Improving the Productivity of National Offices for Statistics (IPNOS)

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For decades, policy experts’ and practitioner consensus has been growing about the crucial role quality data plays in informing policy making. This has led to investment and projects to increase quality data availability. But progress has been slow, as reflected by slow improvement in country statistical capacity—many countries remain data deprived. The IPNOS toolkit is based on the notion that producing more and better statistics, while requiring adequate resources, should also be efficient. Various initiatives assess national statistical systems’ (NSS) and data production. The World Bank’s IPNOS initiative complements existing kits, providing in-depth analytical tools to evaluate the efficiency of national statistical offices (NSOs), including costs, data quality, and NSO management. IPNOS application in 3 countries has identified bottlenecks and areas for improvement to inform data policies.

Producing more and better statistics requires resources, but it is also about efficiency. Accurate, timely, granular, and accessible data is crucial for informed policy making, and to allocate resources efficiently. The World Bank assists in development of a set of statistics required for monitoring and evaluation (M&E) of public interventions, including household and enterprise surveys, agricultural and price data, and administrative records, among others. NSOs need strengthening for better data production and management.

Improving availability of adequate data has become a priority during the last decades. As an example, governments, donors, and multilateral organizations, including the World Bank, have substantially increased the number of projects and funding dedicated to improving the statistical capacity of NSOs and NSSs in all regions of the world over the last 15 years. From 2006 to 2015, for instance, the World Bank invested US$919.4 million in 225 data-for-development projects.

Despite these efforts, progress has been limited across regions. Regional values of the statistical capacity index (SCI) have barely changed. Between 2004 and 2018, scores have increased slightly in some regions, by less than 1 percent in Europe and Central Asia (ECA) and a bit over 1 percent in Latin America and the Caribbean (LAC), for instance. SCI scores in some regions deteriorated, such as the Middle East and North African (MENA). In addition, lack of poverty data is widespread and persistent. Despite some advancements, as many as 67 countries are still poverty data deprived; that is, they have no data, or only up to two data points over 6-year intervals (see Figure 1). Other key data also remain scarce.

Figure 1: Poverty data deprivation
Low correlation between investments and statistical results is largely due to poor management of data production and dissemination. Initiatives to assess the capacity of NSSs include the United Nations Economic Commission for Africa’s (UNECA) self-assessment guidance questionnaire, the European Commission’s Assessment Questionnaires, or the IMF’s Data Quality Assessment Framework for National Accounts Statistics. However, these do not measure efficiency, productivity, or costs of creating and disseminating data, nor the quality of the data. As a result, statistical production has frequently been poor quality, expensive, or does not meet the information needs of policy makers.

**IPNOS: A new tool to assess NSO efficiency**

IPNOS addresses the gap in data assessment initiatives. IPNOS focuses on NSO costs, quality, and managerial processes, as well as on the promotion of data usage. **NSO’s require productivity analysis to assess their efficiency.** Productivity is a consequence of many factors, including institutional context, inputs, processes, outputs, and dissemination. Improvement in NSO’s productivity therefore implies one or more simultaneous upgrades in the quantity, quality, timeliness, or unit costs of 3 main statistical products: Census, Household Surveys (HHS), and administrative records.

**Figure 2: The 3 main IPNOS pillars**

Assessments consider 3 main pillars, leading to the completion of an action plan. The IPNOS package offers 3 main assessment tools for:

- Budget and cost-efficiency of production.
- Quality of processes, products, and user’s satisfaction.
- Institutional and organizational aspects.

**Cost and budget analysis (IPNOS-Cost):** An excel-based tool analyzes the NSO budget trend (budget allocation, percent budget execution, budget structure), and estimates the real costs, direct and indirect, of producing statistics. The calculation includes accrual adjustments (depreciation and others), and other public sector costs, which, divided by the sample size, provides the total cost per interview in a given statistical product (such as HHS). Unit cost analysis identifies the proportion of administrative costs, such as rent, accountant, insurance, offices supplies, among others. A high proportion of administrative costs could be a sign of inefficiency, with 20 to 25 percent considered an adequate proportion.

**Quality analysis (IPNOS-Qual):** A second excel-based tool, along with other tools and software, assesses the quality of statistical operations and estimates underlying quality drivers in the life-cycle process. The tool identifies specific quality thresholds for the different products (Census, HHS, administrative records) for statistical production processes, outputs, and user satisfaction. The different measures and indicators used for this exercise (see Figure 3) depend on the specific product and aspect assessed.

