



PART IV

# **Harnessing Administrative Data for a More Resilient Data and Statistical System**



## Overview

National statistical systems (NSSs) play a vital role in the production and dissemination of official statistics, which are an essential “public good”. NSSs comprise national statistics offices (NSOs) and other public entities that are responsible for collecting, processing, and disseminating official statistics for policymaking. In developing economies, NSSs typically rely on more commonly used conventional methods, such as sample surveys and censuses, in compiling official statistics for a wide range of development themes, including population and demographic trends, economic performance, monetary and financial scenarios, work and employment, and poverty and living conditions, among others.

When the Millennium Development Agenda was adopted more than 2 decades ago, it ushered in greater appreciation of NSSs’ critical role in promoting socioeconomic development. NSSs, in collaboration with the international statistics community, led the way in compiling data that served as a clear monitoring framework for assessing socioeconomic progress with respect to the specific, time-bound, and quantified targets of the Millennium Development Goals. The subsequent adoption of the 2030 Agenda for Sustainable Development, which has significantly more development targets under the Sustainable Development Goals (SDGs) than did the Millennium Development Goals, brought into focus expanding national and global data needs. For instance, the availability of disaggregated data by various geographical and demographic classes is more needed now than ever before to produce information that is important for decision-making. This has led to the calls for a “data revolution” wherein data from multiple sources can be integrated to provide more nuanced and meaningful information that can more efficiently meet the expanding and evolving data requirements of policymakers (UN 2013).

High-quality data facilitate actionable insights. Especially during pandemics or other periods of uncertainty, when scenarios may change rapidly, having timely and reliable data is crucial for governments and other policymakers to develop solutions to the issues at hand.

The coronavirus disease (COVID-19) pandemic disrupted operations of NSSs and made conducting conventional surveys and censuses—which are commonly used to compile development statistics, including SDG indicators—challenging, especially while lockdowns were in place. This is because such data collection activities typically require face-to-face interactions in the field.

To reconcile the need for timely and reliable statistics with disruptions in conventional ways of collecting data, it is important to discover ways to facilitate “data resilience”. Data resilience, in this context, refers to the continuous flow of information amid challenges encountered in collecting, compiling, and analyzing data. As such, resilience



hinges on the capacity to ensure data flows as efficiently as possible, which requires an understanding of what types of information are available from various sources of data. This includes understanding how data are collected and, in case of disruption where particular types of data cannot be accessed through conventional methods, how other sources of data can contribute. The need to promote resilience and improve the efficiency of statistical production processes underscores the importance of exploring other sources of data that have long existed but have not been maximized in terms of their use for statistical purposes.<sup>1</sup>

Administrative records, though typically built for regulatory purposes or to supplement administration of various government programs, are a potentially rich source of information that can be triangulated with survey, census, and other types of data to provide more nuanced, timely, and granular development indicators. Though administrative data may not be originally collected for statistical purposes, there is an increasing recognition of their rich statistical potential as they can produce statistics through data integration. Gross domestic product (GDP) estimates, for instance, are a product of integration of various administrative data, particularly on production values, sales, exports, and imports. Administrative data can also produce full population coverage, such as the generation of local-level statistics, and can enhance the frequency of releasing statistics as in the case of statistical registers (UNESCAP 2022). Identifiers from administrative data can be used for matching records to link micro or macro data from various sources. In some economies, population registers supplemented by housing registers have even replaced conduct of population censuses.

If collected properly, the use of administrative data offers various advantages. While possibly enhancing statistical quality, using administrative data also saves costs if such data are routinely and properly collected. Nationally representative surveys such as household income and expenditure surveys (HIESs), which are typically collected by NSOs, entail substantial resources and cost on average about \$1.7 million to conduct (UNSDSN 2015). However, some of the information (e.g., income) gathered during HIESs is also available in other administrative sources such as tax registers. In addition to HIESs, information collected from other surveys also overlap with administrative data. Therefore, by harnessing existing administrative data, the scope of such surveys could be streamlined to obtain data with a larger sample size at a lower cost (IPA 2016).

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<sup>1</sup> Principle 5 of the Fundamental Principles of Official Statistics gives guidance on the use of administrative data vis-à-vis other sources of data. It states that, “Data for statistical purposes may be drawn from all types of sources, be they administrative or statistical records. Statistical agencies are to choose the sources with regard to quality, timeliness, costs and burden on the respondents (UNSD 1994).” With the goal of quality and timeliness of data, collection should be cost-effective and reduce the burden on respondents. The conduct of some surveys and censuses may be avoided when administrative records are well-maintained, timely, and meet statistical standards on definitions, concepts, classifications, coverage, methods, and completeness (ADB 2010).

In addition, when conducting impact evaluation studies, use of administrative data can save hundreds of thousands of dollars over the cost of running surveys needed to collect data, which typically constitutes a major expenditure item for such studies (Rawlings 2013). A reduced cost in data collection is beneficial for resource-constrained settings such as during crises, when a considerable portion of government resources may have to be reallocated to cover socioeconomic assistance programs. Administrative data can also potentially cover a large segment of the economy and reduce the response burden that typically results from statistical inquiries such as censuses and surveys.

On the other hand, there are also challenges in using administrative data for the purpose of compiling development indicators, as such data are not originally designed for statistical objectives. Furthermore, the use of administrative data may be constrained by existing legal regulations on data confidentiality.

Table 4.1 lists some of the benefits and disadvantages of using administrative data.

**Table 4.1: Advantages and Limitations of Administrative Data**

Advantages	Limitations
(i) Simplicity, speed, and frequency of updating	(i) Concepts, definitions, classifications, and methods not suited for statistical purposes
(ii) Lower costs	(ii) Incomplete coverage and poor reporting
(iii) Wider coverage, completeness, and disaggregations	(iii) Coverage biases
(iv) Low-response burden	(iv) Less flexible

Source: Asian Development Bank. 2010. Administrative Data Sources for Compiling Millennium Development Goals and Related Indicators.

Some of these limitations of administrative data can be avoided by identifying needed information, reviewing existing forms and records, and minimally redesigning forms to meet statistical purposes without compromising administrative requirements (ADB 2010).

