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**Population registers and the opportunities they offer for improved public  
administration and statistics**

## **Population registers as key drivers of good governance and statistical development**

### **A. Introduction**

1. According to the United Nations<sup>1</sup> a population register is the product of a continuous process in which notifications of certain events, which may have been recorded originally in different administrative systems, are automatically linked to it on a current basis. The method and sources of updating should cover all changes so that the characteristics of individuals in the register remain current. Because of the nature of a population register, its organization, as well as its operation, should have a legal basis.

2. This definition has not been universally adopted, however. The World Bank<sup>2</sup> and the Organization for Economic Cooperation and Development,<sup>3</sup> for instance, define population registers variously, underlining their key characteristics as repositories of up-to-date information on basic characteristics of all residents of a country; being continuously updated by linking reports of events recorded in other administrative registers, mainly from civil

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<sup>1</sup> *Methodology and Evaluation of Population Registers and Similar Systems* (United Nations publication, Sales No.E.69.XVII.15), chap. I.A.. See also [https://unstats.un.org/unsd/demographic/sources/popreg/popregmethods.htm#:~:text=Population%20register%20\(paras.-454%2C468\)&text=Thus%2C%20the%20population%20register%20is.it%20on%20a%20current%20basis](https://unstats.un.org/unsd/demographic/sources/popreg/popregmethods.htm#:~:text=Population%20register%20(paras.-454%2C468)&text=Thus%2C%20the%20population%20register%20is.it%20on%20a%20current%20basis).

<sup>2</sup> World Bank. *ID4D Practitioner's Guide*, Version 1.0 (October 2019) (Washington, D.C., World Bank), p. 221.

<sup>3</sup> International Migration Statistics for OECD Countries: Sources and Comparability of Migration Statistics, OECD, 2021 p. 4. Available at <https://stats.oecd.org/glossary/detail.asp?ID=2089>.



registration and immigration records; and having the potential to provide data on a population and its characteristics on a continuous basis and at all administrative levels.<sup>4</sup>

3. Historically, population registers were maintained for public administration. In countries such as China and Japan, where the earliest registers are believed to have been created, governments used these to monitor tax payments, to manage labour and, in some cases, as a tool for social control.<sup>5</sup> In other words, governments used them to protect the political needs and priorities of the ruling elite. In the Nordic countries,<sup>6</sup> where records have also existed for many years, population registers also owe their origins to the need to acquire information about the population to support administrative functions such as taxation, tax collection and the electoral roll. The value of aggregate population records as sources of national and subnational statistics was established later.

## **B. Two types of population registers**

4. The term “population register” is often used in reference to an administrative information system used primarily by public agencies for administrative purposes, such as personal identification, voting, education and others. It should be noted, however, that population registers exist in two main forms: as administrative population data systems (administrative population registers) that can also be used for statistical purposes; and as statistical population data systems (statistical population registers). Statistical population registers are commonly built on the basis of existing administrative population records. Even where statistical registers are constructed on the basis of a census database, an administrative register is needed to enable updating of births and deaths, immigration, emigration and changes in place of residence within a country. Ideally, the statistical population registers should be fully dependent on existing administrative population registers, as commonly practised in the Nordic countries.<sup>7</sup> Administrative and statistical population registers serve distinct functions and differ substantially in their procedures for development and management. In the present paper, the term “population register” is used to refer to administrative population registers.

## **C. Importance of population registers**

5. In its technical study on the methodology and evaluation of population registers and similar systems,<sup>8</sup> the United Nations recognized both the administrative and the statistical value of population registers.

### **1. Administrative functions of a population register**

6. Population registers usually maintain a systematic list of persons (typically residents of the country, but in some cases only citizens) and information pertaining to their civil status. This information enables government bodies to implement and monitor a wide range of public administrative functions, from social security programmes and taxation to voting, education and health planning. For example, a well-maintained register can be used to establish a list of eligible voters in a country, reducing the heavy cost of voter registration. Population registers

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<sup>4</sup> For further details and common features of population registers, see Raj Gautam Mitra, Martin Bratschi and Gloria Mathenge, “Population registers: definitions and conceptual framework”, Knowledge Series 1, Pacific Community, New Caledonia, 2021.

<sup>5</sup> <https://en.wikipedia.org/wiki/Hukou>.

<sup>6</sup> Denmark, Finland, Iceland, Norway and Sweden.

<sup>7</sup> <https://unstats.un.org/unsd/demographic-social/meetings/2021/egm-20211215/hb-reg-phc.pdf>.

<sup>8</sup> ST/STAT/SER.F/15.

also enable the verification of residents' identity records held across different government agencies, which facilitates local-level planning. Registers can serve as the one source of truth about the identity and civil status of residents within the population. They are typically maintained to fulfil a legal requirement that both citizens and foreigners residing in the country should register with local and national authorities.

