FOR THE CONSOLIDATION OF CIVIL STATUS, LISTS OF ELECTORS AND PROTECTION OF PERSONAL DATA

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FOREWORD

For several years, La Francophonie has been stepping up its efforts to promote the holding of free, fair and transparent elections, responding to the commitments by French-speaking states and governments to make elections a key element for consolidating democracy. However, the results achieved in the management of the electoral process in French-speaking countries must be improved as regards the reliability of the electoral register.
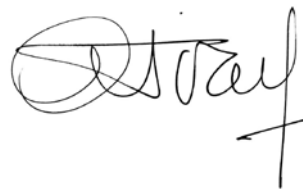
Over the last twenty years, La Francophonie has made numerous observation, information and contact missions in the electoral area, in accordance with the Bamako Declaration. These missions showed that most French-speaking countries, particularly those emerging from crisis, continue to experience serious difficulties identifying and registering voters and compiling lists of electors. These difficulties are partly related to the lack of or mismanagement of civil status registers, which has prevented the drawing up of a list of electors reflecting the entire population of voting-age.

To overcome this major difficulty and combining their institutional competences to consolidate civil status, lists of electors and personal data protection, the International Organisation of La Francophonie (IOF) and its networks are committed to sharing their skills to offer knowledge-based tools on these priority topics. This partnership with three institutional

French-speaking networks has helped identify the issues of civil status when it comes to compiling reliable and transparent lists of electors. This guide also deals with the related issue of personal data protection.

Furthermore, civil registration does not only affect the right to vote, but gives people the right to their own identity and to all the fundamental rights of citizens. Not less than twenty human rights are related to civil registration, including the right to health and to education. To protect these basic rights, La Francophonie has made practical tools available to the institutions and administrations in charge of setting them up and ensuring compliance with them.

Finally, through this practical guide, which is an operational illustration of the principles adopted by the United Nations on civil status, IOF is taking part in discussions at international level to help find joint solutions.

Abdou DIOUF
Secretary General of La Francophonie

PREFACE

In many states, the basis for establishing lists of electors seems uncertain: vital records are generally problematic, not only because they are incomplete or badly organised, but also because of confusion over surnames that are relatively new to some countries. In some cases, there are simply no vital records. In others, the lack of a census has made it difficult to draw up a list of electors.

To deal with the difficulties encountered when drawing up an electoral register and to avoid disputes that could impede the holding of electoral operations, the authorities and governments of some French-speaking states in charge of drawing up and maintaining lists of electors use biometrics. However, the development of these technologies to manage vital records and lists of electors, and to create identity documents has not always been systematically accompanied by an appropriate legal and institutional framework, particularly as regards the protection of personal data gathered when enrolling individuals of voting age. Moreover, a number of southern French-speaking countries committed to or interested in using biometrics on electoral data do not yet have the necessary national expertise to manage this new technology.

This is why the International Organisation of La Francophonie and the institutional networks affected by these issues have drawn up this practical guide to meet these challenges. Thus, with key support from three institutional French-speaking networks – Association francophone des Autorités de protection des données personnelles (AFAPDP), Association du Notariat francophone (ANF) and Réseau des compétences électorales francophones

(RECEF) – IOF has drawn up this guide to better the practice on the consolidation of vital records, lists of electors and personal data protection.

This practical guide is the third book of its kind in the fields of peace, democracy and human rights, and aims to make an effective contribution to the dissemination of knowledge and the exchange of good practices between states. It does not aim to set standards for member states of La Francophonie. Its purpose is to serve as a compilation of best practices within the French-speaking area as regards the consolidation of vital records, lists of electors and personal data protection. The principles set out here constitute recommendations for administrations in charge of civil status, lists of electors and personal data protection, providing them with the essential tools they need to perform their tasks. This is the path favoured in the IOF approach, whose actions support national initiatives.

With this publication which is a result of unprecedented collective institutional efforts, IOF hopes to encourage the promotion and respect of the fundamental rights of citizens arising from civil registration: the right to one's own identity, the right to vote and the guaranteed protection of personal data.

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OVERVIEW

In accordance with the commitments made by La Francophonie in the Bamako Declaration adopted in November 2000 concerning democracy and the rule of law, the International Organisation of La Francophonie (IOF) is focused on the major subject matters of civil status, lists of electors and personal data protection.

The needs in these areas are immense: they are recognised as urgent at continental level, both by the United Nations (UN) and by the African Union (AU). The right to civic identity via a consolidated civil status, the right to vote with the holding of free, fair and transparent elections and the right to personal data protection are all closely linked, the main issues and principles of which are dealt with in this two-part guide: civil registration and the national register of voters and lists of electors.

The aim is to enable each state and government to set up its own consolidation plan for civil status and its own system for managing lists of electors, taking personal data protection into account from the earliest stages. Diverse French-speaking experiences have led to the emergence of common principles, which are reiterated here.

This guide is not a new theoretical reference document for vital records and for managing lists of electors. Its aim is practical, restating the principles adopted by the six UN handbooks on civil registration to which it refers and translating these into practical advice for upgrading or overhauling vital records. The fundamental interaction between vital records and lists of electors is clearly demonstrated here, providing countries with the means to build their own computerised civil registration system and a system for managing lists of electors. This guide offers a methodology for project management which can be used by each country to draw up a national civil status plan and a national register of electors and lists of electors, both of which come under the sovereign competence of the states. It puts into practice the principles on civil status adopted by the United Nations.

To succeed, these projects require the highest level of commitment by each state and a sustainable structure to support them throughout the process from the beginning to the end. This involves establishing a legal framework and setting out clear practices as regards data protection, including an independent oversight mechanism controlled by a data protection authority. This democratic counterweight is necessary to gain the confidence of citizens. Without independent oversight, both before and after the event, and unless individuals can exercise their right to access and rectify their data, protective measures are useless and hence decisions and elections can be contested.

This guide deals with all components of a computerised and centralised civil status system, from needs analysis to roll-out and maintenance.

To draw up consensual lists of electors, the IT concern is the same as for civil status. The conditions for exercising the right to vote and the qualitative defects in lists of electors in French-speaking Africa are often mentioned as a major obstacle to the organisation of free, fair and transparent elections. In the absence of reliable civil registers, many countries conduct electoral censuses before voting to draw up

lists of electors. This process does not help to consolidate or improve the quality of lists of electors.

To make lists of electors more reliable, it is proposed to set up a national register of electors (NRE) based on vital records and other sources of information and to keep it updated on an ongoing basis between polls in order to improve the quality of lists of electors over time. To ensure the success of an NRE, there must be a permanent election management body (EMB) with a department in charge of its administration. Furthermore, it is recommended that a permanent and multiparty board be entrusted with the task of studying particular cases to ensure the transparency of the NRE.

Before an election, it is recommended that the lists of electors be revised to allow electors to validate or modify their entry on the provisional lists of electors. The main aim of this is to update the relationship between electors and their polling location. The EMB then "deduplicates" the register before producing final lists of electors that will be used during voting. Given the sensitivity of electoral data – which is also true for civil status data – a very high level of protection should guarantee the transparent management of files, particularly with centralised computerisation, the corollary being systematic information and remedies for exercising the rights of the individuals concerned.

During a poll, the role of the EMB is to inform electors of the voting rules and the location of their polling station: they must be registered on a list of electors and must identify themselves in accordance with electoral legislation. It is recommended to use the post-election period to improve NRE quality by carrying out a quality assessment and regular updates.

As projects relating to civil status, censuses and the drawing up of lists of electors require significant investment, this guide also provides tools for submitting applications to donors that comply with international requirements and promote long-term development, while respecting human rights and personal data protection.

THE ISSUES AT STAKE AND FUNDAMENTAL PRINCIPLES

THE ISSUES AT STAKE

The purpose of this guide is to put into practice the Bamako Declaration, adopted on 3 November 2000, to honour commitments made concerning democracy and the rule of law, particularly as regards vital records, lists of electors and personal data protection.

Since identity is based on civil status, the right to civic identity requires a sound, comprehensive, interconnected and permanent civil registration system throughout the territory. The consolidation of this system should be an absolute priority, as the African member states of IOF committed to it with the 2020 agenda set at the 2nd Conference of African Ministers in charge of Civil Registration, meeting in Durban in September 2012 under the auspices of the UN.
http://www.uneca.org/en/crmc2

The reliability of lists of electors depends on the upkeep of vital records. To avoid having to use censuses for each election, lists of electors must be drawn through sound, long-term vital records.

French-speaking countries can now benefit from the democratisation of IT technologies and telecommunications networks to insert into national information systems the right to an identity accorded to each human being by the fundamental texts, and particularly to each newborn child. In a computerised world, it is important to protect personal data collected and stored in information systems from the first stage.

Since 2004, Heads of State and Government in La Francophonie have underscored at each summit the importance for each state to adopt rules to protect personal data, to strengthen legal systems and cooperation at both national level (Bucharest, 2006) and international level (Montreux, 2010 and Kinshasa, 2013), taking into account the issues relating to personal data protection:
— political, firstly, because the fundamental right to data protection is indispensable to the operation of a democratic society;
— economic, secondly, because the right to personal data protection is indispensable to the development of a sustainable digital economy.

This is why the right to civic identity, through the consolidation of civil status, the holding of transparent elections with consensual lists of electors and personal data protection are dealt with in this practical guide. The aim here is to break down the complex and continuous cycle of gathering and processing information and data protection into a national plan.

The issues at stake for citizens

Human rights (see Chapter 2) which depend on civil registration include the right to one's own identity, the right of a child to a name and a nationality, the right to marry and the right to own property. Civil registration which is the foundation of the right to identity establishes links between identity and nationality and opens up the exercising of the right to vote.

In its report on *Civil status and democracy* published in July 2013, the Parliamentary Assembly of La Francophonie (PAF) restated that one of its aims is to "*promote democracy, the rule of law and the rights of individuals, particularly within the French-speaking community*". The rapporteur, French senator Michèle André, expressed her wish that civil status, which exists to serve the interests of individuals, should be treated as a priority: "*It is the status of an individual which gives him legal existence and on which his legal life depends. What was true yesterday is no longer true today: it is no longer possible in our world to access one's rights without civil status.*" http://apf.francophonie.org/IMG/pdf/2013_07_session_cap_rapportetatcivil.pdf

While the shortcomings of civil status in Africa have long been underlined by international institutions, the rapporteur maintained that "*institutions or social imperatives often evolve under the influence or effects of scientific progress and civil status is also part of this trend*". The democratisation of networks and IT systems offers the African continent new prospects for updating and consolidating its vital records, for the great benefit of its citizens, provided that these citizens remain at the heart of IT systems.

In the French-speaking countries, recourse to biometrics has become widespread to guarantee the uniqueness of identities. While there are programmes underway to consolidate vital records through the collection and storage of biometric data, a legal framework is necessary to counter the risks associated with the computerisation of files, notably via biometric traces. Because they enable the identification of individuals based on their physical and biological features, biometric devices are extremely sensitive and demand specific attention, especially by the authorities responsible for personal data protection where such exist.

While a new law authorising all organisational modifications linked to computerisation and biometrics is required, a law to protect data must be enacted and an independent oversight board set up. This is in line with the conclusions of the 2012 Kinshasa Summit, where heads of state and government of IOF member states "*reaffirmed their commitment to contribute to building an open, transparent and democratic information society" and "to the adoption of global standards and national legislation defining the principles of effective personal data protection*". Despite the commitments made at previous summits and the development of the digital world, out of seventy-seven French-speaking states, only forty-two, ten of which were African states, had a law on personal data protection by the end of 2013.

The computerisation of vital records is now unavoidable and the validity of biometrics is accepted, especially in electoral matters. But with the specific risks of hacking biometric files, discrimination between citizens, links to other files, exploitation for commercial or political purposes or identity theft, one essential principle should guide each successive phase of the implementation of biometrics: respecting proportionality between the aims pursued and the means deployed.

The issues at stake for the state

Consolidating vital records serves to reinforce public action. The identification of individuals and hence knowledge of the population using public statistics obtained through civil registration policies helps streamline public policies, modernise the state and ensure transparency as regards access to public services.

Vital records as a source of sectoral files are a civil and political issue especially for lists of electors. The list of electors belongs to the category of "population registers" which meets the administrative aims of a state, such as tax collection or procedures relating to the issuing of identity documents. The reliability of population records is a major factor in the efficiency of public action, the first outcome of which is the trust of citizens.

As a recurring difficulty identified by French-speaking electoral missions organised since 1992, the reliability of lists of electors is one of the main recommendations issued by the IOF. Without reliable lists of electors, it is impossible to organise elections that will not be challenged.

Furthermore, at the 2nd Conference of African Ministers in charge for Civil Registration in Durban in September 2012, the participants acknowledged the importance of civil registration systems in promoting the development agenda in Africa, including speeding up the regional integration process, achieving the priorities of the New Partnership for Africa's Development (NEPAD) and the Millennium Development Goals (MDGs). Here the stakes are political and legal stability. The participants committed to drafting policies to reform and upgrade their civil status systems and to integrate them in national development plans and programmes, taking specific national cir-cumstances into account. To this end, they prioritised the drafting of budgeted national action plans to exhaustively evaluate, reform and upgrade current civil status systems with support from the Secretariat of the United Nations Economic Commission for Africa (UNECA) and par-tner organisations.

In a period marked by high growth in Africa, knowledge of population statistics is a strong relay for economic development; and knowledge of the characteristics of the population and of the national market encourages business creation and attracts foreign investment.

THE FUNDAMENTAL PRINCIPLES

Article 6 of the 1948 Universal Declaration of Human Rights states: "*everyone has the right to recognition everywhere as a person before the law*", thus affirming the identity and uniqueness of each individual. The UN Charter and the 1959 Declaration of the Rights of the Child consolidate this universal right to an identity.

Since 2000, La Francophonie has had a normative text on democracy (the Bamako Declaration), the culmination of an unprecedented process involving states, governments, parliamentarians, mayors, experts, academics, representatives of non-governmental organisations, civil society and the media. This declaration established the consolidation of the rule of law as a principle, developing the principles of the Universal Declaration of Human Rights, the holding of free, fair and transparent elections, "*to strengthen the national capacities of all players and institutions involved in the electoral process, with particular attention to establishing reliable civil registries and voters' lists*". http://www2.ohchr.org/english/law/compilation_democracy/oif.htm

The United Nations set out the guiding principles for regulating computerised files containing personal data in 1990 (Resolution No. 45/95).
http://www.un.org/french/documents/view_doc.asp?symbol=A/RES/45/95&TYPE=&referer=/french/&Lang=E

In 1980, the Organisation for Economic Cooperation and Development (OECD) also adopted non-binding guidelines on the protection of privacy and transborder flows of personal data, supplemented by declarations and updated in 2013.
http://www.oecd.org/internet/ieconomy/oecdguidelinesontheprotectionofprivacyandtransborderflowsofpersonaldata.htm

In addition to national laws adopted in forty-one French-speaking countries, there are two European reference texts on data protection:

— The Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data (ETS No. 108) of the Council of Europe (known as Convention 108): adopted on 28 January 1981, Convention 108 is the only binding international text on personal data protection. Non-member states of the Council of Europe may apply to sign up to the Convention. http://www.coe.int/t/dghl/standardsetting/dataprotection/convention_EN.asp
— Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data.
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31995L0046:en:HTML

Lastly, Supplementary Act A/SA 1/01/10 on personal data protection within the Economic Community of West African States (ECOWAS), adopted in February 2010, is the only binding regional instrument in Africa. www.ecowas.int/publications/fr/actes_add_telecoms/SIGNED Personal_Data.pdf

These texts include the main principles of personal data protection for incorporation in a national, regional or international law. They are recognised by data protection authorities and collated in "international standards for personal data protection" adopted in 2009, in Madrid at the 31st International Conference of Data Protection and Privacy Commissioners.
http://www.privacyconference2009.org/media/Publicaciones/common/estandares_resolucion_madrid_en.pdf

Identity, a right enshrined in the UN Universal Declaration of Human Rights (1948)

The identity and uniqueness of the individual

The right of each individual to his own identity, internationally recognised by the Convention on the Rights of the Child approved by the UN on 20 November 1989, stems fundamentally from the birth record of that individual. The right of a child to know its parents and the right not to be discriminated against on grounds of birth, both of which are enshrined in the 1989 Convention, are human rights that are established when the civil registration system operates properly.