Given the rich potential of administrative data to facilitate more resilient statistical systems, the challenges surrounding its use, particularly in the context of developing economies, underscore the need to strengthen capacity in handling and integrating such data. Within the international statistical community, the United Nations Statistics Division and Global Partnership for Sustainable Development Data have established the Collaborative on the Use of Admin Data for Statistics or “Collab” for short. This initiative coordinates a multistakeholder collective of economies and regional and international agencies that aspire to strengthen the capacity to harness administrative data for compiling development statistics. The collaborative is a forum for exchanging resources, instruments, best practices, and knowledge, and for increasing understanding among the NSSs of the merits of sharing and integrating administrative data sources to strengthen the quality, timeliness, coverage, and granularity of statistics (UN DESA 2022).

In October 2021 to February 2022, the Economic Research and Regional Cooperation Department's Statistics and Data Innovation Unit (EROD-SDI) of the Asian Development Bank (ADB) conducted a survey on the use of administrative data for the compilation of employment-related indicators that complements the knowledge resources put together through the Collab initiative. This chapter provides insights from a statistical standpoint by examining the survey responses from 24 NSOs, 8 labor ministries, and 4 social welfare ministries of ADB's member economies in the Asia and Pacific region<sup>2</sup>. Although the labor and social welfare ministries that responded do not constitute a representative sample, they provided rich qualitative information about their objectives in compiling administrative data, issues encountered in using these data, policy uses, effects of the COVID-19 pandemic on their data collection activities, and plans to further harness administrative data as a complementary source of information for compiling development statistics.

## What are the Common Uses of Administrative Data?

In Asia and the Pacific, administrative data collected by NSOs and labor and social welfare ministries serve a wide range of purposes.

Administrative data are usually collected by NSOs, labor ministries, social welfare agencies, social security institutions, offices that maintain administrative registers, and line ministries. Population registers are maintained by NSOs while business registers are either lodged in NSOs or trade and industry agencies. NSOs from economies with decentralized statistical systems, on the other hand, collate administrative data from line ministries. Several datasets on work, employment, housing, taxation, trade goods, and social protection are collected administratively. Labor ministries and relevant social welfare ministries keep data on insurance records, work-related injuries, labor inspection, and social security records (ADB 2021a).

As shown in Figure 4.1, a considerable number of survey respondents collected administrative data for statistical purposes. Other common reasons for data collection included registration of important events and inputs for delivery of services. Of the 24 responding NSOs, two thirds collected administrative data for statistical purposes and about one third collected data to keep a register of important events such as births and deaths. A few NSOs collected data for delivery of services and monitoring of important transactions, while only one collected data on other routine operations.

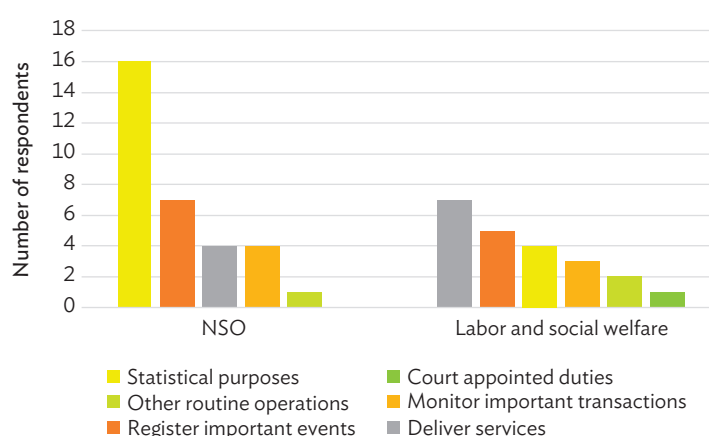
<sup>2</sup> The EROD-SDI survey garnered responses from the NSOs of the following economies: Armenia; Azerbaijan; Bangladesh; Bhutan; Brunei Darussalam; Cambodia; the Cook Islands; Fiji; Georgia; Hong Kong, China; Indonesia; Kazakhstan; Malaysia; Mongolia; Nauru; Nepal; Pakistan; the Marshall Islands; the Philippines; Singapore; Thailand; Timor-Leste; Uzbekistan; and Viet Nam. Responses were also garnered from the labor ministries of the following economies: Armenia; Azerbaijan; Georgia; Hong Kong, China; Mongolia; the Philippines; Samoa; and Singapore; as well as from the social welfare ministries of Singapore; Sri Lanka; and Tonga.

Of the 12 responding labor and social welfare ministries, more than half reported using administrative data for delivery of services, but only one third of these respondents also cited using such data for statistical purposes.

Administrative data can feed into policy formulation, whether by ministries that collected such data or by other government offices. As Figure 4.2 shows, administrative data collected by NSOs were deemed useful for economic, labor, education, health, social protection, and finance policies. In Singapore, for example, administrative

**Figure 4.1: Common Uses of Administrative Data, by Source of Data**

Administrative data collected by NSOs and labor and social welfare ministries were used mostly for statistical purposes and/or delivery of services.



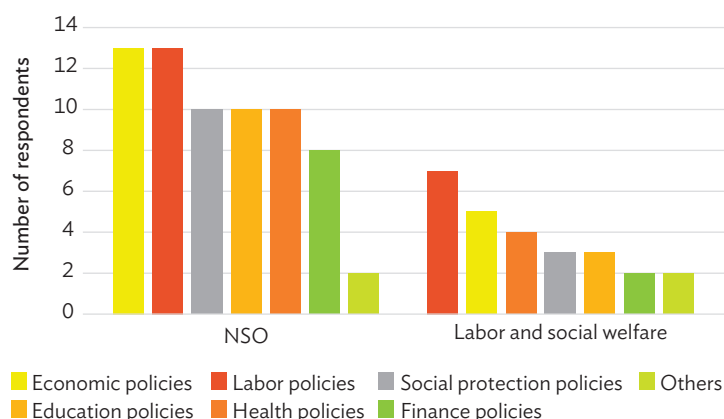
NSO = national statistics office.

Note: The Asian Development Bank survey garnered responses from 24 NSOs as well as 8 labor ministries and 4 social welfare ministries in the bank's member economies across Asia and the Pacific.

Source: Asian Development Bank. 2022. Survey on the Use of Administrative Data for the Compilation of Employment-Related Indicators.

**Figure 4.2: Use of Administrative Data in Policy Formulation, by Source of Data**

Information from administrative data fed into a wide range of socioeconomic policies.



NSO = national statistics office.