## **2. Statistical functions of a population register**

7. Population registers are also useful for statistical purposes. They can be used to estimate the size of a population and its sociodemographic structure at a given point in time, together with population change and its various components, including at a small area level. Furthermore, if the system continuously records changes of address, it is the main source of data on migration. Population registers have enabled some countries, such as the Nordic countries, to transition from traditional census methods<sup>9</sup> to fully register-based censuses.<sup>10</sup>

8. The third revision of the *Principles and Recommendations for Population and Housing Censuses*,<sup>11</sup> published by the United Nations, outlines eight preconditions for conducting a register-based census, namely: the existence of a national law providing for the creation of a population register and authority to use the data contained in it for statistical purposes; an established central population register; high-quality data in the population register with comprehensive geographical coverage; an effective system of continuous updating of the population register; harmonized concepts and definitions adopted in the various registers used; a universal personal identification (unique identity) system to facilitate the effective linking of data; and quality and consistency checks to verify the suitability of the data contained in various registers, including the presence of a timestamp to ensure that the location and characteristics of enumerated units relate to the same reference point in time. Recently, there has been an increasing trend around the world towards the establishment of population registers (for administrative and statistical purposes) and the administration of register-based census methods.

## **D. Creating and maintaining a population register**

9. The first step in establishing a population register is to build a stock of the existing resident population. The stock population can be built by using existing databases to consolidate a list of residents and their characteristics or by registering eligible residents through a one-time, mass-registration process such as through a national identification enrolment exercise. Once the stock population has been established, it must be continuously updated using a flow of information on vital events registered in the civil registration system and records of migrations into or out of the country.

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<sup>9</sup> A traditional census involves directly counting all persons and collecting information on their characteristics through self-completion or interview-based questionnaires, either on paper or in electronic format. See the *Guidelines on the Use of Registers and Administrative Data for Population and Housing Censuses* published by the Economic Commission for Europe (ECE/CES/STAT/2018/4).

<sup>10</sup> In a register-based census, data on the numbers and characteristics of the population are derived from information taken from administrative data sources held for non-statistical purposes. No information is collected directly from individual persons or households.

<sup>11</sup> ST/ESA/STAT/SER.M/67/Rev.3.

10. The variables (characteristics of individuals) captured in a population register differ between countries depending on the administrative uses to which the register is put. At the very least, a register contains people's name, sex, date and place (or country) of birth, marital status, personal identification number, citizenship, and habitual address and date of arrival at or departure from that address. The register consolidates this information from the civil registration system and relevant registers that maintain records on in-migration and outmigration.

## **E. Key features of an administrative population register**

11. Population registers provide longitudinal demographic data on the resident population of a country, including complete records of each person's vital and other events such as birth, death, adoption, legitimation, marriage, divorce, change of name, change of residence (within the country, from the country or to the country) and characteristics of these events. To achieve their functions, the registers should be:

(a) Founded on a robust legal and policy framework that outlines specific responsibilities for their management and the context within which they operate;

(b) Mandatory, covering all persons in the resident population;<sup>12</sup>

(c) Permanent in nature, and therefore managed by an entity with sufficient administrative stability;

(d) Continuously updated by being linked to well-functioning base registers – mainly those that collate information on key vital events and migration;

(e) Confidential, with the privacy of personal data protected;

(f) Approved by society and therefore inspiring confidence and trust among members of the public.

## **F. Key requirements for establishing an administrative population register**

12. Establishment of a population register is often a long-term project for a country, as gradual improvements are made to make the register more robust and reliable. Before a population register is established, the following preconditions (also referred to in the figure below as “pillars”) must be met:

(a) There must be a robust legislative and policy framework that facilitates a uniform, coordinated and secure approach to managing records held by registers. In recent years, it has become common for countries to develop comprehensive laws that cover civil registration, the population register and the national identity system;

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<sup>12</sup> The definition of “resident population” varies from one country to another, depending on the proposed use of the population register. The register normally includes citizens and non-citizens who are legal residents of the country; it is not uncommon for citizens living abroad to be included. Individuals residing temporarily in a country are not included in the “resident population”. A minimum period of stay in the country is often specified.

(b) Clear governance and institutional arrangements that should facilitate coordination among key stakeholders. It is notable that an increasing number of countries are reorganizing their identity management frameworks to bring civil registration, population registration and the national identification system under a single State agency or ministry, which is critical to improve the management of the registers;

(c) High-quality base registers are necessary. At the very least, the population register should receive input of livebirths and deaths from the civil registration system and updates on in-migration, out-migration and change of residence from the corresponding registers. Countries in the initial step of establishing a population register can aim to create a basic version, then gradually expand it to include other data elements as they become available, including by meeting the quality requirements set for their inclusion;

(d) A sound technological set-up should be in place so that data can be recorded, linked, processed and stored. Maintaining a fully or partially manual population register is possible, but is difficult to manage, in particular in large jurisdictions and in areas with many administrative regions. Information technology solutions are therefore strongly encouraged;

(e) Universally issued personal or unique identification numbers should be used for the easy, fast and cost-effective linkage of records held within the population register. In most countries, these numbers, referred to as PINs and UINs, are generated by the civil registration system, national identity system or population register to facilitate the unique identification of individuals and individual records for different purposes. The numbers can also be generated by specialized registers and extended for broader uses.<sup>13</sup> The numbers to be used in the population register should be universal, that is, they should cover every member of the resident population.