This guide illustrates the relationship between civil registration and human rights as established by international declarations and conventions. As civil registration relates to identification – one of the most fundamental contributions of civil registration to the operation of society, it states that human rights cannot be disassociated from this fundamental right and that they in turn depend on civil registration.

Historically, civil status determined the capacity of individuals to act legally as free men and women, citizens and members of a family. At international level, since the adoption of the Universal Declaration of Human Rights, which recognises legal personality and equality and prohibits any form of discrimination based on gender, filiation or marital status, the concept of civil status has evolved. This concept does not only include situations in which individuals may find themselves and which influence their ability to act, but also situations which create specific rights and duties (marital status, relations arising from the links between parent and child).

Citizenship and identification from birth

The state is responsible for establishing who its nationals are and for determining the criteria for attributing, acquiring, losing and re-attributing nationality. At international level, nationality is a fundamental individual right, as stipulated by the Convention on the Rights of the Child approved by the UN on 20 November 1989. Articles 7 and 8 of the Convention make nationality an integral part of the identity of the child by establishing a direct link between the registration of the birth and the right to acquire a nationality. Privately, nationality is an essential element of civil status, in that it determines the other rights and obligations of the individual as regards his links with a particular state.

With the importance of nationality thus established, civil registration is the appropriate instrument for recording nationality, whether arising from birth or acquired subsequently. Registration legislation must regulate the nationality procedures and make it easier to obtain evidence of nationality, which is one of the fundamentals aspects to be recorded in the civil register. This requires qualified staff with wide-ranging powers to legally evaluate the information to be recorded.

The close link between "name" and birth record presupposes that this instrument, on which the identification of persons is based, is recorded inseparably from the birth record.

Any subsequent modifications should also be recorded to ensure and safeguard the necessary checks for identifying individuals. Although the basic rules on surnames are subject to domestic law, the law on civil registration must establish rules concerning the original name to avoid discriminatory situations that could indirectly reveal indeterminate filiation, for example if mandatory references to identity such as parental first names and surnames are missing in the record when a certificate is later requested to obtain the identification document used in a particular country.

Ideally, the law on civil registration should define the general judicial principles applicable to the civil register in each country, to ensure universal coverage of the entire territory and of the different groups making up the population. With this in mind, two basic principles should be used simultaneously:
— Competence is derived from the fact that recorded events relate to the country's nationals, whether resident or not, and regardless of the method by which nationality is acquired, including those holding dual nationality;
— Competence is based on the obligation to record all vital events occurring on national territory, whether they relate to nationals or foreigners.

The right to vote as a fundamental right

The right to vote is the fundamental right on which democracy is based. Article 21 of the Universal Declaration of Human Rights provides that:

— Everyone has the right to take part in the government of his country, directly or through freely chosen representatives;

— Everyone has the right of equal access to public service in his country;

— The will of the people shall be the basis of the authority of government; this will shall be expressed in periodic and genuine elections which shall be by universal and equal suffrage and shall be held by secret vote or by equivalent free voting procedures.

In the French-speaking countries, the Bamako Declaration supplements and expands the principles of the Universal Declaration of Human Rights. Section 4-B sets out commitments for the holding of free, fair and transparent elections. Article 7 in particular requires countries "*to strive to strengthen the national capacities of all players and institutions involved in the electoral process, with particular attention to establishing reliable civil registries and voters' lists*"; and Article 9 requires them "*to guarantee the full participation of citizens in the vote*". Thus, a reliable list of electors is the very foundation for democratic participation of all citizens eligible to vote.

The transparency of the processes used to draw up and update lists of electors is extremely important as it promotes trust in these processes.

The rights and duties of voters

Voting is a fundamental right. However, it also entails conditions and duties for citizens. To exercise their right to vote, citizens must be eligible to vote and ensure that they are on the list of electors of their place of residence.

National statutory texts lay down the conditions that each citizen must meet to be eligible to vote: be a citizen of the country, be of legal age to vote, live in the country, not be deprived of voting rights, etc.

Moreover, to exercise their right to vote, voters must fulfil the various administrative requirements provided for by the electoral law of their country, such as being registered on the list of electors. The registration procedures vary from one country to another. In principle, a voter wishing to register or to change his entry in the list of electors must be able to do this without political interference. Public institutions are responsible for setting up measures to facilitate updates to the lists of electors (registration, rectification, moving from one house to another, striking off) to enable all citizens eligible to vote to take part in democracy by exercising their right to vote.

The «*one voter, one vote*» principle

In some French-speaking countries, there is a lack of consensus on the quality of lists of electors and the fundamental principle of "one voter, one vote" is not always upheld. Thus, lists of electors may contain duplicates which allow voters to vote more than once, or voters may not be registered at all or be registered in the wrong place. This deprives them of their right to vote.

Three indicators are generally used to measure the quality of lists of electors: transparency, coverage and currency.

— The transparency rate indicates the percentage of data that a voter can validate and, where necessary, update in relation to his registration on the electoral list. This criterion ensures the integrity, completeness, traceability, security and appropriate use of data.

— The coverage rate indicates the percentage of voters registered on the lists of electors compared to the total population eligible to vote. This indicator also ensures that no sub-group of the population has been deliberately excluded, therefore guaranteeing that citizens are treated equally.

— The currency rate indicates the percentage of voters registered on lists of electors associated with their place of residence or with the right polling station. Achieving this quality criterion also means entering in full all data required to draw up lists of electors.

The poor quality of lists of electors does not only deprive voters from their democratic rights but could also affect poll results, for example where a sub-group is under- or over-represented depending on their place of residence, age, gender, ethnicity, religion or language.

The conclusions of the seminar on "Biometrics in electoral matters" organised by the IOF and Réseau des compétences électorales francophones (RECEF) (the Francophone Network on Electoral Competences) in Libreville on 6 and 7 December 2012, illustrate the issues of electoral transparency for citizens (http://recef.org/). This seminar took stock of the issues and challenges faced by administrations and bodies in charge of organising elections with a view to improving the reliability of lists of electors and facilitating the holding of free, fair and transparent elections, in line with the commitments of the 2000 Bamako Declaration.

The participants made the following assessments:
a) Although biometrics undoubtedly constitutes progress in identifying people of voting age, it is neither a cure-all, nor is it the only solution to overcoming the obstacles of the organisa-tion, supervision and oversight of elections or to the sustainable management of electoral processes;
b) The use of biometrics in electoral processes appears to be an irreversible phenomenon, despite its cost and the low operational and technical capacities of administrations and bodies in charge of organising elections;
c) The implementation of biometrics in the electoral arena does not sufficiently take specific national features into account.

The following recommendations were drafted at the end of the seminar:
— the implementation of biometrics in the electoral process should go hand in hand with the protection of the rights of individuals, including close monitoring of the use of personal data;
— given the costs related to the implementation of biometrics and the need to develop the capacities of administrations and bodies in charge of organising elections, synergies should be built at national, regional and international level. Furthermore, to ensure national sove-reignty and the acceptance of biometric processes, their financing should be included in the national election budget;
— while the use of biometrics in electoral processes must comply with legal, technical and operational requirements, the actors would gain from endeavouring to instil and/or streng-then the confidence of the population in the electoral process to ensure peaceful elections.

Dynamic population growth, mobile voters and elections anchored on the territory

The management of an election is an event on the territory which requires detailed and efficient logistics.

A number of French-speaking countries, particularly in Sub-Saharan Africa, are experiencing dynamic population growth. They have a high population growth rate and a low median age, generally between 18 and 25. In some cases, conflicts force a large part of the population to move and take up temporary residence in refugee camps, both inside and outside national territory.

The bodies in charge of managing elections which are responsible for drawing up lists of electors must set up mechanisms to ensure that their national register of electors (NRE) are constantly or periodically updated. They must seek as far as possible to include information on voters' place of residence and from this establish the association between voters and their polling centres, to plan for the number and location of polling stations.

The growing importance of personal data protection

The right to personal data protection is a recent right, linked to the development of information and communication technologies. Applicable to all private and public activities, which are increasingly making use of computer and digital tools; it is cross-disciplinary in nature and is now an indispensable part of life. Recording data on individuals and setting up a system to process this data are not trivial matters.

The main objective of the right to personal data protection is to ensure that information systems are used for the benefit of persons and are under their control (not vice versa). In other words, introducing more efficient information means should not involve curtailing freedoms. Adopting a general law on personal data protection amounts to securing the legal and technical environment for processing data on individuals, providing room for prior and ongoing investigation and oversight of the purpose, structure and use of the data processed, analysing security flaws and thus reinforcing transparency and confidence among citizens in information systems and in those who administer them (the "controller" – see below).

Some definitions

➜ What is "personal data" or "information"?

"Personal data" or "information" is information on an identified individual or which can be used to identify an individual directly or indirectly. This concerns information that directly identifies the individual (surname and first name) and information that can be used to indirectly identify an individual. It includes telephone number (which identifies the owner of a telephone line), a car registration number (which refers to the holder of a vehicle registration certificate) or a plot number (which indicates the owner). It also includes elements of the human body such as an individual's fingerprints or DNA. Lastly, it includes all data attached to an individual, for example the number of canteen meals billed to a child's parents.

➜ What is "personal data processing"?

Personal data processing is a very wide concept. It refers to any operation involving data, regardless of the technical process used and includes in particular collection, registration, retention, modification, retrieval, consultation, communication, transfer, combining but also blocking, erasure or destruction. The "data subject" is the person whose data is processed.

➜ Who is the person in charge ("controller") of the right to personal data protection?

The "controller" or "data processor" is the person or body that decides to set up processing, determines its purpose and defines the means implemented. For processing implemented at municipal level, this is the mayor, for processing implemented at national level, the ministry.

There are two components to a law on personal data protection:

– A set of principles relating to the rights and obligations of individuals;

– An institution for implementing the law.

The golden rules of personal data protection

The legal framework for setting up, accessing and monitoring vital records and lists of electors is set out in a number of laws, generally the civil code, the electoral laws and the law on personal data protection.

The consolidation of vital records and lists of electors therefore involves a number of legal texts and institutions, which must be steeped in the laws and culture of personal data protection.

Awareness-raising campaigns must be carried out upstream, when the legislation regarding the creation of public files is adopted or amended. From the start, personal data protection rules must be taken into account and included in the legal measures and the legal texts must systematically refer to personal data protection.

Data protection means the right to determine when, how and to what extent personal data can be communicated. The right to data protection has five golden rules. These are set out in the tables below (sources: international reference texts, national legislation on personal data protection of French-speaking countries).

GOLDEN RULE 1: THE FUNDAMENTAL PRINCIPLES FOR DATA PROCESSING	
These principles are necessary in a democratic society and must be stipulated in clear legislation.	
PURPOSE What is the purpose of the processing? What will the processing be used for?	*What does the law say?* The processing of personal data must be limited to achieving the controller's specific, explicit and legitimate purposes. An example is misuse or misappropriation. The controller must not undertake processing that would be incompatible with the purposes for which the personal data was collected unless the person concerned has given his express, free and informed consent. In other words, data processing serves one or more objectives determined in advance by the controller. The data may not be used for any other reason unless the person concerned has given his prior consent ("express, free and informed consent").
LEGITIMACY AND LEGALITY OF PROCESSING Is the processing legitimate? Does it comply with the law?	What does the law say? Generally speaking, personal data must only be processed in one of the following situations: • After obtaining the express, free and informed consent of the person concerned; • Where the legitimate interest of the controller justifies the processing, unless the legitimate interests, rights and freedoms of the person concerned prevail; • Where processing is necessary to maintain or execute a legal relationship between the controller and the person concerned; • Where processing is necessary to comply with an obligation incumbent on the controller by the applicable national legislation or is conducted by an official authority exercising its powers; • In exceptional circumstances that endanger the life, health or safety of the person concerned or another individual. The controller must set up simple, rapid and effective procedures to enable person concerned to withdraw their consent at any time. These procedures must not lead to undue delays or costs or benefit the controller in any way. Personal data must be processed fairly, in accordance with applicable national law and with the rights and freedoms of individuals, in compliance with the objectives and principles of the Universal Declaration of Human Rights and the International Covenant on Civil and Political Rights. In particular, any data processing leading to illegal or arbitrary discrimination against the person concerned must be considered unlawful.
PROPORTIONALITY Is the quantity of data collected sufficient? Information or data should not be collected "just in case".	*What does the law say?* The processing of personal data must be restricted to adequate, relevant and non-excessive data in relation to the purposes determined (see purpose principle). In particular, the controller must take reasonable steps to restrict the processing of personal data as much as possible.
ACCURACY Is the data collected and processed accurate? How should it be updated to ensure processing quality?	*What does the law say?* The controller must at all times ensure that the personal data is accurate, sufficient and kept up to date so that it meets the purpose for which it is processed.
LIMITED RETENTION PERIOD After how long should data be destroyed or archived?	*What does the law say?* The controller must limit the retention period for processed personal data as much as possible. Thus, where personal data is no longer required to achieve the purposes justifying its processing, it must be deleted or anonymised.

GOLDEN RULE 2: THE RIGHTS OF INDIVIDUALS

The fundamental texts enshrine the rights of individuals whose data is processed ("persons concerned "):
• Access to information on the processing of their data;
• Option to access and rectify their data;
• Option to object to their data being processed.

The aim is to allow individuals to consult their personal information, challenge its accuracy and amend it if necessary.

THE RIGHT TO INFORMATION All individuals have the right to know if information on them has been processed. All controllers responsible for processing are required to inform the relevant individuals.	**Examples of information to be provided:** • the identity of the controller, • the categories of data involved, • the purpose of the information collected, • whether answering questions is mandatory or optional and any consequences of failing to respond, • the information recipients, • the conditions for exercising the recognised rights of the person concerned (right of access, rectification and opposition), • the data retention period, • any data transfers to a third country.	**When?** • Individuals are informed when the data is collected. • For files compiled from data transferred, leased or purchased, data subjects must be informed when the new file is created. **How?** • Posters, • Forms, • Questionnaires, • Mail, • Intranet or internet site, • Through staff representative bodies.
ACCESS RIGHT Upon proof of identity, all individuals have the right to ask the controller if it holds information on them, and, where applicable, to obtain a copy of that information. The right of access is a personal right and no justification is required.	**Examples:** • access to occupational or medical history, • access to data processing located abroad: international cooperation between personal data protection authorities. The person concerned may access information on: • the purpose of the processing, • the category of data recorded, • the origin of the information collected, • the identity of the recipients, • any transfers to third countries. Limits to access rights: excessive requests characterised by their number or repeated or systematic nature. Two access methods: • right of indirect access applicable to files relating to national security, defence and public security in the form of a written request to the data protection authority, • right of direct access by information letter to the company or public service department.	
RIGHT OF OPPOSITION All individuals have the option of refusing to allow their information to be listed in a file for legitimate reasons. All individuals have the right to be informed before their data is initially transferred to third parties or used on behalf of third parties for prospecting purposes.	**Examples:** • the uploading of their contact details or photograph, • Commercial canvassing.	**When?** During collection or at any time by contacting the file controller.