Note: The Asian Development Bank survey garnered responses from 24 NSOs as well as 8 labor ministries and 4 social welfare ministries in the bank's member economies across Asia and the Pacific.

Source: Asian Development Bank. 2022. Survey on the Use of Administrative Data for the Compilation of Employment-Related Indicators.

data from the Accounting and Corporate Regulatory Authority were deemed useful for economic and finance policies. More than half of the responding labor and social welfare ministries used administrative data for policies on labor and more than a third applied such data to economic policies. Among these ministries, however, there appeared to be somewhat less emphasis on using administrative data for education, social protection, and finance policies.

## How are Administrative Datasets Used in Different Economies?

In many developed economies, whether in Asia and the Pacific or elsewhere, administrative data are being used to serve a wide range of statistical objectives. One example is the use of administrative data to support more effective editing and imputation of missing survey responses and quality assessment or evaluation of survey-derived data. Since administrative data usually produce a complete count of units, these data sources are suitable for preparing, supplementing, or updating statistical registers and sampling frames. Furthermore, administrative data can be used for indirect estimation, as a source of auxiliary information for use in the estimation process.

Even before the COVID-19 pandemic, a number of economies also used administrative data for official statistics. For example, Nordic economies have been using administrative data as the foundation of their statistical systems for several years. Furthermore, at the height of the pandemic, readily available administrative datasets that listed segments of the population more likely to be severely affected by the pandemic proved useful in delivering social welfare transfers as efficiently as possible. In economies where such administrative data were not readily available, a listing of target recipients had to be compiled, which was not efficient given lockdowns and other containment measures.

For lower-income economies, however, there is much to be done in terms of harnessing administrative data, and this is particularly evident in the developing economies of Asia and the Pacific. Since the primary purpose and intent of collecting administrative data is for implementing administrative regulations, several challenges arise regarding its use for statistical purposes.

The content of administrative data is highly dependent on legislation that serves administrative objectives and may use concepts, definitions, classifications, and methods that may not be consistent with statistical standards. Moreover, changes in definitions across time to meet the requirements of administrative regulations may affect the continuity of the data. The scope and coverage of administrative data collected may not meet the need of the statistical users, given that the data may exclude or include certain units of interest by the legislation. In addition, administrative data





**Administrative data in action.** Although many administrative records are collected as by-products of a government ministry's core functions, they provide rich potential for enhanced compilation of statistical outputs (photo by Eric Sales/ADB).

may only cater to units that have access to certain information or services and may disregard a significant portion of the population. Lastly, the procedures in collecting and managing administrative data may affect the reliability of the data. Given that administrative data are originally collected for record-keeping rather than statistical purposes, emphasis is not given to checks and balances, updates and corrections, and any other procedure that proves to be vital for statistical analysis.

Nevertheless, there is rich potential in integrating an administrative dataset with other administrative data or conventional sources of data used for compilation of development statistics. More than half (56%) of respondents who took part in the ADB survey reported that they could source from other government agencies administrative data that can be integrated with the data produced by NSOs and labor ministries.

Integrating administrative data managed by a specific government agency with other data sources managed elsewhere usually entails “record linkage”, which refers to the identification and combination of records corresponding to the same entities, e.g., persons, enterprises, households, etc. (UNESCAP 2021). In this context, there are two types of record linkage: deterministic matching and probabilistic or statistical matching.

It is possible to conduct deterministic matching when unique identifiers exist that correspond to the same units from different data sources. For example, in Nordic economies, which have rich experience in producing statistics based on administrative sources, unit-level identifiers are present in almost all major administrative registers used for statistics compilation (UNECE 2021). Furthermore, statistics laws in many Nordic economies give their NSOs access to administrative data at unit level (with identifiers) and allow them to link these data with other administrative data sources for statistical purposes (UNECE 2021).

In general, limited availability and/or constraints in accessing unified identification systems across different data sources, which are common in a number of developing economies in Asia and the Pacific, render statistical use of administrative data records less straightforward. In such instances, governments resort to statistical matching by integrating based on a set of variables that are common across datasets and identifying similar records on a probabilistic basis (UNESCAP 2021).

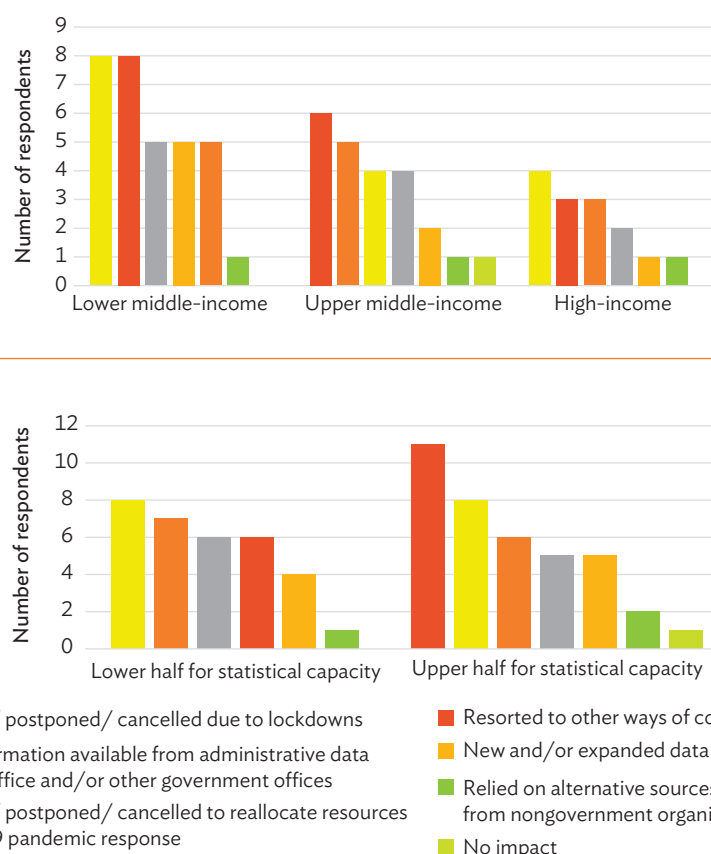
In addition to availability of unified identification systems, there are other practical considerations that need to be taken into account when data from multiple administrative sources need to be combined. Such considerations include consistency of concepts, definitions, reference dates, coverage, and data quality standards adopted by each administrative source (UNESCAP 2021).

