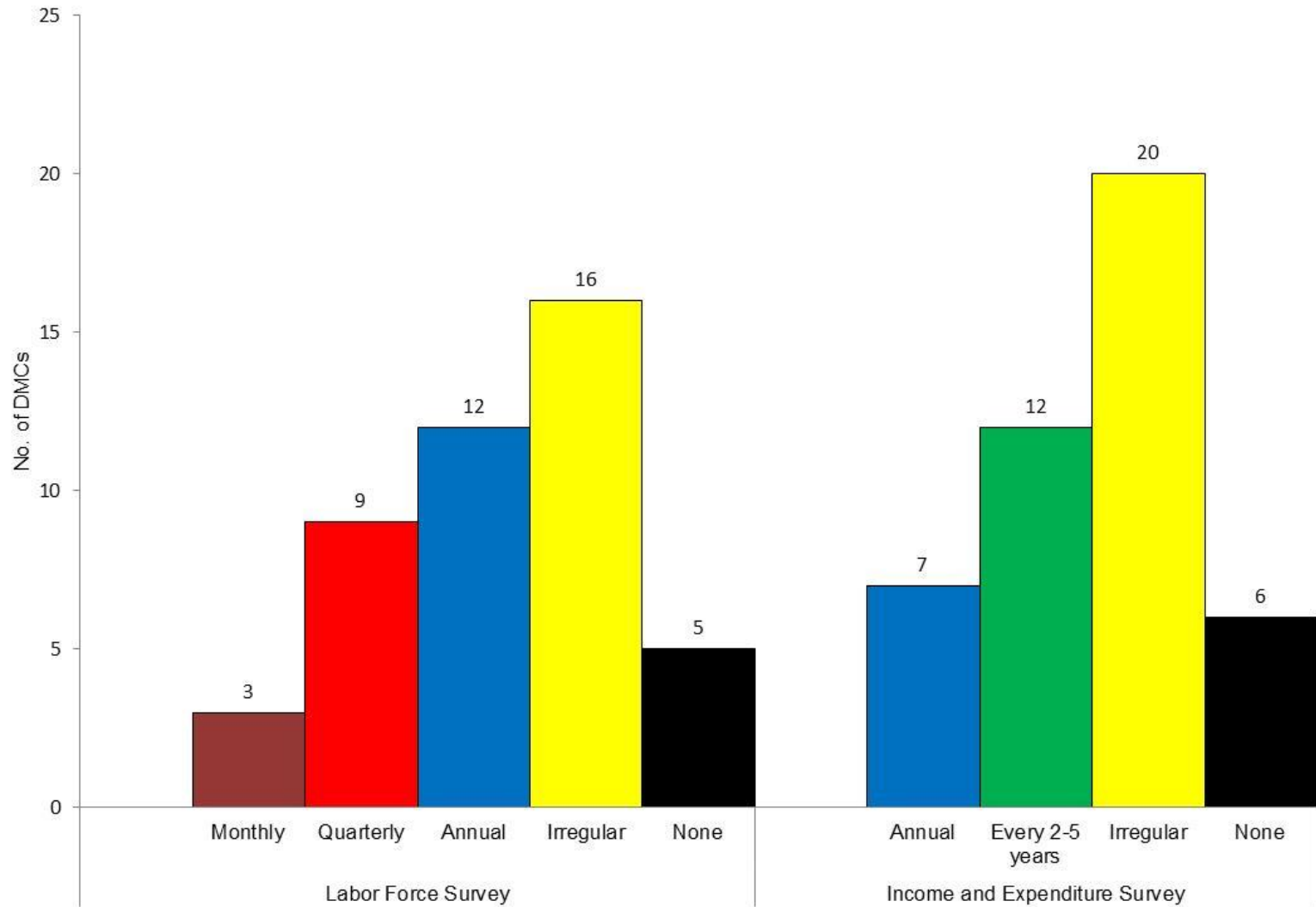
- Censuses
 - Population and Housing
 - Agriculture
 - Enterprises
- Sample Surveys
 - Households
 - Enterprises
 - Farm Holdings
- Administrative Reporting Systems
 - Education
 - Health
 - Trade and Industry (e.g. business permits, letters of credits)
 - Civil Registration