RIGHT TO RECTIFY AND DELETE INFORMATION	All individuals may instruct the data processor to rectify, add, update, block or delete data that is:
	• that is inaccurate or incomplete,
	• that is equivocal,
	• that is obsolete,
	• or the collection, use, communication or retention of which is prohibited.
	In practice:
	• a letter to the relevant body,
	• free of charge (see legitimacy principle),
	• proof of modifications or deletions is the responsibility of the controller, who must notify it to the data subject.
	As regards the right to information, opposition or rectification, there are derogations for public security, national defence and the protection of the fundamental rights of third parties.

GOLDEN RULE 3: THE OBLIGATIONS OF THE DATA PROCESSOR

Defining the responsibility of a controller consists in ensuring that one individual is actively responsible for the data and that appropriate policies and procedures are set up.

The controller must:

• take all necessary steps to comply with the principles and obligations set out in this guide and in the applicable national legislation;

• have internal mechanisms to demonstrate compliance with these principles to person concerned and to supervisory authorities exercising their powers.

The controller must also respect the rights of individuals and be able to respond to individuals wishing to exercise one of their rights.

THE PRINCIPLE OF TRANSPARENCY One of the controller's obligations is to comply with the transparency principle, which consists of communicating the privacy policies and practices of a body by providing information to citizens.	What does the law say? (see also the right to information above)
	Each controller must have a transparent policy regarding the processing of personal data and must provide the following minimum information to the person concerned:
	• on their identity,
	• on the planned purpose of the processing of their personal data,
	• on the recipients to which their personal data will be disclosed,
	• on how to exercise their rights and any other information necessary to ensure the fair processing of the said personal data.
	Any information to be provided to the person concerned must be intelligible and clear and simple language.
	Where personal data is collected directly from the person concerned, the information must be provided at the time of collection (for example, when the individual fills out a data collection form, he must be made aware of who is collecting the data and why, and of his rights), unless this information was provided previously (before filling out the form, the individual was told that his data would be collected, by whom and why). The individual may be invited to check a box containing the following: "I have been made aware of the information regarding the use of my data and the data processor…".
	Where personal data is not directly collected from the data subject, the controller must inform the data subject that it holds his data and how it retrieved them (for example, by purchasing a database from another controller). This information must be provided within a reasonable timeframe. If this compliance measure is impossible or involves a disproportionate effort on the part of the controller (for example, retrieving the contact details for a very large number of person concerned), it may be replaced by alternative measures, such as a statement or information on its website.

GOLDEN RULE 4: SECURITY

Ensuring file security is one of the controller's obligations.

What does the law say?

Any controller responsible for the computer processing of personal data must adopt physical and logical security measures (premises and information systems) that are adapted to the type of data and the risks associated with the processing. For example, sensitive data (e.g. biometric data) or processing valuable data must be protected by more advanced security measures. Some national data protection laws provide for penalties in the event of non-compliance with data safety.

⚒ TOOLS

Guides of the CNIL [the French Data Protection Agency] in France can be viewed at www.cnil.fr/documentation/guides:
The "Safety" guide (2010) and the two "Risk management" guides (2012).

GOLDEN RULE 5: PERSONAL DATA PROTECTION AUTHORITY

To ensure that the principles of personal data protection are applied, an independent supervisory authority must be set up.

Its independence allows it to oversee all processing set up by both private and public actors, for example when vital records and all state services are computerised. It also allows it to be responsive and able to specify the arrangements for applying general principles as practices and technologies evolve. Its decisions may however be challenged before the highest national courts.

Among other tasks, it must be able to handle complaints by individuals (citizens, consumers, etc.) through its powers of investigation, mediation and sanctions, including where the complaints have an international dimension. It has its own budget and its main tasks are as follows:
• informing the persons concerned of their rights and the controllers of their obligations;
• ensuring that processing of personal data is implemented in accordance with the legislative provisions in force.

THE ROLE OF ADVISE AND INFORMATION	The personal data protection authority may advise and inform individuals and bodies planning to create computer files, by telephone, mail or through its publications. It also handles complaints of non-compliance with the law.
MONITORING COMPLIANCE OF FILES WITH THE LAW	Before files are created, the personal data protection authority verifies that the processing features are in compliance with the law and, where its founding legislation so provides, authorises the implementation of processing which, under the terms of the legislation, requires particular attention due to its contents or purpose. This includes, for example, the processing of sensitive or political material. It has a supervisory power enabling its members and agents to access all business premises. On the spot, they may request and make a copy of any necessary document, collect any useful information and access computer programs and data. In all cases, the legislation must provide a range of measures to ensure the independence, powers and functions specific to the personal data protection authority to enable it to properly carry out its tasks. This must be supplemented by appropriate implementation and sanction mechanisms. The personal data protection authority thus becomes a democratic counterweight to regain the trust of citizens and voters.

Project management, a perilous exercise

Project management approaches

Project management aims to organise the successful execution of a project from end to end. Experience shows that without a systemic approach, any structural project such as vital records or lists of electors is destined to fail. The project may be part of a more complex whole, often referred to as a programme. In this case, the programme covers all components leading to the final outcome in all its dimensions: legal, organisational, IT, technical, staff training, logistics and communication.

📖 RULES

A national project or programme is multi-dimensional. It combines five aspects:
- functional: meeting a need;
- technical: complying with specifications and implementation constraints;
- organisational: taking into account the traditional operating mode (roles, functions, culture, resistance to change) of the target structure and incentivising change;
- temporal: complying with deadlines;
- financial: staying within the budget.

These five aspects make up the acronym "SMART" which stands for specific, measurable, achievable, realistic and temporal.

A global project can be broken down into batches or sub-projects to form subsets that are less complex to deal with. Breaking a project down into subsets is essential to leading the project and thus to ensuring its success. It also facilitates planning. A project or programme director is put in charge of leading the project. This controller reports to a steering committee.

☛ EFFECTIVE PRACTICES

The psycho-sociological aspect of managing a project team is generally broken down into five successive phases:
- an observation phase, when the team members meet;
- a cohesion phase for building a close-knit team;
- a differentiation phase, capitalising on the differences between team members;
- an organisational phase, using traditional project management techniques to formalise resource management, plan and control risk;
- a production phase describing how the team effectively works.

The unfolding and steering of the project

📖 RULES

Project implementation includes the following different "macro-phases":
• project launch;
• setting up the project infrastructure (organisation) and monitoring tools (KPIs, agenda, project reviews);
• executing the project (pilot project followed by roll-out);
• oversight/monitoring;
• project closure.

The various tools (KPIs, risk management, agenda, project reviews) required to manage the project throughout its life cycle must be in place as soon as the project is launched to ensure success or advocate that it be abandoned, where appropriate.

The agenda or schedule is a tool for monitoring project progress, determining priority allocation of human and financial resources, anticipating any measures required to comply with various milestones, in particular through critical path analysis, and the resources available.

Key performance indicators (KPIs) are set up to categorise project risk levels, monitor developments and any risks arising during project execution to determine measures to control risks.

Deadline and budget overruns are problems often encountered in project management. According to a July 2011 study of the Gartner Group, *Risk Management Key Initiative Overview* (by Paul Proctor and Dan Blum) only one project in five complies with its deadlines and budgets, and three quarters do not comply with their original concepts. The reasons for failure are multiple: incomplete or inaccurate frameworks or specifications, under-estimated costs and deadlines, unforeseen technical difficulties, lack of resources and of coordination. Hofstadter's law regarding the difficulty of accurately estimating the time it will take to complete tasks of substantial complexity is an empirical law on the difficulty of planning in the field of research and development. Regarding software development management in particular, it states that a project "*always takes longer than you expect, even when you take into account Hofstadter's law*".

Neglecting the importance of communication around a project is a major error: communication is essential, on all media and at all stages, especially for structural projects such as civil status or elections, which concern a country's entire population.

⚒ TOOLS

Sequence of project stages:
- Identifying actors and their roles as well as types of user services;
- Conducting a preliminary study to obtain an overview of the current situation and of the need for change;
- Conducting a detailed study to determine project scope and terms of reference;
- Drafting functional performance specifications with regional and international experts (using a template) and integrating these when drawing up the data protection principles;
- Estimating costs (external consultants) over the entire project duration;
- Securing funding over time for investment and operations;
- Initiating procurement procedures using international calls for tender, preferably restricted;
- Allocating and differentiating job lots between the general contractor and assistance for the project owner;
- Organising detailed functional performance specifications workshops with the general contractor retained;
- Validating all software developments with users;
- Experimenting before full roll-out: launching a pilot programme that represents the country's situation (geography, population type) and carrying out a preliminary evaluation.

Project management software tools

There are many project management software packages on the market, some of which are open-source. They facilitate work and automate back-up and time management tasks. For example, version or configuration management systems log the different stages of a project and record the different modification dates.

Some project management software packages are dedicated to planning, i.e. scheduling tasks for subsequent execution. A number of methods are used, for example: PERT (Project Evaluation and Review Technique) with critical path determination, or PDM (Precedence Diagram Method) used by most planning software packages.

An interesting alternative to these conventional methods has emerged in recent years: some project management software packages focus on monitoring results (management in terms of deliverables), to identify risks upstream (budget or deadline overruns), to secure projects. The main methods used are:

— operational monitoring (using KPIs to compare actual progress made in relation to

forecasts);— tools which permit to focus on a deep data analysis;

— automation of reports, available in due time;

— sharing information between employees to improve synchronisation of actors.

☞ EFFECTIVE PRACTICES

Just as the general contractor has project management tools, the project owner should also have tools, preferably with management in terms of deliverables.

✖ LES OUTILS

Where to find information

Set up in 1982, the Association francophone de management de projet brings together professionals: practitioners, consultants, trainers, researchers and students. As member of the International Cost Engineering Council (ICEC), the Réseau des associations professionnelles francophones (RAPF) and the Réseau normalisation et Francophonie (RNF), it carries out and supports all initiatives (exchanges, conferences, repositories) to ensure project success.
www.afitep.org
www.afitep.fr

CIVIL REGISTRATION

CONTEXT

The UN defines civil registration as "*the continuous, permanent, compulsory and universal recording of the occurrence and characteristics of vital events pertaining to the population as provided through decree or regulation in accordance with the legal requirements of a country*".

Civil registration has two purposes: administrative and legal on the one hand and statistical, demographic and epidemiological on the other.

Vital statistics are used to take accurate, up-to-date measurements of population trends and to study and analyse the demographic trends in a country. They provide fundamental data for the healthcare sector for implementing healthcare programmes or carrying out epidemiological studies. Measuring and monitoring most indicators of the Millennium Development Goals requires the ongoing and timely provision of statistical data on civil status.

When a civil registration and vital statistics system operates normally, it is a precious source of information. It allows constant and ongoing use of data collected only once when vital events and their characteristics are recorded using a registration method that complies with UN recommendations, as set out in the "Principles and recommendations for a national vital statistics system".

The vital records of a country form a coherent set and cannot be reduced to a collection of distinct and separate records, each with their own logical system and with different aims: they represent the people of which they are a summary and far exceed the framework of civil administration.

Vital records provide the foundation for identity, a concept which may vary from country to country and from culture to culture. A country's vital records must reflect the profound conception of individual and collective identity of the people or peoples that comprise it. Far from being a collection of records, civil status represents a collective view of the world of which the records are merely the concrete manifestation.

📖 RULES

UN principles for civil registration:
- principle of legality;
- protecting the interests of individuals;
- principle of official and mandatory nature;
- principle of simplification for citizens;
- principle of a free service.

Human rights that depend on civil registration:
- the right to one's own identity;
- the right of the child to know his own parents;
- the right to non-discrimination by reason of birth;
- the right of the child to a name;
- the right of the child to a nationality;
- the right to health;
- the right of the family to protection;
- the rights of juvenile delinquents;
- the right to education;
- the right to maintenance and protection;
- the right to marry;
- the right of minors to protection against under-age marriage;
- the right of minors to protection against forced marriage;
- the right to food;
- the right to clothing;
- the right to housing;
- the right to work (to employment);
- the right to own property;
- the right to inherit;
- the right to migrate;
- the right to social security;
- the right of spouses to custody of the children;
- the right to vote and to be voted.

Civil registration in Africa today

In Africa, modern civil registration was introduced by colonial administrations in the 19th century and in the early 20th century. It has always been difficult to achieve complete and exhaustive vital records. However, in recent years, some countries have had some success registering births, but this success has unfortunately been undermined by political unrest. Other countries have recently launched a national programme based on biometrics to completely overhaul civil registration. Despite these initiatives, according to the UN, since the publication of its procedural handbooks in the late 1990s, civil status in Africa, particularly in French-speaking countries, is in a critical situation, impeding development, and a new continent-wide programme is needed.

The United Nations note that even in major urban centres where civil registration is coherent, with records produced and archives classified, it suffers from lack of resources, inappropriate

administrative practices, due to lack of training among officials in charge of drawing up records, and lack of oversight of civil registrars, who have signing authority, and who are often taken up with other tasks.

Apart from the fact that it can cause the nullity of records, such practices lead to manipulation and inappropriate processing, resulting in skewed data, which could be voluntary or otherwise. They generate multiple falsifications and impersonations in all administrative actions of citizens and the drafting of their acts during their lifetime.

Regional initiatives

In most African countries, the initiatives and attempts already undertaken to improve civil registration and vital statistics systems are mainly one-off projects or campaigns run by isolated institutions. As civil status systems are perceived as defective, initiatives made in the region have mainly been aimed at obtaining demographic statistics on a regular basis.

A number of initiatives were undertaken following the publication of six handbooks in the late 1990s and early 2000s by the United Nations, but the participation of and contribution from regional organisations such as the Economic Commission for Africa (UNECA), the African Development Bank Group (AfDB) and the African Union Commission (AUC) have not been sufficient to launch the process across the continent.

Civil status and citizenship are sovereign matters but NGOs and international institutions can provide synergies to assist states, along with support from international organisations such as the United Nations Statistics Division, the United Nations Population Fund (UNFPA) and the World Health Organization (WHO). The United Nations Children's Fund (UNICEF) has looked at the issue from the perspective of children's rights and has mainly been involved in birth registration, where it has had considerable success, particularly in large-scale operations to register "phantom children", the fifty million children worldwide with no vital records, mainly in Africa and Asia, according to UNICEF statistics.

The Association du notariat francophone (ANF) has launched a measure aimed at issuing birth records to African children who do not have one. To this end, it has drawn up a programme based on forging partnerships and setting up a concrete strategy on the ground to issue birth records in rural areas and disadvantaged districts in major African cities.