## How Did the COVID-19 Pandemic Affect the Collection of Administrative Data?

The COVID-19 pandemic exposed some limitations and gaps in conventional data sources used to compile work and employment statistics in particular and development indicators in general. Conducting surveys and censuses, updating administrative datasets, and other data collection activities were all affected by the pandemic. Only one economy covered by the ADB survey reported no impact on data collection activities during the COVID-19 pandemic (Figure 4.3). More than half (53%) of lower middle-income economies, half (50%) of high-income economies, and a third (33%) of upper middle-income economies had to cancel, postpone, or reschedule these activities due to restrictions on the movement of people. About a quarter of high-income economies and a third of both upper middle- and lower middle-income economies cancelled their data collection activities to reallocate resources for COVID-19 response. For these government agencies, this meant shifting from face-to-face interviews and field data collection to phone-, web- or electronic-based methods and/or other hybrid approaches of data collection. In the wake of the pandemic, more than one third of high-income and upper middle-income economies and a third of lower middle-income economies opted to use administrative data (collected themselves or by government offices or nongovernment organizations) to supplement their typical sources of labor

**Figure 4.3: Impacts of the COVID-19 Pandemic on Data Collection Activities, by Economy Income and Statistical Capacity**

With conventional data collection disrupted, many economies employed alternative strategies, including increased use of administrative data, to meet the data demands of policymakers.



COVID-19 = coronavirus disease, NSO = national statistics office.

- Notes:
- 1) The Asian Development Bank survey garnered responses from 24 NSOs as well as 8 labor ministries and 4 social welfare ministries in the bank's member economies across Asia and the Pacific.
  - 2) Other ways of collecting data include shifting from face-to-face interviews and/or field data collection to phone-based, web-based, electronic-based and/or other hybrid approaches of data collection.
  - 3) Using the overall averages of the World Bank's Statistical Capacity Index for the respondent economies, these economies were divided into a lower half and an upper half according to statistical capacity.

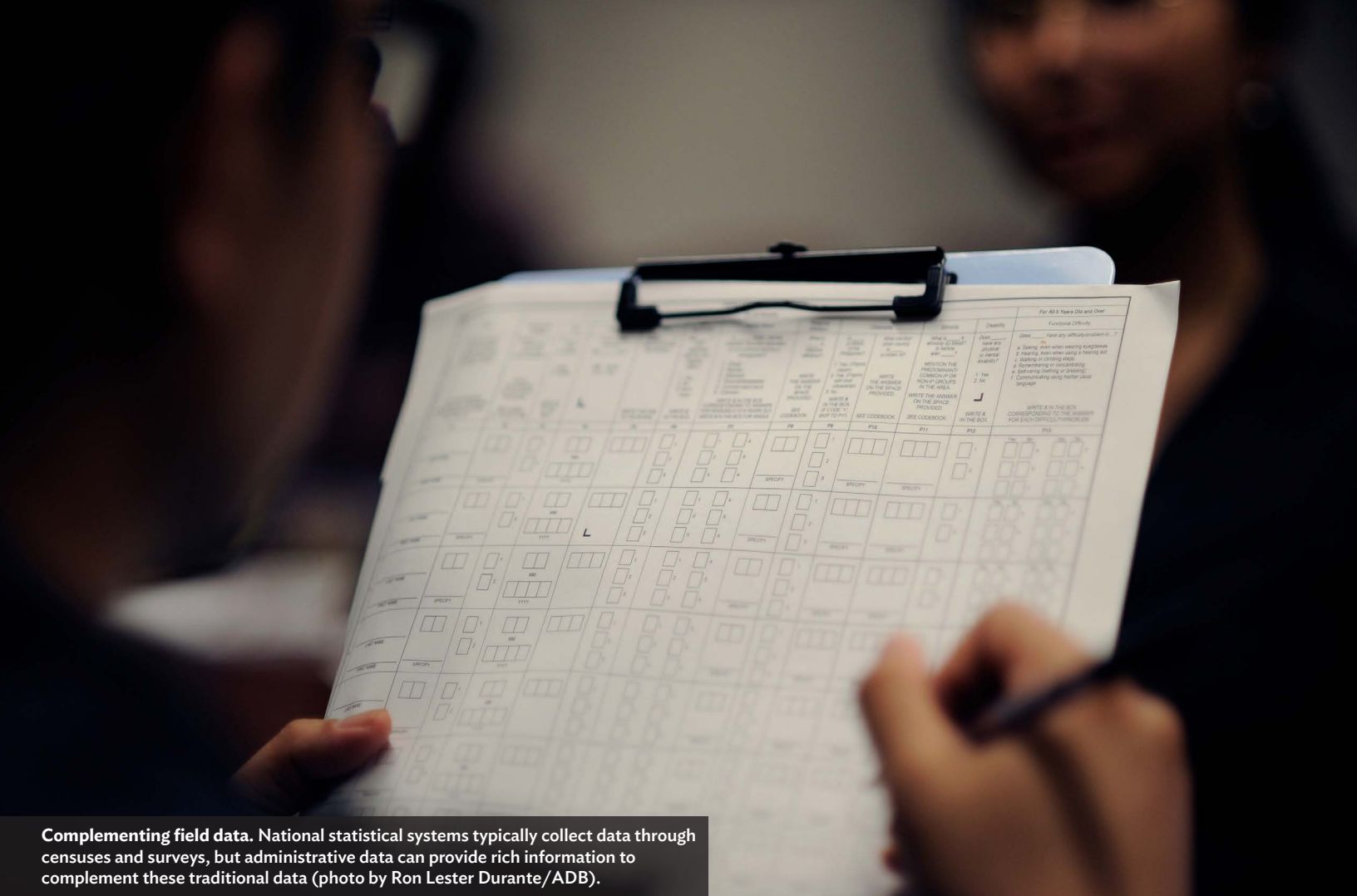
Source: Asian Development Bank. 2022. Survey on the Use of Administrative Data for the Compilation of Employment-Related Indicators.

and employment statistics. For policy design, administrative data from specific groups of workers and business sectors severely affected by the pandemic were collected by 3 upper middle-income and 3 lower middle-income economies.