Frequency of Population and Agriculture Census
in the DMCs, 2014



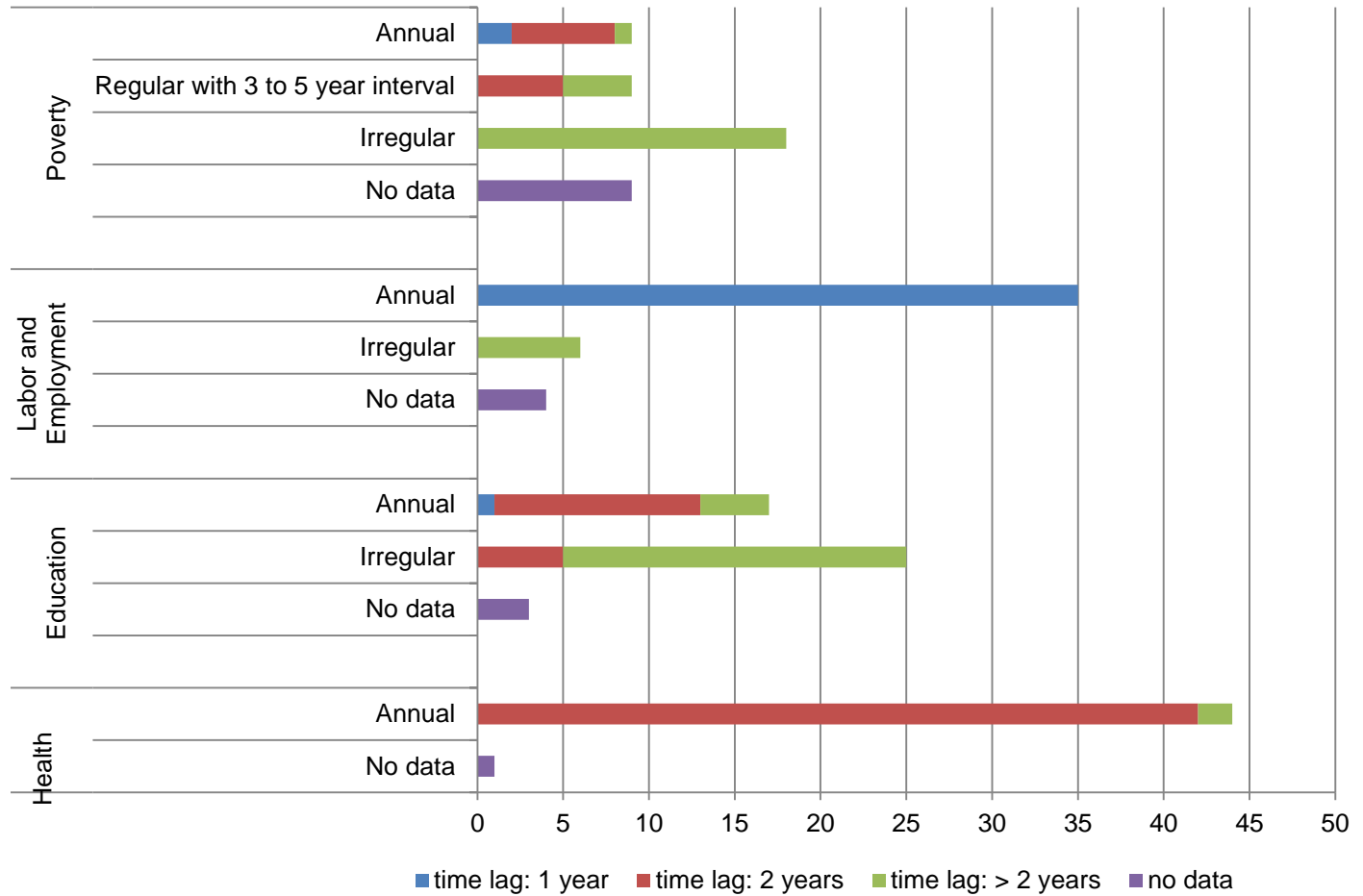
Sources: FAO and UN.

Frequency of Household Surveys in the DMCs, 2014



Source: Staff estimates from data downloaded from the International Household Survey Network and ADB's Portal for Statistics Resources.