> ⚒ TOOLS
>
> The six handbooks on the civil registration and vital statistics systems published by the UN:
> - Preparation of a Legal Framework;
> - Management and Maintenance;
> - Computerization;
> - Training;
> - Developing Information, Education and Communication;
> - Policies and Protocols for the Release and Archiving of Individual Records.
>
> http://unstats.un.org/unsd/pubs/gesgrid.asp?mysearch=demographicpopulation

The African Programme 2010-2015

Contrary to previous isolated practices, the Africa Program for Accelerated Improvement of Civil Registration and Vital Statistics (APAI - CRVS) adopted at the 1st Conference of African Ministers in charge of Civil Registration held in 2010 in Addis-Ababa should help countries monitor civil registration over the period from 2010 to 2015. It is now the main civil registration programme in Africa, helping countries to set up complete, efficient systems.

Meeting in September 2012 in Durban, South Africa for their second conference, following a meeting of international experts, the African ministers in charge of civil registration formally recognised the importance of civil registration as a sovereign activity of the state, with direct implications for security, public policy, governance, planning and the development of monitoring and evaluation systems. In this regard, in the final conference statement, the ministers established civil registration as a priority for the regional political agenda and adopted measures to reform and improve civil registration and vital statistics systems (CRVS).

They recognise the importance of CRVS systems to promote the development agenda in Africa, including speeding up the regional integration process, achieving the priorities of the New Partnership for Africa's Development and the Millennium Development Goals. The ministers undertook to:
— adopt legislation and formulate policies to guarantee the timely and mandatory registration of all vital events in their countries, and to provide equitable access to CRVS systems to all individuals, regardless of nationality or legal status;
— to this end, continue efforts to revise and update the legislation on civil status and statistics in their respective countries, in compliance with regional and international directives and standards, and taking into account changes in requirements and innovations;
— adopt appropriate technologies to speed up civil registration, civil status information management and protect these against natural catastrophes and civil wars;
— give greater priority to CRVS systems and allocate adequate human and financial resources for the day-to-day running of CRVS systems in their countries, including implementing national action plans to ensure their sustainability and acceptance in their respective countries;
— set up high-level coordination mechanisms involving all stakeholders to ensure the efficient operation of CRVS systems and taking into account the multi-sectoral and integrated character of civil registration services;
— ensure coherence between health information and management systems and CRVS systems and integrate these in national statistics development strategies;

— continue to step up and facilitate coordination between national statistics institutes and structures in charge of civil registration in managing and monitoring challenges related to CRVS systems;

— continue to take measures to improve the availability and accessibility of civil registration services by decentralising services at local level through existing structures and networks, particularly in healthcare structures.

One particular recommendation is that to improve the provision of services to citizens, African countries should:

— persevere with their endeavours to set up civil status systems to record all vital events occurring on their territory irrespective of nationality or legal status and issue the appropriate certificates and documents free of charge;

— ensure that the entire population has effective access to registration services by reducing the cost of access as much as possible and ensuring that this cost does not vary significantly within and between geographic regions;

— decentralise civil status by setting up CRVS offices and services in districts, townships, villages, refugee camps and other special population groups, to ensure full coverage of the population and enable rural and marginalised populations to access civil status systems, including through the setting up of mobile registration teams.

To meet the needs of marginalised population groups, African countries should:

— promote the registration of the most vulnerable children, such as street children, children at risk and children placed in institutions, to whom a birth record would provide the necessary protection;

— enact or update legislation and implement policies relating to the registration of vital events so as to ensure timely and mandatory registration of all refugee children, including returnees and internally displaced persons on national territory;

— include the nationality of origin when registering the vital events of refugees.

To raise awareness among the population, African countries should:

— continue to step up campaigns to raise awareness of CRVS systems at national and local level, using all media, and particularly the education and health systems in rural environments, and in all the country's local languages;

— raise awareness of the importance of civil registration among parliamentarians, and the judicial and executive authorities and, if necessary, set up a parliamentary committee on CRVS to monitor civil registration activities and allocate adequate funding.

SETTING UP A NATIONAL PLAN

A civil registration system is necessary to protect the fundamental rights of the individual to a social status and to individual benefits. The system establishes identity, citizenship, parental relationships and the capacity to inherit, and provides information on eligibility for welfare benefits and various rights relating to age, such as starting school, the right to work and driving licence.

As a universal registration system, the civil registration system safeguards these rights for the entire resident population. Combined with a national statistics system, it can be used in some countries to identify the causes of death and identify individual needs, such as maternal and child healthcare.

This guide should be developed into a national plan, adapted to the demographic, cultural and geographic realities of each country. It is not a new reference guide to civil status. Its aim is practical, restating the principles adopted by the six UN handbooks on civil registration and putting these into practical suggestions for upgrading or overhauling vital records.

This guide addresses the need for states to have a computerised civil registration system. It proposes a project management template that can be adapted as needed by each country into a national plan, as civil status comes under the sovereign competence of states.

A national plan

☛ EFFECTIVE PRACTICES

The initiatives listed below for starting up a national civil registration system should be carried out before the computerisation phase:
- consult the UN handbooks;
- assess the status of the country's civil registration system;
- organise workshops and seminars to share assessment feedback;
- consult the main stakeholders and partners;
- define the roles of the various stakeholders and partners;
- set up a technical working group;
- define the concepts of the contents of the operational model and processes;
- interface the operational handbook with a training handbook;
- draw up a plan for transiting to a computerised system;
- seek and guarantee sustainable funding.

TIMETABLE FOR STARTING UP A NATIONAL CIVIL REGISTRATION PLAN												
ACTIONS	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
Consult the UN handbooks	▮	▮										
Assess the status of the civil registration system	▮	▮	▮									
Organise workshops and seminars to share assessment feedback				▮								
Consult the main participants and partners	▮	▮	▮									
Define the roles of the various participants and partners					▮	▮						
Set up a technical working group							▮					
Define the concepts of the contents of the operational model and processes								▮	▮			
Interface the operational handbook with a training handbook									▮	▮		
Draw up a plan for transitioning to a computerised system										▮	▮	▮
Seek sustainable funding						▮	▮	▮	▮	▮	▮	▮
M = month												

These practical proposals raise questions before changes can be implemented. One of the features of a civil registration system as provided by the UN template is the setting up of a central, national database, with an identifying number for each citizen and where all vital events occurring nationwide are recorded, in an environment where documentary evidence is fragile. Thus, civil status does not only fall within the competence of the council but also has a central dimension. This entails local management combined with centralisation.

Access of all local offices to the central system represents a considerable simplification of existing processes which will greatly benefit citizens, because a vital event can now be registered at any point in the territory by a local official near where the event took place, with no need for complicated exchanges between the town hall of the place of birth, as is most often the case.

This is a major change with far-reaching consequences that must be fully apprehended. Reorganisation will give rise to numerous questions, the answers to which should be dealt with in the detailed study included in the national plan.

⚒ TOOLS

Questions to ask before reorganising
- What entity is responsible for managing the national database?
- Should the concept of "civil registers" be retained?
- Should paper records and registers continue to be issued?
- What are the geographic limits to a civil registrar's powers?
- Who should sign the certificates?
- power to sign: should delegation of signature be envisaged?
- What are the specific features of the civil status file compared to other central files?
- Should vital records be consolidated or overhauled?

➜ Which entity is responsible for managing the national database?

The first question is to identify which administrative and legal entity is responsible for managing the database set up. Most often, this is the Ministry of Justice, controller of vital records, or the Ministry of the Interior. Another independent entity may also be envisaged where appropriate. In all cases, independent oversight is provided by a personal data protection authority.

➜ Should the concept of "civil registers" be maintained?

Most often, hard-copy civil status registers are opened each year by the civil court and closed by the civil registrar. Where civil status is purely electronic, a paper record is no longer mandatory. How can the statutory procedures for opening and closing registers be maintained? If paper records are to be eliminated over time, events should be numbered at national level to ensure coherence and avoid fraud by insertion (currently, events are as a general rule numbered in incremental annual series for each local registry office).

➜ Should certificates and registers continue to be recorded on paper?

Whatever the shortcomings and weaknesses of the management of African vital records on paper, the tradition of drawing up administrative documents relating to civil status on paper is well established in local administration. It has been in constant use since the start of the administrative existence of African countries which adopted this colonial legacy after independence. Nowadays, "virtual" civil status has no legal reality and its implementation risks bringing more disorder than progress in this area. Thus, a paper copy remains the sole material and concrete proof of a record. Paper civil status records must be retained at least partially, even if they can in theory be dispensed with following computerisation.

To print out records, tangible proof of registration must be given to those declaring the birth or death or to those wishing to be married. This proof must be drawn up and signed by the registrar. Thus, records will continue to be printed out on a systematic basis.

Local registry offices will also in all likelihood not be able to dispense with hard copy for records they draw up or transcribe. Hard copy represents for officials a secure method for recording changes and print-outs of documents; enabling them to ensure continuity of service with local outposts should communications with the central site be disrupted. To ensure continuity of service, measures should be taken to provide for the temporary storage of computer-based registrations locally, to overcome network disruptions.

➜ What are the geographical limits to a civil registrar's powers?

A national system requires national competence covering the entire territory. This gives rise to the question of how to define the geographic limits of civil registrars' powers in the new system. With such a major change, it will make sense not to disrupt the authority's powers. Municipal civil registrars must remain the reference authority, as they meet the proximity requirement.

However, a national database has consequences on the exercising of authority: a notation (of recognition, denial of paternity, marriage, divorce or death) made on a birth record that is within the competence of a municipal official is recorded in a central file by an authority at the location where the record was drawn up. The civil registrar of the town hall of the place of birth is no longer required to sign the record, whereas the legal value of the record is currently founded on his signature.

➜ Who should sign the certificates?

A signature is essential for vital records. It is the basis for the legal validity of the record. An unsigned record has no value. The record draws its legal value from two conditions: it must be

signed and the signing authority must be duly authorised. It could be the civil registrar or his duly authorised representative. Once records have been digitised, a medium of signature must be envisaged. A number of options are possible:

— Records may be validated by electronic signature, held exclusively by the registrar and potentially by delegated officials. This entails setting up an electronic directory of persons authorised to sign and a public key infrastructure (PKI), with strict management of cancellations and revocations.

— Records printed on paper and signed by hand may also be scanned and the scan associated with the electronic file of the record.

The two solutions above may be used together.

➜ Power to sign: should delegation of signature be envisaged?

The answer to this is clearly "yes" as many difficulties encountered today are due to the lack of availability of the signing official. There is a strong case for delegating signing authority permanently and irrevocably, using an electronic directory to manage authorisations. On this issue, the 2012 Durban Conference recommended that African countries should "*enact new legislation on electronic signatures to facilitate online signing of documents and authentication of electronic transactions and registers relating to CRVS*".

➜ What are the specificities of a civil status file compared to other central files?

Whether created on an ad hoc basis or by global civil status census, the civil status file serves various purposes for the state over time but the rules for data exchange must be clearly defined.

This leads to the question of whether the civil status file should be distinct from the central citizens' file or if one and the same file should be used. Apart from the initial investment costs, there are few arguments in favour of using just one file. In contrast, there are many advantages to a separate civil status file:

— civil status meets particular legislative and regulatory obligations and should remain legally isolated;

— a separate, sealed civil status file will not be contaminated by other sources which may need to connect to the central file of the citizens;

— Such a central file which is accessible to authorised officials of various administrations, including not civil status officials, but also those working in healthcare or education sectors. The contrary must not be allowed to happen. There must be a one-way relationship between the civil status server, which provides data, and the central citizens' file receiving the data, if there is one. Separating the two allows each to play its role without interfering in the other's, as vital events must not be contaminated by external data.

— Last but not least, separating the files is an elementary legal principle to ensure citizens' data is protected.

➜ Should vital records be consolidated or overhauled?

This is a fundamental question because it determines whether existing vital records can be used as it is and improved through computerisation. Observations by international institutions regar-ding the rate of civil registration do not advocate proceeding with the current registers alone.

Moreover, observations of experts on the field show that there is a significant difference between the actual and potential registration rate. In fact, an announced rate of registrations of 80% is about 50% in reality. This distortion is mainly due to poor storage quality: paper records are illegible,

destroyed by humidity or eaten by insects. It is generally noticed among other things that individuals often have incomplete vital records. Even if their birth is registered, their marriage rarely is, for multiple reasons but mainly due to the fact that a marriage celebrated in municipality A must be recorded in municipality B and C where the spouses were born. As for deaths and court rulings (divorce, adoption, annulment, judicial separation, recognition, legitimation), their registration rates are so low that consolidating existing records would be a fiction.

The result is that most countries opting to upgrade civil registration perform an initial global census based on biometrics to guarantee the uniqueness of individuals. The authorities then collate the data with all usable paper documents and validate registrations of previously "invisible" populations via the usual legal procedures, such as supplementary rulings.

Civil status is a matter of national sovereignty. Therefore this practical guide cannot make decisions in lieu of the authorities of each country. After taking stock of the existing situation, the authorities can choose to consolidate existing data or to overhaul the system via global census.

Ensuring effective personal data protection

Effective personal data protection unavoidably means taking this issue into account upstream. This empowers and raises awareness among all projects stakeholders from the earliest stages but also saves time and money because the issue is taken into account from the conception stage of new projects.

One of the methods used to take account of personal data protection upstream is privacy by design (PBD), developed by a team of specialists in Ontario, Canada, and now a global benchmark. This method has been codified into seven principles, set out in a resolution at the 32nd International conference of data protection and privacy commissioners in Jerusalem, Israel in October 2010 (www.privacybydesign.ca). They are described below.

1. Proactive not Reactive; Preventive not Remedial

Concretely, this means anticipating and preventing invasions of privacy before they happen. PBD does not wait for risks to privacy to manifest themselves. It does not offer any solution to solve invasions of privacy that have already happened. PBD operates before, not after such incidents.

2. Privacy as the Default Setting

PBD is implicit. It aims to protect privacy as much as possible by ensuring that personal information is systematically protected within IT systems and by the internal practices of organisations. Consequently, the privacy of an individual is protected even if he says nothing, does nothing, because privacy protection is implicitly integrated in the system.

3. Privacy Embedded into Design

PBD is embedded in the design and architecture of IT systems and organisational practices; it is not an add-on. Privacy protection is a key element of the basic functionalities from the design stage. It is an integral part of the functional design of the system.

4. Full Functionality - Positive-Sum, not Zero-Sum

PBD aims to take account of all legitimate relevant interests and objectives using a positive-sum paradigm rather than an outdated zero-sum approach, which requires needless compromise.

PBD goes beyond false dichotomies, for example that between privacy protection and security, showing that it is actually possible to achieve both these objectives.

5. End-to-End Security - Full Lifecycle Protection

When PBD is embedded in the system before data collection starts, it is maintained and secured throughout the retention period, security measures that are essential to protecting privacy are implemented from end to end. This ensures secure data retention followed by secure destruction afterwards. PBD thus provides embedded, secure, end-to-end management of information throughout the retention period.

6. Visibility and Transparency – Keep it Open

Thanks to PBD, all those involved are assured that regardless of the technologies used, the system works as promised and in line with its aims, subject to independent verification. The elements and operation of the system remain visible and transparent for both users and providers. Independent verification establishes a climate of trust.

7. Respect for User Privacy – Keep it User-Centric

Above all, PBD requires designers and users to put individuals' interests first by setting up strict and implicit privacy protection measures, appropriate requirements regarding notices and empowering, user-friendly functions.