When the 26 participating economies are divided into two groups (a lower half and an upper half) on the basis of statistical capacity<sup>3</sup>, 8 agencies that belong to economies in the lower half had to reschedule, postpone, or cancel their data collection activities

<sup>3</sup> The groups were determined on the basis of the World Bank's Statistical Capacity Index. However, the World Bank now compiles the Statistical Performance Indicator, which considers five pillars: data use, data services, data products, data sources, and data infrastructure. This indicator is set to be more comprehensive and forward-looking than the Statistical Capacity Index (World Bank 2021).





**Complementing field data.** National statistical systems typically collect data through censuses and surveys, but administrative data can provide rich information to complement these traditional data (photo by Ron Lester Durante/ADB).

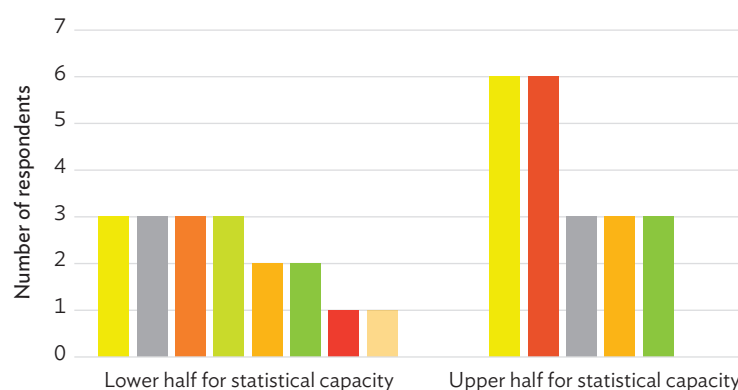
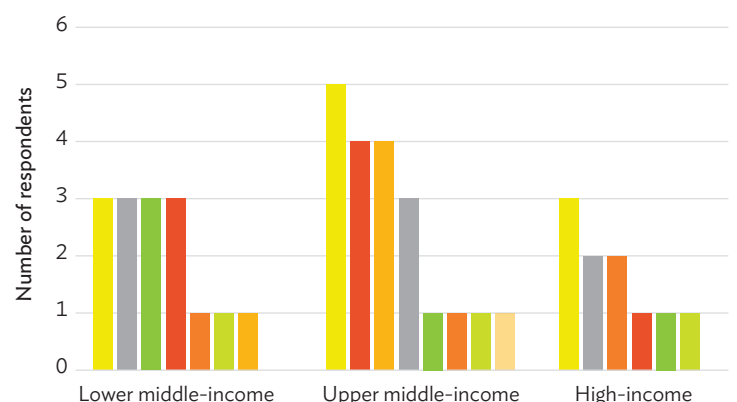
due to lockdowns imposed during the pandemic; and 7 agencies in this group had to rely on information available from administrative data collected by their office or other government agencies. For agencies belonging to economies in the upper half for statistical capacity, 11 had to resort to other ways of collecting data; 8 had to reschedule, postpone, or cancel their data collection activities due to lockdowns; and 6 had to rely on information available from administrative data collected by their office or other government agencies.

While a substantial number of economies turned to administrative data to supplement statistical output during the pandemic, many also reported challenges and concerns surrounding the collection and use of such data. These challenges include constraints in access to, and the coverage and quality of, administrative data as well as limitations in collection and analysis because of operational disruptions caused by lockdowns and other mobility restrictions (Figure 4.4). The quality of data was the top concern of NSOs and labor and social welfare ministries across all economy income groupings. Unlike high-income economies, completeness of data coverage was a major concern for upper and lower middle-income economies. Other concerns included the inability to assess data due to disruptions in office operations, limited access due to office-level agreements, inadequate access to information technology infrastructure, data not consolidated in a database, and a lack of available personnel to compile the data.

Economies belonging to the upper half in terms of statistical capacity had issues mostly with quality and completeness of administrative data while those in the lower half were concerned mostly with quality, data not consolidated in a database, disruptions in office operations, and lack of human resources to compile data.

**Figure 4.4: Issues Encountered in Collecting and Using Administrative Data, by Economy Income and Statistical Capacity**

Suitability of administrative data for compilation of statistical outputs is a major concern for both NSOs and other government agencies across all economy income groupings.



- There are concerns on quality of data that can allow reliable statistical analysis
- Administrative data collected by our office are not consolidated in a database-like format
- Inadequate access to necessary IT infrastructure
- Incomplete coverage of data
- Disruption in office operations due to lockdowns and restrictions
- Lack of human resources in compilation
- Access to administrative data requires office-level agreements
- Administrative data is not updated.

IT = information technology, NSO = national statistics office.

Notes: 1) The Asian Development Bank survey garnered responses from 24 NSOs as well as 8 labor ministries and 4 social welfare ministries in the bank's member economies across Asia and the Pacific.

2) Using the overall averages of the World Bank's Statistical Capacity Index for the respondent economies, these economies were divided into a lower half and an upper half according to statistical capacity.

Source: Asian Development Bank. 2022. Survey on the Use of Administrative Data for the Compilation of Employment-Related Indicators.

## Initiatives to Promote the Use of Administrative Data in Asia and the Pacific

This section highlights the experiences of selected developing ADB member economies in harnessing administrative data. It covers a variety of initiatives implemented across the Asia and Pacific region, ranging from new legislation on official statistical compilation to some examples of administrative statistics used in measures ensuring equitable distribution of food support for vulnerable populations.

### Armenia

In 2018, Armenia adopted the Law on Official Statistics, which introduced the National Statistical System (NSS) covering all producers of official statistics in the economy. The law identifies the Statistical Committee of the Republic of Armenia (Armstat) as the main producer of official statistics. Further, the law grants Armstat the right to access and utilize administrative records and registers to produce official statistics, and obligates line ministries and public institutions to grant access and make such records and registers available for official statistical purposes.

Armstat has been making use of important administrative data held by line ministries and public institutions. For instance, since 2018, it has been using information on number of payrolled employees, earnings (wages and/or salaries), and number of organizations from the Database of the Personal Income Tax and Social Tax (Payment) of the State Revenue Committee of the Republic of Armenia. The database includes information on all organizations with one or more paid employees.

The 2022 population census of Armenia will be conducted using a register-based, combined-census method. This census was originally planned for 2020 but was postponed due to the COVID-19 pandemic. Administrative data from the State Population Register will be used to obtain the minimum set of variables for the population census. This includes personal identification code, name, status (residence status or refugee status), registered address, citizenship, sex, date of birth, and birthplace. A sample survey will be conducted to collect all the variables defined by the census program.