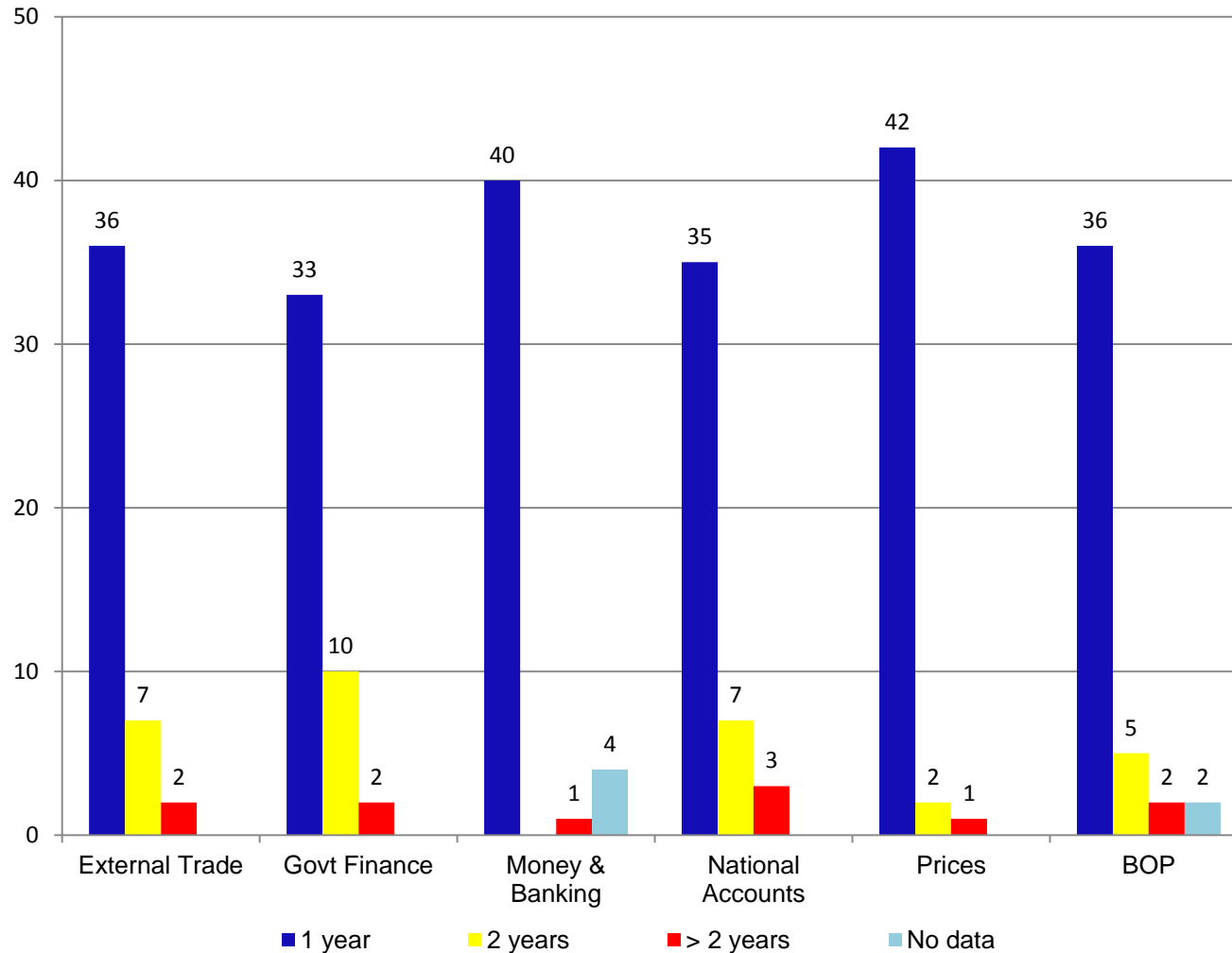
Social Statistics



Source: Staff estimates from data downloaded from ADB's Statistical Database System.

Economic Statistics

No. of DMCs



Sources: Staff estimates from data downloaded from ADB's Statistical Database System.