DRAFTING APPROPRIATE LEGISLATION

📖 RULES

• The law on civil status must be in accordance with the Constitution, but it must not be so detailed that it impedes future administrative adjustments in the form of regulations.
• The civil registration law must provide clear direction on the type of organisation adopted for the civil registration system in the country.
• The draft law on civil status proposed by the United Nations in its handbook on setting up a legal framework is tailored to a centralised administrative system but the same functions and procedures can also be applied to a decentralised structure.
• Detailed and comprehensive legislation should guarantee the continuity, permanence, universal coverage and mandatory nature of the civil registration system.

Drafting legislation and directives

The type of organisation must be compatible with the living conditions in the country and with existing government structures to increase the chances of successful implementation.

Civil registration may be centralised or decentralised. A centralised registration system must:

— facilitate the adoption of a standardised legal framework for all subdivisions of civil registration;
— facilitate the interpretation of standards and regulations;
— enable the adoption of forms and procedures across the country;
— allow direct control to be exercised over the system;
— improve the quality of research work based on civil status registers using standardised archiving techniques;
— facilitate training and technical assistance at local level;
— provide centralised back-up for records drawn up locally.

A centralised civil registration system may consist of a single body for civil registration and drawing up civil status statistics, or there may be several administrative agencies for each function.

Countries with a federal political system, a large territory or large population may benefit from opting for decentralised administration.

Decentralised administration means that civil registration is handled at provincial or regional level. There are two main models for a decentralised system:

— in the first, a regional administration handles both civil registration and the establishment of vital statistics;
— in the second, multi-level regional administration handles civil registration while vital statistics are handled at federal or federated level.

Definition of standards

The civil registration system has three main functions:
- — legal function (registering the events which are at the source of civil status);
- — statistics function (collecting data on these events to compile demographic statistics);
- — collaborative function (cooperation with other public entities to serve the population).

🛠 TOOLS

What functions should be described by the law on civil registration?
- General provisions: aims and obligatory nature
- Organisational structure
- The principles of nationality and territoriality to ensure total coverage of vital records
- Registration mechanisms
- Specific procedures for recording births, marriages, divorces, deaths, fœtal deaths, etc.
- Responsibility as regards retention, storage, research and protection of civil status records
- The coordination functions of the Director General
- Procedures for rectifying and amending civil status records
- Techniques for issuing certified copies
- Provisions for an administrative civil status system
- Procedures for drawing up statistical records.
- Responsibilities and penalties for registration staff and official authorities that are in breach of the law.
- The method of financing the system
- The modalities for the law's entry into force

Legal pitfalls

🛠 TOOLS

The pitfalls in terms of content to avoid are:
- failure to report a birth;
- multiple declarations of the same birth;
- exceeded time limit for birth declaration;
- failure to register marginal inscriptions on birth certificates;
- failure to report a death;
- false declarations.

Analysis of the causes of all these pitfalls will enable appropriate organisational responses in the consolidation project.

➜ absence of birth declaration
The United Nations and the WHO have observed that a section of the African population has no birth record. Consequently, these individuals have no legal existence and so cannot obtain any administrative documents or benefit from rights and services provided by the state to its citizens.

➜ Multiple declarations of the same birth

The practice where both the mother and another relative report a birth sometimes leads to the same birth being reported several times at different locations and with the risk of patronymic confusion insofar as each person declaring may give the child different names.

This situation, where the different identities attributed to the same individual cannot be cross-referenced, makes it impossible to manually detect and eliminate duplications of civil status. This practice means that identity documents could be issued under several patronyms to the same person. This means that such citizens may have multiple documents and records (multiple land purchases, use of borrowed names, aggravated by the fact that their identity is false).

➜ Exceeding time limit for birth declaration

Regulations usually require births to be reported within a short period. Because maternity systems are overloaded, many families cannot obtain the declaration of birth within the prescribed period. Drawn up by the attendant at birth, generally the attending physician or midwife, this document is required to draw up the birth record. In practice, maternity departments only issue this regulatory document once the childbirth costs have been paid. This amounts to blackmail that is prejudicial to families and more especially to newborns. Even where costs have been duly paid, some families cannot obtain the document due to hospital overcrowding. Persons concerned must apply to the courts to obtain a declaratory judgment, leading to additional costs and significant delays.

Furthermore, the declaration period is often too short to properly manage the vital records of citizens. This period should be adapted to the geographical and cultural context. For example, if parents are obliged to respect the customary practices in the naming of newborns, it may not be possible to reunite the family within the prescribed period.

Administrative procedures should also be simplified. Thus, one of the parents could simply proceed to report the birth to the civil registration services, with a document dated and signed by a doctor certifying the existence and containing details about the newborn child. This solution is sufficient, simple and frees families from the constraints of birth certificates in hospitals and maternity clinics.

➜ Failure to register marginal inscriptions on birth certificates

Given their effects on the status of individuals, all events subsequent to the birth record must be registered with the civil registration services, without a deadline. The civil registration services must ensure that subsequent events – marriage, divorce, adoption, recognition, legitima-tion, death – are recorded as soon as possible on the birth record of the individual concerned. Only if this condition is met will the country's vital records be valid. However, inscriptions of new information are particularly random in their recording, if any. One of the objectives of this guide is to help increase the recording of new information on birth records and to make these immediate, thus meeting the conditions of comprehensiveness and completeness (see the section on computerisation).

➜ Absence of death declarations

The United Nations has observed that many deaths are not recorded, as is the case with births. Failure to report the death of an individual can have many negative effects, such as the undue appropriation of the goods and chattels of the deceased individual or the fraudulent use of their identity and travel documents.

This poses the question of the personal or legal capacity of those reporting a death and the provision of supporting documents to record a death, in particular the death certificate signed by a doctor. There is also the question of the mourning period for the surviving spouse and the traditional prohibition on travel that may be imposed on him or her. There should be a legal obligation for the surviving spouse to be present when registering the death with the civil registration services to prevent families from seizing assets. No legal instrument or notarial deed should be drawn up without the surviving spouse being present and the handing over, *intuitu personæ*, of the paper copy or electronic receipt of the death record. Failure to report a death does not only affect the status of individuals but also the operations of the state, including in electoral legislation.

➜ False declarations

The negative effects of failing to report or of making a false declaration are also seen in deeds of recognition or when transcribing adoption rulings. The same practices can be seen in the reporting of births, with the same effects on ownership, succession and marriage.

✖ TOOLS

The formality pitfalls to avoid are:
- opening and closing registers,
- deadline for registration.

➜ The opening and closing of registers

As a general rule, civil registers are annual, either global and encompassing all events, or specific to each event (registers of births, marriages, deaths, etc.). They are often opened on the first day of the year by the presiding judge of the court of first instance, who signs the report of the opening of the register and numbers and initials each page.

The registers are usually closed at the end of the year by the civil registrar (not the presiding judge). The closing formula– which should logically detail the number of events reported over the year – is inserted in the last page, thus preventing any events from being added outside the civil year under consideration. However, registers can sometimes be closed in an irregular manner by the authorities. This leads to a range of dysfunctions and illicit administrative practices. Failure to close an administrative register means that any number of unauthenticated events or declarations can be added afterwards and included in the registers. This is even easier given that registers opened are not completely full when they are due to be closed administratively. Illicit kickbacks, moderate but frequent, in exchange for providing documentation to families to enable them to report a birth are facilitated by the failure to close the registers. Here again, computerisation is necessary to efficiently manage the dates of events.

➜ Deadline of registration

If health units do not draw up or hand over "birth certificates", tangible proof of a child's birth, within the requisite statutory period for declaration by the family, parents have no means of reporting the birth to the civil registration services. In these conditions, recourse to the courts for a declaratory judgment becomes obligatory, unless the parents are willing to leave the child without a birth record thus making the child invisible in the population. This subject needs particular attention when drafting the texts.

➜ Signature and personal or functional capacity?

Signing a record gives it legal and probative value. A record, even when drawn up as prescribed on the appropriate register has no value unless it is signed by the civil registrar.

Some civil registration practices mention the name and function of the official who drew up the record in the body of the document itself. In this case, the signature must be that of the official or registrar mentioned. Capacity is linked to the individual and the registrar can be precisely identified because he is mentioned by name in the record itself, which is an advantage.

This practice requires that records are signed as they are drawn up. Where the official is absent and cannot perform his duties or sign records, records would accumulate and cannot be given any legal existence. Even worse, if the official is definitely absent, all unsigned records are considered null and void and must be drawn up again, unless they are inserted in an unclosed register for the relevant period, which amounts to condoning an illicit practice. In short, the practice of personal capacity goes against the principle of continuity of the action of the state. It cannot be maintained in a modern civil society with good governance.

There is a different practice, functional capacity, where the official acts ex officio and therefore signing is not a personal but a functional issue. In this case, the record assumes legal value regardless of the signatory provided that that signatory has the legal capacity to do so. This ensures the continuity of the action of the state.

Whether capacity is personal or functional, it does not address the problem of what to do when the official is unavailable. This is a recurrent problem in major urban centres that can only be solved by delegating signature, power or function.

➜ Delegation of signature, power or function?

When it comes to vital records, lack of delegation generates multiple problems linked to the absence or non-availability of the individual with power to sign and the accumulation of records dependent on the authority and availability of one single individual. A civil registrar must be able to delegate his signature, a legal act that allows records to be drawn up and formalised on behalf of and by delegation of the individual with power to sign. However, it is easy to understand why registrars can be reluctant to delegate their power to sign. This is because they are liable for records drawn up by their deputy or delegatee.

Delegation of power is another option: this is a legal act whereby an authority, the "delegator", relinquishes some of his powers to a subordinate authority, the "delegatee". The delegatee then takes on the obligations and liabilities relating to the powers delegated to him. Thus, where an obligation is breached, the delegatee rather than the delegator is liable.

In this scenario, the civil registrar is no longer held criminally liable for the actions of his delegatee and mayors can be understandably reticent to relinquish some of the powers legally invested in them. Civil status registration is the direct exercising of public power with regard to citizens and one of the best means for an elected representative to remain in touch with his electors.

Neither delegation of signature, delegation of power, nor delegation of function is an intermediary form of delegation that can be envisaged to facilitate the recording of events. Delegation of function allows the authority to entrust the exercising of one of his competences to a subordinate. It does not result in the civil registrar being deprived of his powers in this regard as he remains free to exercise the powers he had delegated. In return, he must monitor and oversee how his subordinates fulfil the functions delegated to them. The mayor, prefect or sub-prefect are not totally exempt from liability in this case.

☞ EFFECTIVE PRACTICES

Whatever the form chosen, delegation of signature, power or function can solve many problems encountered by the registration services and speed up procedures, to the great benefit of populations. To ensure maximum availability of the civil registration service, the response to the practical difficulties generated by delegation may be the use of a secure smart card for public officials by civil registrars and their deputies in the case of electronic administration using electronic signatures.

➔ Principle of using electronic signatures

1) The civil registrar is first authenticated using a smart card, which is revoked if lost or stolen and can only be used by its owner (the only person who knows the PIN code). A remote "civil registration" service verifies the validity of the smart card using public key infrastructure (PKI), which has a directory and dismissal list.

2) Once authenticated, the civil registrar enters and signs the data via local civil registration software (whereas with a paper register he used a handwritten signature).

The data transmitted to the central site via the remote civil registration service has probative value once signed by a civil registrar or authorised delegated official.

Electronic signature does not entail affixing the image of a handwritten signature. It consists of linking the identity of the signatory and the contents of the document to guarantee its authenticity and render it difficult to forge. To do this, software and electronic signature certification are used to seal the document and guarantee its integrity. Another certificate is used to authenticate and trace the identity of the signatory. Smart card technology is recommended because it can be used to integrate the international identification, authentication and signature software standard (IAS).

CONDITIONS FOR DELEGATION OF SIGNATURE	
Personal capacity	In this case, the signature must be that of the official or registrar mentioned by name on the record.
Functional capacity	The official acts ex officio and the act of signing is not a personal but a functional issue.
Delegation of signature	Delegation of signature allows records to be drawn up and formalised on behalf of and by delegation of the individual with power to sign
Delegation of power	Delegation of power transfers authority to a "delegatee" who then becomes liable instead of the delagator.
Delegation of function	Delegation of function allows the authority to entrust the exercising of one of its competences to a subordinate while remaining free to exercise the powers delegated.

TYPES OF EVENTS AND CIVIL STATUS DATA

📖 RULES

The ultimate aim of a civil registration system is to record the births, fœtal deaths, deaths, marriages, divorces, marriage annulments, judicial separations, adoptions, legitimations and recognitions.

Appreciating the necessity of collection is one of the fundamental principles of personal data protection. Only such data as is necessary and relevant to the keeping of the file must be collected. For example, it not necessary to know whether the parents are smokers when registering a birth.

Types of vital records

Extremely precise definitions of vital records have been made by the United Nations according to the statistical use of the data collected (see table below).

TYPES OF CIVIL REGISTRATION	
Live birth	Live birth is the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy, which after such separation breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such a birth is considered live-born. All live born infants should be registered and counted as such, irrespective of gestational age or whether alive or dead at the time of registration, and if they die at any time following birth, they should also be registered and counted as a death.
Fœtal death	Fœtal death is death prior to the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy. The death is indicated by the fact that after such separation, the fœtus does not breathe or show any evidence of life such as beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles. There are three major categories of fœtal death: • early, with death occurring before 20 full weeks of gestation; • intermediate, with death occurring at between 20 and 28 weeks of gestation; • late, with death occurring after 28 full weeks or more of gestation.
Deaths	Death is the permanent disappearance of all evidence of life at any time after live birth has taken place (post-natal cessation of vital functions without capability of resuscitation). This definition therefore excludes fœtal death.
Marriage	Marriage is the act, ceremony or process by which the legal relationship of husband and wife is constituted. The legality of the union may be established by civil, religious and other means, as recognised by the laws of each country.
Divorce	Divorce is a final dissolution of a marriage, that is the separation of husband and wife which confers on the parties the right to remarry under civil, religious and/or other provisions, according to the laws of each country.

Annulment	Annulment is the invalidation or voiding of a legal marriage by a competent authority, according to the laws of the country, thus conferring on the parties the status of never having been married to each other.
Judicial separation	Judicial separation is the disunion of married persons, according to the laws of each country, without conferring on the parties the right to remarry.
Adoption	Adoption is the legal and voluntary taking and treating of the child of other parents as one's own, in so far as provided by the laws of the country.
Legitimation	Legitimation is the formal investing of a person with the status and rights of legitimacy, according to the laws of each country.
Recognition	Recognition is the legal acknowledgement, either voluntarily or compulsorily, of the maternity or paternity of an illegitimate child.

Priority vital records and complementary events

The key objective of a civil registration system is to produce legal documents relating to vital events concerning the population of a country (or province in a decentralised system).

It is not always possible for a country to register or publish statistics on the ten recommended categories of vital events.

✖ TOOLS

Order of priority of vital events to be registered
- Births and deaths (including fœtal deaths) must be registered as a priority
- Next come marriages and divorces
- The end objective is to include complementary events: annulments, judicial separations, adoptions, legitimations and recognitions, prenuptial agreements.

This distribution shows the possible phasing of civil registration at national level.

In order to understand the priorities set, births, fœtal deaths and deaths make up a block of events that must be registered as a first priority. Along with marriages and divorces, they make up the block of priority events.