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<sup>13</sup> One example of this practice is the use of social security numbers in the United States of America. Though initially created to streamline social security support, the numbers now have a much broader range of uses.

## Functional requirements for the establishment of a population register

### Pillar 1: Legislative and policy framework, regulations and rules

- Legislation facilitating a uniform, coordinated and secure approach to the management and maintenance of records held within the register, including linkage

### Pillar 2: Governance and institutional arrangements

- Clear institutional responsibilities, channels of communication and coordination arrangements
- A legislated state authority to oversee, manage, coordinate and supervise its operations

### Pillar 3: Sound technological set-up

- A robust information-technology platform is needed for individual registers supplying data and for the integrated register

### Pillar 4: High-quality data sources

- High-quality base registers (including registers that maintain data on live births, deaths and migration) with universal coverage.

### Pillar 5: Universal unique identification numbers

## G. Case for population registers: a review of their current implementation status and drivers for their development

13. In recent years, there has been a notable increase in the number of countries that have been implementing or looking to implement population registers in different regions of the world. These changes have been sparked, among other factors, by an interest in improving national data frameworks for good governance. Governments aim to streamline public administration and service delivery by uniquely identifying individuals within a population and ensuring that each member of the population can be identified through a single verifiable identity record and credential. Many Governments in Africa are now implementing or looking to implement e-government programmes to achieve this.

14. A second driver for the development of population registers has been the interest by Governments in leveraging existing registers as sources of population statistics. According to global surveys conducted by the Statistics Division in 2009 and 2019, the number of countries using or planning to apply fully register-based approaches in the 2010 and 2020 Rounds of censuses grew from 10 to 16 between the two survey periods, while the total of those using registers and combined methods grew from 25 in the 2010 round to 45 countries in the 2020 round. Although these changes are observed mainly among countries in Asia and Europe, they

provide a picture of the potential evolution of census methods around the world and implicitly highlight the rewards that countries (including those in Africa) can reap by investing in administrative data systems, and most notably in population registers.

## **H. Challenges and opportunities for establishing functional population registers in Africa**

15. As discussed above, civil registration systems constitute one of the primary base registers required for establishing population registers. For well-functioning population registers to be established in Africa, concerted investments are needed, thereby strengthening civil registration systems to ensure that they achieve universal registration at least for births and deaths. According to various reports, Africa is the region of the world with the highest proportion of unregistered births and deaths. According to data published by the United Nations Children's Fund in 2019, sub-Saharan Africa accounts for 57 per cent of all unregistered births worldwide. According to the World Health Organization, registration of deaths lags well behind this figure, at only 10 per cent in Africa (WHO, 2020). This performance tarnishes the vision for the region to reap the potential benefits of this source of administrative data and, by extension, other sources of administrative data that it would feed.

16. The 2030 Agenda for Sustainable Development provides a critical opportunity for civil registration and vital statistics stakeholders to mobilize and advocate greater investment in the establishment of well-functioning civil registration and vital statistics systems. Given the progress made in the development of digital identity systems, including investment in developing state-of-the-art technology, it is evident that countries have opportunities to tap into the resources needed to establish, maintain and modernize civil registration systems, including ensuring that they achieve universal completeness. National statistical offices are urged to play an active role in supporting national efforts to strengthen civil registration systems in recognition of the potential benefits that these systems would bring to the national statistical system, especially in providing robust population data on a continuous basis.

## **I. Conclusion**

17. Developing a population register is a long-term government project requiring conscientious investment, but its benefits can simultaneously be reaped along the way. At its fifty-first session,<sup>14</sup> the Statistical Commission recognized a holistic approach to civil registration, vital statistics and identity management as the only mechanism capable of ensuring universal registration of all vital events, translated into comprehensive fertility and mortality statistics and conferring legal identity on all from birth to death. African countries are making progress in the development of legal identity systems including civil registration systems – a critical foundation for the establishment of population registers. These efforts need to be stepped up, however, given the benefits that the systems inherently provide and their potential to generate much wider benefits for countries as sources of universal administrative and statistical data.

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<sup>14</sup> <https://unstats.un.org/unsd/statcom/52nd-session/documents/2021-18-DemographicStats-E.pdf>.

18. Accordingly, the following steps are recommended:

(a) In line with the recommendations of the Statistical Commission, countries are urged to implement the United Nations Legal Identity agenda as a matter of priority and, in any event, by 2030, thus providing a legal identity for all and crucial statistics for informed decision-making;

(b) Countries are encouraged to explore and invest in opportunities to improve the registration of births and deaths, in particular by leveraging the infrastructure provided by the health sector to capture births and deaths;

(c) In places where a considerable level of completeness has been achieved in vital event registration, countries are encouraged to engage in efforts to implement population registers and to explore their potential for generating demographic statistics.

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