Situation in Asia and the Pacific

- Statistical development: Heterogeneous mix
- Categorization by level of statistical capacity
 - **Rudimentary**. Pacific countries.
 - **Early transition** NSOs. Beginning to develop basic skills. e.g., Afghanistan, Timor Leste.
 - **Late transition** NSOs. Completing acquisition of basic skills. e.g., Bhutan, Cambodia, Lao PDR, Tajikistan, Sri Lanka.
 - **Advanced transition** NSOs. e.g., Viet Nam, Kazakhstan.
 - **Mature** NSOs. e.g. India, Philippines, Indonesia, Malaysia.

Situation in Asia and the Pacific

- Major surveys and censuses conducted only if donor funds are available in many countries
 - donor dependence 70-80% budget in some countries
- Poor coverage and quality of administrative reporting systems
 - both economic and social increasing the dependence on surveys
- For disaggregated data, surveys alone may not sufficient
 - administrative data such as from civil registration and administrative registries need strengthening for long term sustainability

ADB's Statistics Capacity Building Efforts and Some Lessons

- First statistics capacity building project in 1970s (for Singapore on national accounts)
- Approximately 100 technical assistance projects on various topics since then
 - Statistics management and strengthening of national statistical systems
 - Development of statistics master plan
 - Strengthening of selected areas in statistics (national accounts, financial statistics, social statistics, etc.)
 - Improving data collection strategies (household surveys, administrative reporting system, dissemination practices)
- Established partnerships with other development agencies in the region.

ADB's Statistics Capacity Building Efforts and Some Lessons

- International Comparison Programme for Asia and the Pacific
- Updating and Constructing the Supply and Use Tables for Selected Developing Member Economies
- Statistical Business Registers (SBR) for Improved Information on Small, Medium-Sized, and Large Enterprises
- Evidence and Data for Gender Equality (EDGE)
- Innovative data collection methods for agricultural and rural statistics
- Implementing Information and Communication Technology Tools to Improve Data Collection and Management of National Surveys in Support of the Sustainable Development Goals

ADB's Statistics Capacity Building Efforts and Some Lessons

International Comparison Programme for Asia and the Pacific

- Since 2005 Benchmark Round, ADB has coordinated the ICP for Asia and the Pacific
- Objectives:
 - To compute the Purchasing Power Parity-based (PPP) gross domestic product measures for Asia and the Pacific that will allow cross-country comparisons of economic outputs, free of price and exchange rate distortions → feeds into the calculation of the international poverty line

ADB's Statistics Capacity Building Efforts and Some Lessons

Updating and Constructing the Supply and Use Tables for Selected Developing Member Economies

➤ Objectives:

To assist participating economies in the compilation of updated and/or benchmark supply and use tables (SUT) for evidence-based decision making. It will support the estimation of time series national SUTs based on the recommendation of the 2008 System of National Accounts and the estimation of an Asian International IOT based on consistent national SUTs and bilateral trade statistics.

ADB's Statistics Capacity Building Efforts and Some Lessons

Statistical Business Registers (SBR) for Improved Information on Small, Medium-Sized, and Large Enterprises

➤ Objectives:

To increase the number of SBR established or improved in participating DMCs by providing them with necessary training, advice, and guidance, as well as facilitating sharing of knowledge and enabling better access to tools to meet the needs of their national statistical system.

ADB's Statistics Capacity Building Efforts and Some Lessons

Evidence and Data for Gender Equality (EDGE)

- EDGE is a global initiative on gender statistics (lead by UNSD and UN Entity for Gender Equality and the Empowerment of Women)
- Objectives:
 - To contribute to the development of standard methods for data collection on individual level asset ownership and entrepreneurship from a gender perspective through conduct of pilot survey using said methodology

ADB's Statistics Capacity Building Efforts and Some Lessons

Innovative Data Collection for Agricultural and Rural Statistics

> This project supports the Global Strategy for Agricultural and Rural Statistics, formulated by FAO.