Annulments, separations, adoptions, legitimations and recognitions make up the block of complementary events.

☞ EFFECTIVE PRACTICES

Complementary events are the result of court decisions that must be transcribed into the civil registration system. Court registries and notarial offices must be connected to the central system as quickly as possible so that decisions are transmitted in electronic format, where they are registered immediately by the competent civil registrar. This system will avoid double entries and associated errors.

Civil status data

The table below is provided for information purposes (source: *Handbook on Civil Registration and Vital Statistics Systems: Preparation of a Legal Framework,* UN). The information collected must be reasonably necessary for the management of vital records and adapted to specific national circumstances.

DICTIONARY OF LOGICAL ENTITY DATA AND INFORMATION ON THEM IN THE CIVIL REGISTRATION SYSTEM

LOGICAL ENTITY	POPULATION INFO	STAT INFO	CIVIL STATUS INFO	DATA
Personne	✔	✔	✔	Personal identifier number (PIN)
	✔	✔	✔	Status (alive, dead, missing)
	✔	✔	✔	Marital status
	✔	✔	✔	Gender
	✔		✔	Name(s)
	✔		✔	First name(s)
	✔	✔	✔	Mother's PIN
	✔	✔	✔	Father's PIN
	✔			Address (number, street, district, hamlet, village)
	✔			Postcode
	✔			Country code (nationality)

LOGICAL ENTITY	POPULATION INFO	STAT INFO	CIVIL STATUS INFO	DATA
Birth		✔	✔	PIN
		✔	✔	Date of birth
		✔	✔	Place of birth
			✔	Date when birth was registered
		✔		Attendant at birth
		✔		Weight
		✔		Type of filiation
		✔		Mother's place of residence
			✔	Number of birth certificate

LOGICAL ENTITY	POPULATION INFO	STAT INFO	CIVIL STATUS INFO	DATA
Deaths		✔	✔	PIN
		✔	✔	Date of death
		✔	✔	Place of death
			✔	Date when death was registered
		✔		Cause of death
		✔		Author of certificate
			✔	Number of death certificate
		✔		Deceased's place of residence
		✔		Mother's place of residence (for children under one)

LOGICAL ENTITY	POPULATION INFO	STAT INFO	CIVIL STATUS INFO	DATA
Fœtal death	✔			Mother's PIN
		✔		Date of death
		✔		Place of death
				Date fœtal death was registered
		✔		Gender of fœtus
		✔		Gestational age of fœtus
		✔		Type of filiation of fœtus

LOGICAL ENTITY	POPULATION INFO	STAT INFO	CIVIL STATUS INFO	DATA
Marriage		✔	✔	Husband's PIN
		✔	✔	Wife's PIN
		✔	✔	Date of marriage
		✔	✔	Place of marriage
			✔	Date when marriage was registered
		✔	✔	Type of marriage
		✔		Husband's level of literacy
		✔		Wife's level of literacy
		✔		Husband's occupation
		✔		Wife's occupation
			✔	Number of marriage certificate

LOGICAL ENTITY	POPULATION INFO	STAT INFO	CIVIL STATUS INFO	DATA
Divorce		✔	✔	Husband's PIN
		✔	✔	Wife's PIN
		✔	✔	Date of divorce
		✔	✔	Place of divorce
			✔	Date when divorce was registered
		✔		Spouses' place of residence
		✔		Number of dependent children
		✔		Husband's occupation
		✔		Wife's occupation

LOGICAL ENTITY	POPULATION INFO	STAT INFO	CIVIL STATUS INFO	DATA
Annulment			✔	Husband's PIN
			✔	Wife's PIN
			✔	Date of annulment
			✔	Place of annulment
			✔	Date when annulment was registered
			✔	Acting authority

LOGICAL ENTITY	POPULATION INFO	STAT INFO	CIVIL STATUS INFO	DATA
Separation			✔	Husband's PIN
			✔	Wife's PIN
			✔	Date of separation
			✔	Place of separation
			✔	Date when separation was registered
			✔	Acting authority

LOGICAL ENTITY	POPULATION INFO	STAT INFO	CIVIL STATUS INFO	DATA
Adoption			✔	PIN
			✔	Date of adoption
			✔	Place of adoption
			✔	Date when adoption was registered
			✔	Adoptive mother's PIN
			✔	Adoptive father's PIN

LOGICAL ENTITY	POPULATION INFO	STAT INFO	CIVIL STATUS INFO	DATA
Legitimation			✔	PIN
			✔	Date of legitimation
			✔	Place of legitimation
			✔	Date when legitimation was registered
			✔	Type of filiation
			✔	Acting authority

☞ EFFECTIVE PRACTICES

As residential addresses are at the core of all good civil registration and vital statistics systems, countries are encouraged to take advantage of geographic information systems (GIS) and introduce unique physical residential addresses. This information is relevant to all public policies.

COMPONENTS OF THE CIVIL REGISTRATION PROCESS

> 📖 **RULES**
>
> - Regardless of the structure chosen at national level, civil registration is done locally in structures closer to the people.
> - Town halls traditionally host civil registration services but these services could be created in citizen information centres or any other structure offering shared services to citizens in the same place.
> - The responsibilities of local civil registration officials must be clearly defined in the law on civil registration.
> - The national civil registration service must provide guidance and instructions to local officials on an ongoing basis and monitor and assess their work.
> - Initial training courses must be very carefully designed and should last about twenty days (see the United Nations training handbook).
> - The national civil registration plan should include initial and ongoing training courses.
> - The national registration service is responsible for maintaining the efficiency of local civil registration through monitoring, education, incentives for local officials and sanctions for breaches.
> - Civil status records are official documents with legal value and require a permanent back-up.
> - Data must be collected to enable statistics to be drawn up according to place of usual residence and type of event.
> - Complementary information are additions to civil status records and must be justified by a court ruling (notarial deed for prenuptial agreements).
> - Amendments are corrections made to civil status records which modify data recorded erroneously at the time of registration.

Human and institutional infrastructure

> ⚒ TOOLS
>
> The actors in the civil registration process:
> - the local civil registrar;
> - the declarer, notifier, witness;
> - medical personnel for births and deaths;
> - family, households;
> - the organ in charge of administering the civil registration system;
> - local registration offices;
> - the organ in charge of registering vital statistics;
> - central and infra-national government;
> - courts involved in judicial rulings affecting civil status (divorce, annulment, judicial separation, recognition, adoption, legitimation);
> - notaries for some complementary notations.

The local civil registrar is the legal authority for registering vital events. He may delegate this authority to subordinates under the terms set out above. He must ensure that the most com-petent staff is appointed in each local registration office. Deficiencies at local level lead to omissions, illegible entries or incomplete information, which can be very prejudicial to both the citizens and the state. The local registrar exercises powers which earn him prestige and esteem in the community. The level of remuneration must be attractive so as to attract competent staff.

> ⚒ TOOLS
>
> What are the obligations of the local civil registrar?
> - Record precise information concerning vital events;
> - Ensure that the law on civil registration is respected;
> - Carry out checks to guarantee the accuracy and completeness of the events recorded;
> - Ensure that records are properly kept and back up vital records;
> - Inform the public of the mandatory nature and requirements of civil registration;
> - Inform the public of the importance of keeping vital statistics;
> - Draw up statistical records and send these to the statistical body within due time and answer any questions in relation thereto;
> - Issue certified copies of documents.

Each local civil registrar exercises his functions in a jurisdictional area, i.e. a primary registration area where the population and geographical area are manageable in terms of size and which the population being served can easily access.

Additional registration offices (for example in hospitals or other healthcare facilities) are secon-dary registration areas.

Problems of distance, terrain or transport may require a mobile or roaming registration unit to give a helping hand to the primary registration area.

How is the number of required local offices determined?
• Population size
• Availability of staff to do the work
• The material resources available
• Accessibility (distance, topography, climate, transport)
• The literacy levels of the population in the area
• The simplicity of required procedures
• Document quality and accuracy

The declarer is bound by law to report the features of the event and the individuals concerned by the vital event to the local civil registrar. The law on civil registration must determine the declarer(s) for each type of vital event (see table below).

For births, deaths and fœtal deaths, the individual who gives the information is the declarer. The physician or judicial police officer is responsible for drawing up a medical certificate.

APPROPRIATE DECLARERS FOR EACH VITAL EVENT	
CIVIL EVENT	DECLARER
Live birth	• The head of the facility if the birth takes place in a healthcare facility • The mother • The father • The attendant at birth • The mother's nearest family relative
Fœtal death	Same individuals as for live birth
Death of a child less than one year	• The head of the facility if the death occurs in a healthcare facility • The mother • The father • The mother's nearest family relative • Any other informed adult
Death of an adult	• The head of the facility if the death occurs in a healthcare facility • The nearest family relative (for example: surviving spouse, brother, sister, parent) • Any other informed adult
Marriage	• The bride • The bridegroom
Divorce	• Both parties • The petitioner

Registration instruments

Civil registration is made either in:
— the ledger book: each event is recorded in a bound pre-printed book at the time the vital event is notified;
— loose-leaf and card-based registers: these offer better legibility, flexibility when sorting and are easy to photocopy;
— electronic registration: this saves time and space but initial costs and the availability of technical staff must be taken into account. The latter is the type recommended by the United Nations as it is the only form enabling centralised data management.

Civil status records are official documents with legal value and require a permanent back-up. This is why:
— electronic registration, which is the medium-term target retained by the UN handbooks, requires little storage space;
— card-based registers are kept in a special cabinet, which generally takes up more space than open shelving for loose-leaf registers and ledger books.

☞ EFFECTIVE PRACTICES

The security and conservation of registered documents are the priorities for the civil registration system:
- centralised computer archiving of vital records is an efficient response to ensure that these documents are permanently stored;
- the permanent storage policy applies also to ancillary registration documents such as court orders, adoption papers and documentary evidence (supporting documents);
- with the recommended electronic registration, storage of documentary evidence is facilitated by the implementation of electronic document management (EDM) with digitisation of the documents and identifying number attached to the reference record;
- back-up archiving of files in a site other than that which these files are daily use is a guarantee against loss following a major catastrophe;
- as concern the central site, back-up archiving must be considered as a vulnerable point and as such must have physical and logistical security;
- if the central site is unavailable, it must be possible to switch to the back-up site in less than a few hours, which means the procedure for switching from one site to another must be tested regularly.

Procedures

For each type of event, the law on civil registration should specify whether the registration must be done at the place of usual residence or the place where the event took place. Most individuals have one residence but some have several residences, some have none and some are looking for a place of residence.

The law on civil registration must provide for delayed or late registrations and awareness-raising campaigns must be carried out to reduce the number of these.

The local civil registrar must have in-depth knowledge of the official forms used as documentary evidence for registration records. Developing familiarity with forms is a key part of training.

Universal registration

Complementary information are additions made to civil status records and must be justified by court ruling (notarial deed for prenuptial agreements):

— legitimation, voluntary recognition and judicial determination of filiation are examples of complementary information that can be added to the birth record;

— prenuptial agreements, annulment, separation and divorce rulings, and instruments amending the financial treatment of the parties are examples of complementary information that can be added to the marriage record.

Amendments are corrections made to civil status records which modify data recorded erroneously at the time of registration. They are generally determined by a competent court or by the administration in charge of registering vital events, or a combination of the two.

There are three methods used to change a vital record:

— inserting data without indicating that a correction has been made;

— deleting data and inserting the correction in a legible manner above the data deleted;

— drawing up a new record and inserting a reference to the original record.

When a vital record is modified, the modification must be reproduced on copies of the record held by other registration authorities. Electronic management means that transmission to other authorities can be automated.

Certified copies of vital records are proofs and must be protected against fraudulent use.

Cross-referencing of vital records for the purposes of data verification, for example comparing death records for children less than one year with birth records is an important way of checking the coherence of vital records.

Cross-referencing vital records with files in other data systems – registers of infirmity at birth, cancer registers, cohort studies, lists of electors, jury selection lists, population register, identity document files and pension files – must be used exclusively for the purposes of verifying the coherence of the administration of civil registration or for scientific research. In the latter case, a code of conduct is agreed with the university or body conducting the research and authorisation is granted by the personal data protection authority.

THE SETTING UP OF AN ORGANISATION AND MANAGEMENT SYSTEM

📖 RULES

- Setting up an organisational structure
- Setting up an efficient, integrated and coordinated management system
- Assessing the comprehensiveness of event registration
- Taking measures to improve the registration management system
- Improving training, communications and public information

The task of consolidating or overhauling civil registration is so immense that synergies must be sought between all actors.

Appropriate organisational structure

What actions should be carried out to build the organisational structure?
- Creating or designating the organ with administrative responsibilities
- Recruiting and assigning competent civil registrars
- Defining the duties and responsibilities of civil registrars
- Reinforcing the capacities of civil registrars and other staff members
- Identifying and defining the duties of declarers and notifiers
- Opening an adequate number of local registration offices
- Integrating and coordinating civil registration and vital statistics systems
- Assessing project management
- Assessing civil registration, relations between stakeholders and partners
- Creating feedback mechanisms, particularly by organising massive circuit court hearings to obtain declaratory judgments

An efficient, integrated and coordinated system

Whether civil registration is centralised or decentralised, coordination activities must be embedded in the civil registration system.

Even if vital statistics and civil registration are under the same institution or under different organs, coordination is very important because vital statistics often use the same staff and forms for gathering data as civil registration.

Dual registration and authentication functions must be coordinated with vital statistics.

Areas that must be coordinated with the statistical service:
- concepts and definitions;
- conception and use of collection forms;
- training, education and advertising campaigns;
- issue of documents;
- burial permits, recognitions, legitimations, adoptions, amendments and delayed registrations;
- coding, data input and verification methods;
- classifications and tabulations;
- modifications made to declarations in the current year.

The civil registration system must be in communication with the census, demographic surveys by polling, population registers, immigration and public health and in general manner with all organs in charge of social and economic statistics.

Coordination must be ensured with producers of data extracted from records, local civil registrars, church declarers, notifiers, and the judicial and statistics authorities.

✕ TOOLS

The main coordination tools:
- a national committee for inter-institutional coordination;
- a permanent intra-institutional coordination committee;
- a uniform legislation;
- workshops, conferences and information bulletins;
- local consultants.

Assessing the comprehensiveness of registration

It is necessary to assess the degree to which civil registrations are comprehensive, particularly for regions with low registration numbers.

During data transfer, errors and omissions may occur. Reception and oversight provisions must be set up to monitor data at various levels of transmission as required by the organisational structure.

Computer controls of frequency comparing the expected number of records to the actual number are used to verify the entire data transfer process.

✕ TOOLS

Means for detecting incompleteness:
- using civil registers;
- using censuses and polling schedules;
- using delayed registration as an indicator of incompleteness;
- assessing the coverage of population groups and geographic regions.

The universality of civil registration is guaranteed by checks on the comprehensiveness of registration using direct or indirect methods.

Direct assessment methods are used to check the comprehensiveness of data and identify the causes of problems encountered. Direct assessment of the comprehensiveness of civil registration involves cross-referencing vital records with registrations from an independent source.

Matching registrations of the deaths of children under one year and birth records can help assess the comprehensiveness of this part of the file.

Matching the deaths of children less than one year and births verifies parts of the file where underreporting can be frequent.