To further increase the use of administrative data for statistical purposes in Armenia, the NSS recognizes the importance of coordination among statistical and other government agencies that produce administrative data, the need to improve the administrative registers and databases of line ministries, and increasing the number of staff and capacity development related to statistical analysis.

## Bhutan

Administrative data provides a vital role for an economy with a sparse population, as is the case in Bhutan, because compiling such data is more practical than conducting regular surveys. Prior to the COVID-19 pandemic, the Statistics Division of the Ministry of Labour and Human Resources started the development of the Bhutan Labour Market Information System (BLMIS) to rationalize the collection and use of administrative data on the Bhutanese labor market. BLMIS is an online, real-time database system that collects employment data from all formal sectors of the economy. The system intends to provide employment statistics that are more accessible, more reliable, more frequent, and consistent with international standards and to serve as a mechanism to evaluate the statistics compiled by the National Statistics Bureau (NSB) through the annual conduct of the national Labour Force Survey. As a result of this initiative, the Ministry of Labour and Human Resources has been able to use the BLMIS datasets to design national-level employment policies and examine the employment situation in the formal economy. BLMIS has also improved partnerships with key stakeholders in terms of the production, use, and dissemination of official statistics on employment (Tenzin 2020).

To improve the collection and management of local-level data, the United Nations Population Fund, in cooperation with the NSB, established a database system at the *gewog* (a group of villages in a rural area) level. The project was initially undertaken in one *dzongkhag* (district) in 2014, then expanded to the remaining 205 *gewogs* of Bhutan. The NSB collected *gewog*-level data based on administrative records on population and households, basic household services, local businesses, communications, local disasters, and educational and health statistics, as well as detailed information on the livestock, forestry, and agriculture sectors (which make up a large proportion of employment in Bhutan). Moving forward, the NSB aims to expand the coverage of local-level data collection to urban areas (UN DESA 2021a).

To address the bias resulting from the consumer price index used to deflate exports and imports data for GDP estimations, the NSB utilized the data from administrative external trade registers, compiled by the Department of Revenue and Customs, as inputs to the methodology for estimating the Import and Export Price Index. This is considered a crucial step in improving the economic statistics of Bhutan, particularly in enhancing GDP data. As a way forward, there is a need to ascertain a reliable mechanism between the NSB and the Department of Revenue and Customs to ensure the timeliness and institutionalization of generating the Import and Export Price Index (UN DESA 2021b).

## Mongolia

Even before the COVID-19 pandemic, the Government of Mongolia was already leveraging administrative sources for collecting employment-related data. The Ministry of Labour and Social Protection (MLSP) compiles data on registered unemployed, foreign workers with labor contract, employees working abroad on a contractual basis, and collective labor disputes. The General Agency for Specialized Inspection registers data on occupational accidents while the Civil Service Council records data on government employees.

The National Statistics Office of Mongolia oversees the dissemination of the registered unemployment statistics compiled by the MLSP. However, this practice was halted in April 2021 because of the ongoing enhancement of the registration system, although the other administrative data collection activities of other government entities were not impacted by the pandemic.

The Government of Mongolia uses a labor market information system, which creates a labor market database by registering and mediating information from employers or establishments and job seekers and unemployed people. The MLSP is preparing to integrate the labor market information system with other government databases and introduce an “e-job” electronic platform in 2022. The use of an electronic labor market platform has improved access to services for citizens and enterprises and reduced the burden on public services. As of 2022, there are 140 services in the platform, of which 53 services have been transferred to electronic form.

The General Office for Labor and Welfare Services under the MLSP also employs various administrative data sources in assessing the beneficiaries of Mongolia’s Food Stamp Program (FSP). The FSP Database, Integrated Household Database, National Insurance Database as well as the Household Socio-Economic Surveys provide information on the characteristics of the beneficiaries. The assessment resulted in the removal of several FSP beneficiaries, which decreases inclusion errors and thus increases the program budget (ADB 2022). The National Statistics Office of Mongolia and selected government institutions of Mongolia have also reached an agreement to come up with an integrated database, which will include the (i) state registration data, i.e., civil and corporate data, of the General Authority for State Registration; (ii) social insurance data of the General Authority for Social Insurance; (iii) social welfare data of the General Authority for Labor and Social Welfare; (iv) education data of the Ministry of Education and Science; (v) tax data of the Mongolian Tax Authority; (vi) trade data of the Customs General Authority; (vii) price data of the Information Technology Center of Custom, Taxation, and Finance; and (viii) COVID-19 data of the National Center for Communicable Diseases.



## Singapore

In the production of Singapore's demographic statistics, the statistical database with basic demographic information on Singapore's population and the statistical database on residential dwellings, both of which draw data from multiple administrative sources, have been enhanced continuously. These databases enable the compilation of annual data on basic register-based information such as age, gender, ethnicity, geographic location, and type of dwelling starting from the year 2000.

The COVID-19 pandemic caused unprecedented challenges for the conduct of Singapore's Census 2020. The Singapore Department of Statistics' strategy of integrating available information from other government agencies and using administrative data for consistency checks and validation of the census results reduced respondent burden by minimizing the need to recontact households after the initial enumeration. In addition, the department has implemented automated processes in coding selected data items to mitigate resource constraints in data processing.

The Manpower Research and Statistics Department integrates administrative data and labor force survey data as inputs to Singapore's official Labour Market Report. Employment data are compiled primarily from administrative records while the self-employed component—consisting of own-account workers, employers, or contributing family workers—is estimated from the Labour Force Survey. Data on the number of resident employees are compiled from the Central Provident Fund's administrative records of active contributors (defined as resident employees who have at least one fund contribution paid for them), while data on nonresidents working in Singapore are compiled from administrative records of relevant and valid work passes issued by the Ministry of Manpower.