➤ Objectives:

To develop customized software applications and methodology to estimate paddy rice cultivation area and crop production based on satellite data and in-situ data obtained through crop-cutting experiments at a provincial level for four pilot countries; To develop an online training program on the use of satellite data for agricultural and rural statistics

ADB's Statistics Capacity Building Efforts and Some Lessons

Implementing Information and Communication Technology Tools to Improve Data Collection and Management of National Surveys in Support of the Sustainable Development Goals

➤ Objectives:

To promote the use of ICT tools such as CAPI in improving the data collection and management of nationally representative surveys for indicators related to the SDGs;

To improve the coverage, quality, and timeliness of statistical indicators produced by the national statistical systems of DMCs participating through technological improvements in field data collection methods for nationally representative surveys linked to the SDGs.

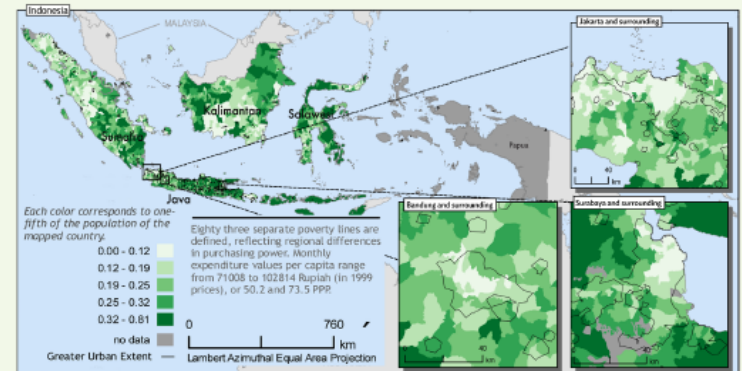
Moving Forward...

- Consultation with countries re: areas where they may need assistance
 - can we use the SAE techniques for poverty mapping to produce disaggregated estimates for other indicators
 - panel surveys on living standards

Box 1.1: Analytical Techniques for Disaggregating the Indicators of the Sustainable Development Goals

The lack of disaggregated data is one of the main issues raised regarding the monitoring framework of the Millennium Development Goals (MDGs). Although the data collected for MDG monitoring allowed tracking of how countries fared in terms of different social and economic indicators relative to other countries, they did not reveal how inequalities within each country changed over the years. This provided limited empirical evidence on which segments of a country's population made significant progress or lagged behind in terms of the MDGs. From a policy perspective, this is problematic because there are limited data to guide the design of intervention programs meant to appropriately target the disadvantaged. In response to this concern, the 2030 Agenda for Sustainable Development has espoused the "leave no one behind" principle, which requires appropriate Sustainable Development Goal (SDG) indicators to be estimated for different subpopulation groups based on income class, gender, ethnicity, and geographic location, and other relevant dimensions.

Box Figure 1.1.1: Sample Poverty Map: Poverty Headcount Index in Indonesia, 2000



Sources: Center for International Earth Science Information Network (CIESIN), Columbia University. 2005. Poverty Head Index - Indonesia, Administrative Level 3: Subdistrict [Map]. Poverty Mapping Project. Small Area Estimates of Poverty and Inequality. Palisades, NY: NASA Socioeconomic Data and Applications Center (SEDAC). <http://dx.doi.org/10.7927/H49P2ZKM>.

Several strategies can be adopted to provide disaggregated SDG data and each technique entails varying levels of analytical rigor and data requirements. In the case of indicators estimated based on survey data, disaggregation requires that each subpopulation group for which estimates need to be provided is adequately represented in the survey. However, many of the national statistics offices from developing countries do not have adequate financial resources to employ sample sizes that are large enough to provide reliable estimates for different subpopulation groups. On the other hand, there are several small area estimation (SAE) techniques that "borrow strength" from other data sources that have wider coverage, to be able to increase the effective sample size of surveys artificially. For example, the classic method proposed by Fay and Herriot (1979) uses optimal weighting strategies to combine survey and model-based estimates to improve the precision of their proposed estimator. Over time, more sophisticated SAE techniques have been developed. The methodology proposed by Elbers, Lanjouw, and Lanjouw (2003) is a good example of a more advanced SAE technique that is widely used in poverty mapping exercises. In general, the methodology entails regressing a certain income measure (e.g., household expenditure or income) on various correlates using survey data. The methodology requires that these correlates are available in both survey and census data. Out-of-sample prediction is then used to impute the chosen income measure by applying the estimated regression coefficients into the census data. Using the information on income imputed for each unit of the census, poverty measures can then be estimated for any desired level of disaggregation, although most of the initiatives have focused on disaggregating poverty numbers based on geographic location. Nevertheless, similar SAE techniques that are grounded on the same methodology may be employed to disaggregate other SDG indicators, provided that its data requirements are met.