Generally, administrative or social documents are used to collate the civil registration file at central level because registrations from other organs are needed as independent collating sources.

Lists of census and survey data can be compared to vital records for specific periods of time.

Direct methods can be used to analyse the comprehensiveness and quality of civil registration at national and local level. Requests can be automated in a computerised system.

Indirect assessment methods indicate whether there is a problem with data quality.

Comparing of trends and monitoring delayed registration are useful assessment methods at local and national level.

Indirect assessment methods have the advantage of being applicable for verification as soon as the data becomes available.

> **✖ TOOLS**
>
> Factors to take into account when choosing an appropriate assessment method:
> - the aims of the study;
> - the degree of accuracy of the assessment;
> - the period during which results are necessary;
> - the type of event to be studied;
> - whether the study is on comprehensiveness or quality or both;
> - the resources available.

Taking measures to improve registration

The provision of individual information, numbering and contents of documents

> **✖ TOOLS**
>
> Actions to improve the management system:
> - ensuring register security;
> - maintaining register confidentiality;
> - carrying out periodic assessments of data quality;
> - rectifying documents as appropriate;
> - overseeing and monitoring registration and management activities.

The law on civil registration and related provisions must ensure the confidentiality of individual data on vital records. However, confidentiality restrictions should not impede the legitimate use of data for scientific and research purposes. A draft law and regulation of application are listed in the United Nations *Handbook on Civil Registration and Vital Statistics Systems: Preparation of a Legal Framework*.

Vital records can be shared with other public organs via agreements between institutions. The law and its provisions must specify the criteria under which the administrator in charge of civil registration can communicate data to authorised researchers.

The civil registration document contains data used for legal purposes and data used for both legal and statistical purposes. If a single collection document is used, it may also contain sections to be used only for statistical purposes. Vital records are numbered, preferably sequentially, for each calendar year and each type of event.

The United Nations handbooks detail the data to be included in vital records.

🛠 TOOLS

Where to find information on the contents of records and the coding of events
Handbook on Civil Registration and Vital Statistics Systems: Preparation of a Legal Framework. This UN document:
- describes the typical contents of records (pages 48-51);
- proposes forms for coding events (pages 75-97).

Training, communications and information of the public

The national action plan to improve civil registration and draw up vital statistics constantly monitors the development of technologies, initial and ongoing staff training at national, regional and local level and public education initiatives.

Governmental decision-makers and senior officials need to be educated to ensure that sufficient resources are committed to the system.

Officials, the public and members of external institutions, professions and organs involved in civil registration and the drawing up of vital statistics need specialist training for the system.

Internal staff training covers the legal aspects of the system, technical processes, indexing, codification, data entry and verification, documentation on modifications, cooperation with other institutions as well as confidentiality and privacy.

A local knowledge programme is useful for training external professionals. The training and communication programme includes drafting instruction manuals for local civil registrars and declarers, regular information letters, site visits for new employees and training sessions to inform staff of new developments.

Seminars and workshops are used to exchange ideas and good practices. Polling users provides a good source of feedback.

Specialised national and regional committees should organise support measures to the system and coordinate the participation of interested external groups.

A campaign to raise awareness of the importance of their contribution to the civil registration system and the drawing up of vital statistics must be conducted among doctors, healthcare officials, hospital and clinical staff, medical examiners and funeral services, civil registrars in charge of marriages and the relevant local authorities.

The obligatory nature of civil registration requires a significant awareness-raising programme among the public.

> **✗ TOOLS**
>
> Contents of an awareness-raising campaign to improve vital records:
> - media campaign launch;
> - monitoring the effects of the campaign on the system;
> - periodic research work on the impact and efficiency of the campaign;
> - assessment of the campaign;
> - review or modification measures to permanently ameliorate the system

MOVING TOWARDS FULL COMPUTERISATION OF REGISTRATION

The 2010-2015 African Programme to improve civil registration (APAI-CRVS) underscores the necessity of adopting computer technologies to accelerate civil registration and management. It also recommends that coherence be ensured between health management information systems (IS) (for births and deaths) and vital records and statistics information systems and integrating these in national strategies to develop statistics. The primary coherence required between the civil registration information system and the statistical information system involves aggregating civil status data at central level to enable exchanges between both information systems, but the key focus of data centralisation is to simplify civil registration, as illustrated by the centralised and decentralised marriage registration systems below (one centralised action compared to five decentralised actions).

The need to ensure the standardisation and comprehensiveness of civil status data requires a high degree of professionalization at the central site, which must set the example and promote responsiveness from local registry offices.

Furthermore, the continental programme recommends decentralising civil status by setting up CRVS offices and services in districts, townships, villages, refugee camps and other special population groups, to ensure full coverage of the population and enable rural and marginalised populations to access civil status systems, including setting up mobile registration teams using roaming tools where civil registration goes to the citizen and not vice versa.

The paradox of local management and centralised computerisation is solved by mobile telephone and internet technologies for data transfer, and by laptops for mobile registration teams. These technologies, based on a solid nationwide training plan, will enable the rollout of standardised methods and professionalise the system as closely as possible to citizens. Incidentally, centralisation also guarantees physical and logical data protection in central sites with high-level protective measures and it is easier to protect two sites, the main one and the back-up one, than five hundred or a thousand offices storing data at decentralised level.

Computerisation is indispensable for consolidating civil registration systems and this is why this management and registration method was the focus of all attention at the Ministerial Conference in Durban in September 2012.

The qualitative leap requested by the United Nations and accepted by the ministers in charge of civil registration is only possible with standardisation and advanced automation.

Computerisation relates to both local offices and the central site, which is backed up. It requires the setting up of a telecommunications network linking all actors, and an electronic administration module for external actors (consulates, hospitals, courts and notaries).

The immensity of the task requires a planning of roll outs and its resources.

🛠 TOOLS

The main points to take into account when choosing computerisation:
- defining the objectives and aims of computerisation;
- defining the scope of civil registration and vital statistics systems;
- defining the type of single key to be used for registration;
- setting up an organ in charge of computerisation;
- choosing the overall strategy for drawing up and operating the systems, taking personal data protection into account;
- choosing a data conversion or initialisation strategy;
- issuing calls for tender;
- acquiring and configuring hardware and software;
- operating, developing and maintaining the systems.

These elements must be taken into consideration whether the entire system or just one part is to be implemented. The list can also be used if the entire system is to be computerised later where resources limit computerisation to just one part initially. This type of planning will ensure transparency when new actions or events are added.

The «single key file» and personal identifier

The United Nations encourage countries to allocate a personal identification number (PIN) for each individual at birth for administrative use between institutions.

This unique personal identification number, allocated to each individual and each event, meets the single-key computer requirements for each registration in a file. It can be used to automatically establish a link between various items of information recorded with the civil registration services for the same person.

One of the main decisions to be made for the national project is whether to use the civil status registration number as a unique national number when converting civil registration into a population register. Even if the decision is not to use it as a personal identification number,

the allocation of a unique number to each individual makes the information obtained at the time of registration more useful for statistical purposes.

Allocating a multi-purpose number (one unique number that can be used by several administrations for example) from birth creates an interface not only between registration and statistics but it can also clearly benefit other administrative systems. For an individual, using a unique multi-purpose identification number facilitates identification in all public organs and the individual only has to remember this one number to be recognised and assert his rights.

However, using a personal identification number with data such as date and place of birth may go against psychological, cultural or political beliefs. This is why the issue needs to be carefully considered. Comparative studies of the situation in different countries show that it is possible, even advisable, to use other numbering systems: the unique registration number could contain a dozen figures, be randomly generated by computer and divulge no personal information. It can also be allocated in sequence during a given year or can consist of distinct series of sequential numbers allocated to particular institutions or geographical areas. The number can be a document identifier rather than a personal identifier. It should be noted, however, that the efficiency of computerised registration diminishes significantly if a personal identification number is not used.

Some countries have decided to allocate a unique identification number, whereas others have decided not to. From a data protection standpoint, the use of a unique identifier presents two main risks:

– the first is the risk that the data will be disclosed without the name even being known, if the identification number includes personal information (age, place of birth);
– the second is the interconnection between files and therefore the risk that the data will be used for purposes other than the initial intended use when it was collected (see the purpose principle). In this case, the same number is used for relations with several administration services but also to exchange data, with the risk of identifying private entities.

To avoid any unintended or unjustified interconnection, whether a unique identifier is used or not, it is important to provide for:
– identifier segmentation, i.e. the identifier used for interactions between the administration in question and civil registration administrations differs from the identifier used in other sectors (taxation, police, banking, health services, etc.);
– specific control of data interconnections: exchanges of data between administrations are expressly provided for by legislation, which stipulates the purpose of the exchange, the nature of the data exchanged and security measures for these exchanges.

In an environment where the naming of newborns is delayed, recourse to a personal identification number as a unique key means that the newborn can be registered based on this key with the information known at the time of birth (mother, date, place and gender). A temporary lack of surnames and first names does not impede the immediate registration of the birth, as recommended by the UN.

A centralised database for civil registration serves as a support for vital statistics and avoids redundancy.

Vital statistics systems retain responsibility for setting up tables and disseminating vital statistics, preferably in another organ than the one managing registration.

Stages in the computerisation of the system

Computerisation must cover both the needs of the civil registration system and the vital statistics system. One of its aims is to improve the registration of vital events and obtain more accurate data on vital statistics in a timely fashion.

Computerising systems takes several years and requires meticulous planning.

🛠 TOOLS

The three stages of computerising vital records (see the UN handbook)

STAGE 1

Civil events	Statistics
Live births	Live births
Deaths	Mortality, infant mortality
Marriages	Marriage rate
Divorces	Divorce rate

Certificates can be issued through computer as early as stage 1.

STAGE 2

Civil events	Statistics
Fœtal deaths	Fœtal mortality
Annulments	Annulments
Judicial separations	Judicial separations
Adoptions	Adoptions
Legitimations	Legitimations
Recognition of paternity or maternity	Recognition of paternity or maternity

STAGE 3

Demographic events	Demographic statistics
Immigration (1st registration)	Immigration
Change of address	Migration, emigration
Change of name	
Granting/withdrawal of nationality	
Issue of biometric documents: National identity card, passport, residency visa	

In stage 3, the civil registration system is converted into a more advanced demographic registration system; more reliable identity cards, passports and residence permits can be issued from the database.

For each stage, a provisional computerisation timetable is drawn up.
The timetable for each stage can be divided into two parts:
– The upstream phase, during which studies are carried out by state services;
– The execution phase, during which the general industrial contractor performs the contract under the leadership of the state service appointed as the project owner and with expert assistance.

This distinction between the study phase timetable and the execution phase timetable offsets the time spent negotiating the contract.

PLANNING THE STUDY PHASE IN STAGE 1 FOR THE COMPUTERISATION OF REGISTRATION SYSTEMS					
ACTIONS	Q1	Q2	Q3	Q4	Q5
Identify the actors, their roles and types of user service	▮				
Conduct a preliminary study to obtain an overview of the current situation	▮				
Conduct a detailed study of the project scope		▮	▮		
Draw up the terms of reference			▮		
Draft the functional specifications			▮	▮	
Issue an international call for tender, with lots on general contracting and assistance for the project owner				▮	▮
Estimate the costs over the entire project duration and seek financing		▰	▰		

Q = quarter ▮ Project delineation ▰ Seeking financing

Quarters 1 to 5 (before the contract is awarded) involve:
– a preliminary study to obtain an overview of the current situation;
– a detailed study as mentioned already, including general functional specifications, organisational impact and provisional project planning, as well as a detailed map and the number of system access points. All of these make up the terms of reference of the call for tender;
– use of external consultants to draw up a cost range for each service requested. The results are used to allocate a budget to complete the plan;
– obtaining financing;
– issuing an international call for tender to find a sectoral specialist and an assistant project manager.

At project start-up, a preliminary study to obtain an overview of the current situation is conducted by an expert group, assisted where necessary by an external consultant. From the outset it is imperative to involve all actors in charge of civil registration (at minimum, the ministries of justice, the interior, health, foreign affairs and finance, the national statistics service and the institution in charge of personal data protection) and to identify those who will pilot the operation. A lead ministry is designated which will appoint a project manager.

PLANNING THE EXECUTION PHASE IN STAGE 1 FOR THE COMPUTERISATION OF REGISTRATION SYSTEMS

ACTIONS	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16
Detailed workshops on functional specifications	�yellow	�yellow									
Software development (all validated by users, demo platform)			▮yellow	▮yellow							
Experimentation before general rollout: representative pilot phase					▮yellow						
Assessment of pilot before rollout						▮yellow					
Rollout of central system						▮yellow					
Rollout of central back-up system							▮yellow				
Rollout of local office software for stage 1 events							▮yellow	▮yellow	▮yellow	▮yellow	
Rollout of virtual private network							▮yellow	▮yellow	▮yellow	▮yellow	
Plan for transitioning to centralised computerisation	▮blue	▮blue									
Training plan for system decision-makers and actors			▮green	▮green							
Formation des administrateurs, des utilisateurs et des partenaires externes				▮green	▮green						
Training of administrators, users and external partners			▮cyan	▮cyan	▮cyan	▮cyan	▮cyan	▮cyan	▮cyan	▮cyan	▮cyan

Q = quarter ▮ Project delineation ▮ Transitioning plan ▮ Training plan ▮ Data transfer/census

Quarters 6 to 16 (after the contract is awarded) involve:
- workshops on detailed functional specifications;
- software development (all validated by users, demo platform);
- plan for transitioning to centralised computerisation;
- training plan for system decision-makers and actors;
- training of administrators, users and external partners;
- experimentation before general rollout: representative pilot phase;
- assessment of pilot before rollout;
- rollout of central system;
- rollout of central back-up system;
- rollout of local office software for stage 1 events;
- rollout of virtual private network.

Data initialisation by census (or transfer of existing data) comes under a specific timetable not included here but it must be integrated in the general planning.

☞ EFFECTIVE PRACTICES

A transitioning plan is drawn up with all actors and overall rollout only happens once the pilot project has been assessed.

Improving registration procedures by developing an appropriate legal and administrative framework is a prerequisite for transitioning to a computerised system. Particular attention must be given to identifying actors and their role in the civil registration system. Similarly, beneficiary services that will be linked to the system must play a part in discussions on the project scope and include it in the detailed study.

MAIN ACTORS OF THE COMPUTERISED CIVIL REGISTRATION SYSTEM

Secured internet links through VPN tunnel

Central system

Town hall and prefecture, civil registration service

National statistics service

Hospital

Consulate

Court

Notary's office
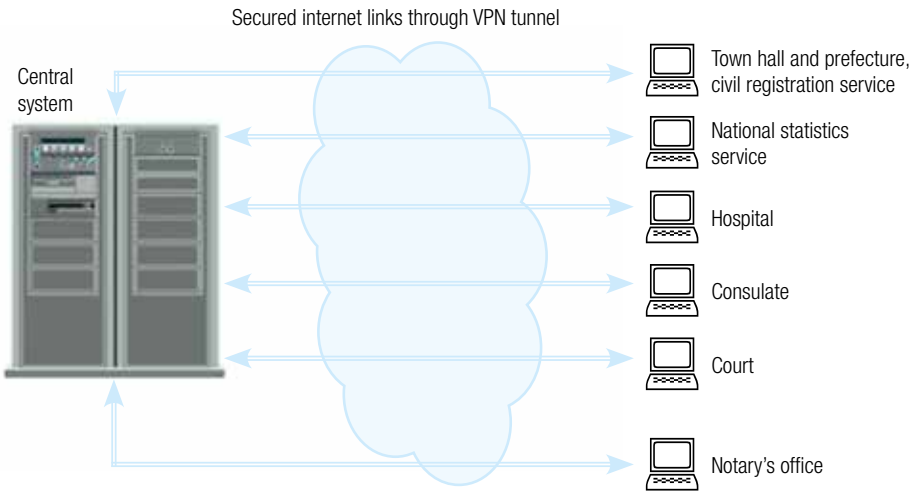
📖 RULES

To conceive a system that places citizens at its core and develop an information system that complies with privacy principles, before the specifications are drawn up, it is important to draft a table defining the types of user services and a table detailing access rights by type of user service.