**Figure 3: Measuring quality**

| Aspect Assessed | Product |
|-----------------|---------|
| **HHS** | Census | Administrative data |
| **Statistics production process** | ISO 9000, GSBPM, GAMSO, and productivity indicators |
| **Output coverage** | Data quality indicators e.g non-respondent rate, coefficient of variation |
| **Design Effect** | Coverage Whipple index, Mayer index and UN gender index |
| **User satisfaction** | HECRA tool to assess the quality of processes and products |
| **Users focus groups and satisfaction surveys** | |
Organizational and institutional analysis (IPNOS-Org): IPNOS uses questionnaires, focus groups, and performance indicators to identify productivity bottlenecks. For institutional aspects, the main categories are:

- Demand for statistics
- NSO staff
- Legal framework
- Financial situation
- Coordination
- Autonomy

For organizational diagnosis, the main categories are:

- Strategic plan
- Organizational structure
- M&E
- Marketing and dissemination
- Information technology
- Process management

The Action Plan: Information from assessment of quality, costs, and bottlenecks provides a base on which to create a strategy—or “Action Plan”. Based on agreement reached with the client, the Plan then defines a specific set of actions across all areas assessed, evaluating the effects of the measures (high, medium, and low), the cost, and the period of execution (long, medium, and short term). The Plan also makes a distinction between actions that are strictly internal and those that require intra-institutional management.

IPNOS in practice

NSOs in Costa Rica, El Salvador, and the Seychelles applied the IPNOS package to assess capacity. The exercise identified the most important areas for work in these countries, and NSOs are using assessment results to improve productivity and data quality.

Costa Rica Instituto Nacional de Estadística y Censos (INEC). Costa Rica’s NSO implemented the IPNOS improvement plan from 2016-2020 to substantially improve its statistical capacity, as the WB SCI shows. Application of the IPNOS tool in Costa Rica’s INEC indicates that the quantity of good quality data produced increased with no increase in costs. However, it also shows that quality of certain datasets may be decreasing, and that some institutional bottlenecks constrain productivity, including the inadequacy of the amount and/or training of staff, the lack of recognition of INEC’s work in budgetary terms, and IT and managerial challenges. Figure 3 shows that high staff turnover rates, for instance, affect the quality of Costa Rica’s HHS.

El Salvador Dirección General de Estadística (DIGESTYC): The Technical Secretariat of the Presidency Office and the Ministry of Economy of El Salvador used the IPNOS report to define its strategy and create a new, independent statistical coordination agency. El Salvador used IPNOS to assess the productivity of DIGESTYC. The exercise highlighted the need to define a legal, institutional, and strategic framework for development of an adequate NSS. It also identified some DIGESTYC weaknesses to produce higher quality data, including high administrative costs, financing structure, and lack of staff (Figure 4). The quality of data produced has been irregular, especially in the case of surveys and administrative records.
Seychelles Bureau of Statistics: The Government of the Seychelles is using the IPNOS report to help inform its national strategy for development of statistics (NSDS), as well as a guide to improve statistics production management. In the Seychelles, mechanisms for coordination exist even in the absence of a legal framework for a NSS and NSDS. The budget of the Bureau of Statistics (NBS) has been growing since 2014, but the ratio of expenditures allocated to governance, management, and administration is high (Figure 5). NBS staff regularly work overtime, but the workforce is stable. Although using quality control practices and tools to produce statistics, NBS has not established a proper quality model. The quality of the last two population censuses (2002 and 2010) is high, while that of surveys and administrative data appears lower. While the statistics production costs have decreased, the model needs improvement to decrease unitary cost of production.

IPNOS can help governments around the world identify main bottlenecks and specific areas to improve the quality and productivity of statistical data production. Through an action plan derived from IPNOS implementation, NSOs can produce more and better statistics at lower cost, and also promote data use with key governmental analysis units or agencies.

Importantly, to promote data usage and dissemination, country NSOs must allow access to their data, as well as facilitate interviews with NSO personnel, statistical users, and allow access to NSO accounting books.

1 IPNOS final case studies, presentations, guidelines, and the IPNOS toolkit will be released soon through the website.
2 The World Bank’s SCI, a composite score assessing capacity of a country’s statistical system, is based on a diagnostic framework assessing data methodology, sources, periodicity, and timeliness.
3 Others include for instance the Snapshot tool or the or the Pan-African Statistics Program of EUROSTAT, the Tool for Assessing Statistical Capacity of the US Census Bureau, UNECA’s Africa Statistical Development Indicators and Framework, or the AFDB Tool for Assessing Statistical Capacity.

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