Moving Forward...

Box 7.1: Using Nighttime Lights to Measure Social and Economic Indicators

Data on nighttime lights is a good example of a novel source of information that is increasingly being used in ongoing studies that showcase the application of big data for monitoring the Sustainable Development Goals (SDGs).

Box Figure 7.1: Nighttime Lights of the World



Source: National Aeronautics and Space Administration.

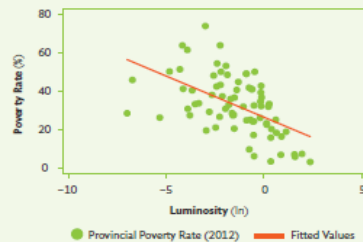
What Are Nighttime Lights?

The Defense Meteorological Satellite Program Operational Linescan System of the United States National Oceanic and Atmospheric Administration collects satellite images of nighttime lights of every corner of the world within the 65° south and north latitude between 8:30 p.m. and 10 p.m. local time. Each pixel of an image represents a square kilometer of ground area, while a digital number ranging from 0 to 63 is used to gauge the intensity of the lights. The raw data are reprocessed to remove the noise caused by cloud cover, snow, and ephemeral lights caused by fire. Compiled annual data are available through the National Geophysical Data Center's website from <http://ngdc.noaa.gov/eog/index.html>.

Deriving Proxy Measures of Socioeconomic Indicators Using Data on Nighttime Lights

In principle, nighttime light is an important input in many economic production and consumption activities such as transportation of goods and people, outdoor lighting, illumination of houses and buildings, and consumption of mass media (Pinkovskiy and Sala-i-Martin 2015). Hence, it is not surprising to note that several studies find that nighttime lights or luminosity data correlate well with measures of economic activity such as gross domestic product (GDP) as well as other non-GDP-based socioeconomic indicators of population size, employment, and poverty (e.g., Chen and Nordhaus 2010, 2011; Gosh et al. 2010; Pinkovskiy and Sala-i-Martin 2015).

Box Figure 7.2: Correlation between Provincial Poverty Rates and Nighttime Lights Index Values



Source: ADB estimates based on poverty numbers compiled by the Philippine Statistics Authority and nighttime lights data.

- Consultation with countries re: areas where they may need assistance
 - potential of big data

Source: ADB Key Indicators for Asia and the Pacific 2016.

Thank You

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ADB's Statistics Capacity Building

Some Lessons

- Government's ownership of statistics capacity building project is essential
- Nature of statistical processes: there is long gestation period for project implementation and capacity building is a slow process
- Holistic approach to national statistics capacity development needed for sustainable NSS
 - Establish sound institutional and legal environment
 - Clear mandate, powers and resources to NSOs to coordinate development data in the NSS
 - \$ alone not sufficient: Need skilled and adequate staff
- Close coordination among donors is essential to optimize the limited resources allocated to statistics development.

ADB's Statistics Capacity Building

Some Lessons

- More methodological research needed to assist countries adopt better and appropriate statistical methods
 - Help countries design household surveys that the government can afford and which can address data gaps and extend the use for policy research
 - Use of non-traditional data collection methods (e.g. satellite data to estimate crop area, damage due to flooding)
 - Incorporate data validation mechanisms in administrative reporting systems to improve the reliability of its results

Key Questions to Consider

- Can NSSs in the region meet the demands for more statistics?
- To what extent are these new demands practical considering existing resources and capacity?
- What would be the real costs of developing capacity to monitor the post 2015 development agenda?
- How? from where? and how much? resources (human, financial) can be mobilized to meet these demands?
- Will the national governments, development partners and private sector rise to the call and scale up investments?
- While the agenda aims at more data – Will this lead to ‘More the Merrier’ or ‘More the Messier’?
- Successful monitoring of Post 2015 development agenda will depend on answers to above.