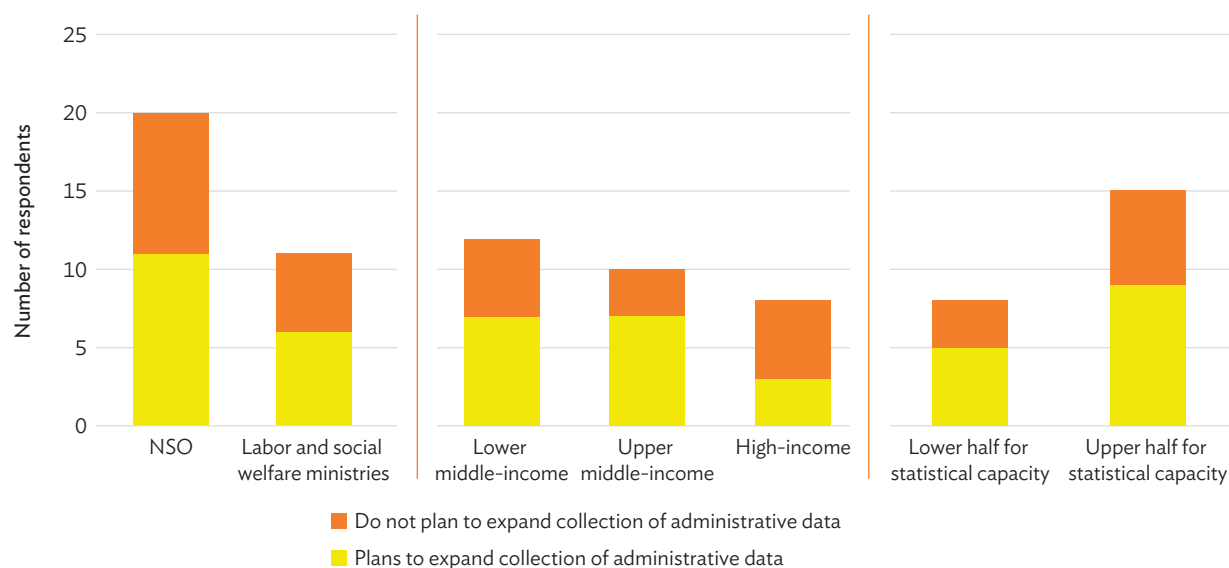
## Measures to Further Harness Administrative Data for More Resilient Statistical Systems

**There are ongoing initiatives that promote the use of administrative data, but there is a need to scale up these initiatives.**

ADB's survey revealed that little more than half of the responding NSOs and labor and social welfare ministries from upper middle-income economies that already collect administrative data plan to expand the collection of such data to supplement or enhance their current data portfolios (Figure 4.5). Particularly, 7 agencies each from upper and lower middle-income economies and 3 from high-income economies have plans to expand their collection activities for administrative data, while 14 NSOs and labor and social welfare ministries have no such plans. Further, none of the 5 agencies

**Figure 4.5: Status of Programs for the Collection of Administrative Data, by Source of Data, Economy Income, and Statistical Capacity**

Around the same number of NSOs and ministries planned to expand the collection of administrative data as those not considering such expansion.



NSO = national statistics office.

Notes: 1) The Asian Development Bank survey garnered responses from 24 NSOs as well as 8 labor ministries and 4 social welfare ministries in the bank's member economies across Asia and the Pacific.

2) Using the overall averages of the World Bank's Statistical Capacity Index for the respondent economies, these economies were divided into a lower half and an upper half according to statistical capacity.

Source: Asian Development Bank. 2022. Survey on the Use of Administrative Data for the Compilation of Employment-Related Indicators.

that did not collect administrative data in upper and lower middle-income economies indicated any plans at the time of the survey to implement administrative data collection.

Within economies classified in the upper half for statistical capacity, all nine agencies that already collected administrative data had plans to expand their data collection activities, while five of the eight agencies in the lower half that already collected such data also had plans for expansion of these activities (Figure 4.5). By contrast, all six agencies in the upper half that already collect administrative data had no plans for expansion, while three of the eight agencies in the lower half also indicated no plans to expand their administrative data collection activities.

The results of the ADB survey indicate that there may be a need to boost initiatives on the use of administrative data across Asia and the Pacific. NSOs, which also manage volumes of administrative data, could take the lead in promoting the use of such data for the purposes of compiling development statistics. Strengthening appreciation among government agencies for the potential of using administrative data to refine statistical output should also be a priority to boost initiatives.

### **Access to administrative data needs to be expanded.**

In some economies of Asia and the Pacific, legislation on statistical compilation allows NSOs full or partial access to administrative records in the public sector for statistical purposes. As privacy issues are impediments to data integration, some laws even provide NSOs access to private sector data. In some economies, however, the relevant data exist but either cannot be accessed by NSOs or can only be accessed for a fee.

Communication campaigns are needed to explain the value of statistical compilation from administrative data. Aside from a legal framework, it is important to have mechanisms that facilitate close collaboration and exchange of data and metadata among stakeholders. The Collab initiative's draft guidance and template for memoranda of understanding on such issues can help identify roles and responsibilities between the NSO and the administrative data owner.

### **Collaboration is essential to leverage the use of administrative data.**

The owners of administrative data are mostly agencies other than NSOs. Thus, if NSOs are to take the lead in promoting the use of administrative data, they need to strengthen their working arrangements with government ministries and even with enterprises in the public sector.

A feedback system that helps the NSO and the data owner liaise on improvements to issues around administrative data (e.g., data quality) can significantly contribute to the strengthening of the administrative data system. This will consequently also strengthen the broader statistical system of any given economy. However, understanding the context under which the administrative data system was created is crucial. The administrative considerations that originally dictated the concepts, definitions, coverage, frequency, and timeliness of the administrative records may undergo changes and this can distort time series derived from the administrative data source.

The NSO needs to be the custodian of data quality—paying special attention to the consistency of concepts, definitions, and classifications as well as overall data integrity when there are multiple sources of administrative data. Each data item in the administrative records that is planned to be used for statistical purposes needs to be assessed to identify, understand, and correct sources of errors found in the system. It is possible that some of the items in the administrative records might be of very poor quality and therefore might not be useful.

### **An effective capacity building program is needed to promote and sustain the use of administrative data.**

The NSOs may lead in initiating capacity building activities for other government agencies and enterprises from the private sector that are the owners of administrative data.



**A united data effort.** National statistical systems should invest in harnessing data to help address data gaps and limitations typical to censuses and surveys (photo by Lester Ledesma/ADB).

Long-term structural investments and genuine knowledge transfer are necessary to develop an enabling environment for the use of administrative data. The NSOs and other data owners will need their staff to develop new skill sets— both technical and soft skills that will enable them to harness new technologies, collaborate to understand legal and policy issues, and effectively communicate and negotiate with each other—as this is crucial for the use of administrative data to thrive.

In response to the growing demand to fill gaps in the data needed for accurate policy design and informed decision-making, the Collab initiative has developed a series of products and strategies useful in facilitating the use of administrative data (UN DESA 2022).

**Guides and templates.** A guide and template for improving coordination and cooperation within the NSS and for increasing access to administrative data for statistics production has been published. To institutionalize collaboration among relevant producers and users of administrative data, it is important to have formal agreements. A guide was published on December 2021 to guarantee and facilitate sustainable coordination and cooperation between the NSOs and



other data owners. This publication provides a comprehensive introduction to memoranda of understanding and offers a variety of specific economy examples and a template that can be used as a basis for drafting them.

**Expert clinics.** These are organized by the Collab and its members. Each clinic particularly focuses on members' needs and serves as a forum to share experiences, inspire statistical innovation, and find solutions together. The experts that are invited to the exchange all belong to the statistics community and they do not receive remuneration for the services they provide to the clinics.

**Self-assessment tool.** This was designed to develop the understanding of how current statistical legislation facilitates the access and use of administrative data for the NSOs and their relevant NSS. The NSOs and other producers of official statistics are asked to complete an assessment and explore areas related to the governance of the NSS and the provisions of the statistical laws that directly or indirectly support the access and use of administrative data.

**Inventory of resources.** This initiative systematizes information on the use administrative of data for statistical purposes so that they become more readily available and easier to find. The inventory includes recommendations and practical examples; however, it should be noted that all materials may not fully conform with international guidelines.

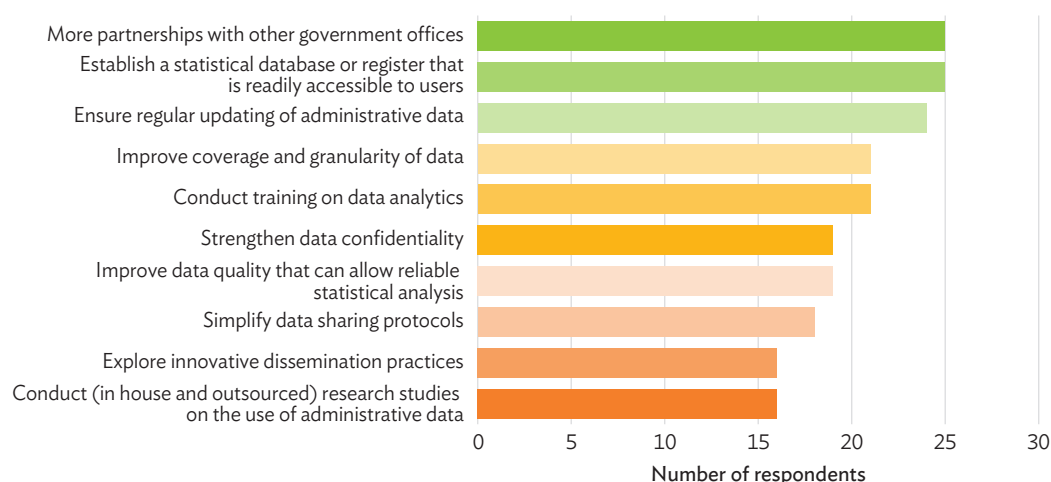
ADB has likewise been promoting expanded integration of administrative data into national data and statistical ecosystems. For example, an ADB study released in 2021 offers insights on how labor statistics derived from administrative data can provide information to formulate and evaluate action plans on unemployment and work conditions and to gauge the prevalence of the working poor (ADB 2021a). It served as a supplement to ADB handbooks on the use of administrative data sources for compiling a wide range of development indicators (ADB 2010; ADB 2021b).

Furthermore, ADB has conducted a number of initiatives with components that aim to strengthen statistical capacity in using administrative data. The list of recently concluded and ongoing initiatives includes innovative data collection methods for agricultural and rural statistics (ADB 2018), improvement of statistical business registers (ADB 2019), strengthening economic statistics compilation systems (ADB 2020), development of and building capacity in new statistical resources and technologies (ADB 2021c), and use of multiple data sources to monitor progress towards the SDGs for Mongolia (ADB 2022).

### Strengthening the use of administrative data calls for more action.

In the ADB survey on the use of administrative data, the government agencies that responded proposed specific actions that would drive and support the acceptance and use of such data. These actions are shown in Figure 4.6. Establishing a statistical database or register that is readily accessible to users was deemed important by 15 NSOs and 10 labor and social welfare ministries. Forming more partnerships with other government agencies was suggested by 16 NSOs and 9 labor and social welfare ministries. Other specific actions that were suggested to boost the use of administrative data are (in order of the level of agreement): ensuring regular updating of administrative data, conducting training on data analytics, improved coverage and granularity of data, improving data quality that can allow reliable statistical analysis, strengthening data confidentiality, simplifying data-sharing protocols, conducting research, and exploring innovative dissemination practices.

**Figure 4.6: Proposed Initiatives to Strengthen the Use of Administrative Data**  
NSOs and government ministries from developing economies agreed a range of ways to stimulate the integration of administrative data in statistical compilation.



NSO = national statistics office.

Note: The Asian Development Bank survey garnered responses from 24 NSOs as well as 8 labor ministries and 4 social welfare ministries in the bank's member economies across Asia and the Pacific.

Source: Asian Development Bank. 2022. Survey on the Use of Administrative Data for the Compilation of Employment-Related Indicators.

### Digitization of government services could produce a wealth of naturally occurring data, including administrative data.

The fast-moving developments in digital technology are leading governments to embrace digitization for delivering better services and assistance to citizens. Economies are shifting towards paperless, cashless solutions and platforms that make government services available to people through internet and mobile technologies. The COVID-19 pandemic has further highlighted the importance of digital ecosystems.

Many economies have looked into designing new applications and services to help in the fight against the novel coronavirus. Further, governments have mobilized digital innovations to reach out to vulnerable groups and respond to their needs. They have built online registration systems and leveraged digital financial services to efficiently disseminate relief and cash aids.

The digitization of government services is producing a wealth of naturally occurring administrative data. If used effectively, these datasets have the potential to contribute to closing data gaps and assisting in the development of relevant social policies.

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