SERVICES BENEFITTING FROM CIVIL REGISTRATION

Central civil registration system

Electoral register

Educational services

Social services

Register of individuals

Health services

National statistics service

Immigration/ emigration services

Identity document service
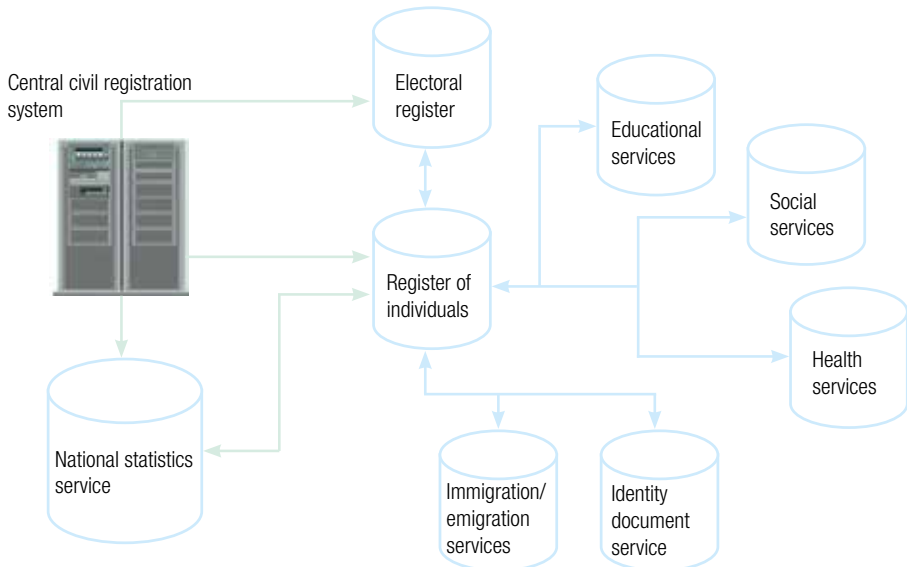
In the second phase, a preliminary study is completed by a detailed study of the scope and aims of the new system, the general functional specifications, organisational impact and provisional project planning. All of these make up the terms of reference of the civil registration computerisation plan.

✖ TOOLS

Example of table of contents proposed by the United Nations for a detailed study

1. Current situation
   - Description of the existing civil registration system
   - Weaknesses and problems
2. General framework for the computerised system
   - General conception of the system (including the chosen criteria for personal data protection, specifically the unique key type)
   - Organisation and management (scope and organisational impact)
   - Security
   - Civil status legislation
3. Structure of future system
   - General description of the solution (system architecture and functional specifications)
   - Hardware and software
   - Initialisation of civil status database (transfer of existing database or census)
4. Subsequent provisions
   - Master utilisation plan
   - Standards
   - Training
   - Risk analysis
   - System extensions (subsequent stages)

Annexes
   - Definition of functioning conditions
   - Civil status registration legislation

In the third phase, a call for tenders is issued to appoint a specialised industry or group of companies as the general contractor. This call for tenders will separate assistance for the project owner and general contracting into different lots. Assistant project management requires the help of specialised local experts and, where necessary, international experts.

✖ TOOLS

Example of services of a call for tenders

Lot 1: assistance for the project owner

    1.1: Assistance steering the "civil status" project

    1.2: Validation of "civil status" system (excluding external interfaces)

    1.3: Validation of external interfaces

    1.4: Assistance with rollout and acceptance testing

Lot 2: provision of assistant project owner for execution and assistance with system rollout

    2.1: "Civil status" project management

    2.2: Detailed specifications for external interfaces

    2.3: Detailed functional and technical specifications for civil registration

    2.4: conception of "civil registration" application, central and local system

    2.5: Execution of "civil registration" application, central and local system

    2.6: System installation on qualification platform

    2.7: conception of electronic administration module

    2.8: Execution of electronic administration module

    2.9: Interoperability testing with government IS (e.g: GIS)

    2.10: Execution of the transition to a computerised system

    2.11: Implementation and change management

    2.12: Assistance connecting with external partners

    2.13: Supply of equipment

    2.14: Development of specifications

    2.15: Corrective maintenance

    2.16: Adaptive and progressive maintenance

    2.17: Skills transfer

The computerisation process requires the drafting of detailed functional specifications by a working group comprising local civil registration professionals and assistance for the project owner to the retained contractor. These detailed functional specifications serve as a basis for the technical specifications which the contractor must furnish to the project owner.

If a major overhaul with global biometric census is necessary, census services must be detailed separately and must include a method for collating usable data from existing registers.

- Conception and putting in place of a national civil status database which complies from the outset with data protection rules;
- Replication of central system with back-up unit (far removed from main site and secured);
- Implementation of a virtual private network between the central site and all local offices;
- Implementation of civil status management software for all local offices using web (thin client) technology;
- Implementation of an e-administration module for exchanges between administrations and partner institutions;
- Training and change management plan;
- Rollout plan and corrective and progressive maintenance plan;
- Administration and auditing functions.

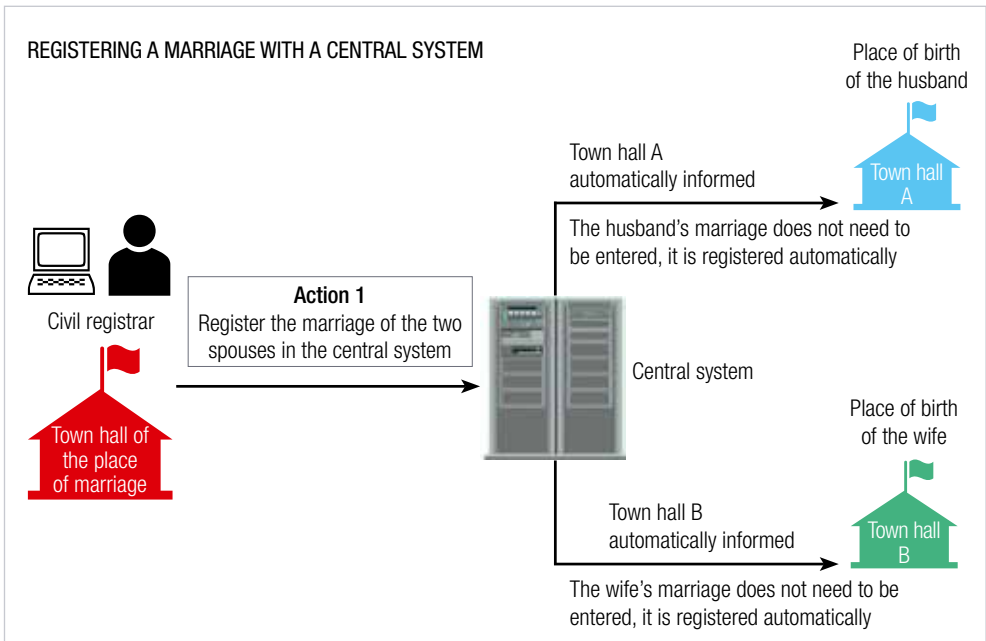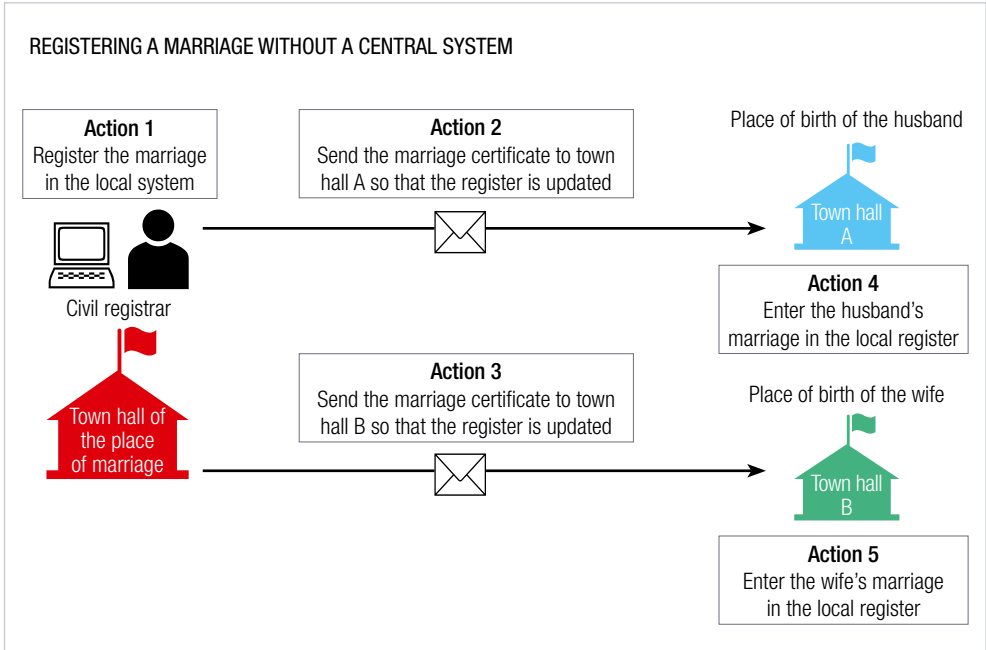The management software for local offices includes the following functions:
- monitoring the coherence of civil registration;
- creating and updating events (notations, amendments);
- simple and complex searches;
- producing records and certificates (printing);
- producing civil registers (printing).

The Swiss "Infostar" system is a successful example of a central computerised civil register. It handles the entire civil registration system in Switzerland. It was rolled out in 2006 and since then the central system has incorporated all new vital events, entering data on each individual each time a new event is recorded. When switching to the new system and deciding whether to enter only individuals connected to a new event in the new system or to systematically incorporate the entire population, it was decided to include individuals as from when events were reported. Inputting all 7 million inhabitants was rejected as being too onerous, estimated at USD 100 million, ten times more than the cost of developing the system. The gradual input option chosen was made possible and justified by the high quality and comprehensiveness of the pre-existing vital records in the civil registers of the twenty-six cantons of the Swiss Confederation.

In terms of organisation, the centralised computer system already constituted a major upheaval and the Swiss authorities did not want to make any changes in the division of labour and competence of cantons in civil status. One of the aims was to automate data exchange between civil registration services and other administrative services, statistics offices initially, followed by hospitals and consular services. To this end, an electronic administration module was developed between the services concerned in the Confederation and it achieved the aim of automating exchanges by simplifying them.

Another feature is that Infostar was developed internally by the services of the Federal Ministry of Justice. Similarly, biometrics was not retained as an option because the registers were deemed to be reliable and had no significant risk of duplications.

The illustration below gives a meaningful example of the simplification generated by a centralised computer civil registration system: to record a marriage, only one action is needed as opposed to the previous five. The productivity gains are considerable, enabling civil registry officials to devote more time to providing quality service to citizens, ensuring that records are comprehensive and complete.

REGISTERING A MARRIAGE WITHOUT A CENTRAL SYSTEM

Action 1
Register the marriage in the local system

Action 2
Send the marriage certificate to town hall A so that the register is updated

Place of birth of the husband

Civil registrar

Town hall A

Action 4
Enter the husband's marriage in the local register

Town hall of the place of marriage

Action 3
Send the marriage certificate to town hall B so that the register is updated

Place of birth of the wife

Town hall B

Action 5
Enter the wife's marriage in the local register

REGISTERING A MARRIAGE WITH A CENTRAL SYSTEM

Place of birth of the husband

Town hall A automatically informed

Town hall A

Civil registrar

Action 1
Register the marriage of the two spouses in the central system

The husband's marriage does not need to be entered, it is registered automatically

Central system

Town hall of the place of marriage

Place of birth of the wife

Town hall B automatically informed

Town hall B

The wife's marriage does not need to be entered, it is registered automatically

Moreover, when a centralised register is implemented, information and amendments can be automatically transmitted to the central site by electronic means from the court or notary's office from which the modification emanated, thus simplifying the system and avoiding inputting errors.

This consideration has led to recommending the implementation of an electronic administration module to enable secure data exchange with judicial institutions and notaries feeding information into the civil registration information system for all additional instruments. This same electronic administration module applies to hospitals (births and deaths) and the consular network (events concerning nationals residing abroad). This mode of electronic administration should help ensure coverage of all population groups and geographic regions. It is the indispensable corollary to a centralised electronic system.

Computerisation has an effect on choice of staff, whose training should include expert, demonstrable knowledge of the software used (experience using all usage types). Registering all vital events on computer is in phases.

When and how should biometrics be used?

Biometrics, defined as the mathematical analysis of biological characteristics, is based on the principle of recognising the physical characteristics of an individual to determine or confirm their identity automatically. Fingerprints and the range of indices on which biometrics is generally based provide proof of the identity of an individual by comparing his biological characteristics, which are universal, almost unique and do not change between birth and death, which can only be associated with one individual and which distinguish him from any other.

Cases of use

Biometrics is used in the legal, civil and domestic arenas. For civil biometrics, the UN's standardisation bodies, International Civil Aviation Organization (ICAO) and the International Organization for Standardization (ISO) have laid down the biometric technologies to be used for travel and identity documents, namely fingerprints and iris for identification; fingerprints, iris and portrait for authentication. In practice, flat fingerprint technology is the most common, resilient and inexpensive, because portraits are unreliable for facial recognition and iris technology is too expensive to be used on a large scale.

The UN has also identified the following two types of use:
  – *Authentication*. This is "1 to 1" comparison between biometric element of an individual (iris or fingerprints) and a similar reference item included in an electronic identity document stored in the form of an image or in template form and loaded on a smart card. This is the system used in the European Union, where each citizen can obtain a standardised biometric passport containing his best two fingerprints stored on a smart card. The aim here is to enable biometric comparison between bearer and passport during identity checks, particularly at borders, when exiting or entering the Schengen area. This system allows the bearer of a passport to prove his identity and use Automatic Border Control (ABC) systems.
  – *Identification*. This is "1 to n" comparison enabling the recognition of an individual within a population using his biometric data. The principle is to compare a set of data for an individual against an entire reference database, with an automatic system that converts images into digital templates (for fingerprints, this is Automatic Fingerprint Identification System or AFIS). This system removes duplications from a database, something authentication cannot do.

For civil status in French-speaking countries, biometrics could be used in the event of a complete overhaul, accompanied by a civil status census where there is a lack of documentary evidence. During a global census, biometrics can be used to confirm the uniqueness of registrations, excluding the risk of multiple identities linked to general censuses and building a reliable civil registry, eliminating duplications by identifying each new entrant in the database. In this case, enrolment must be conducted seriously because not all fingers are suitable for fingerprinting.

In addition, monograms indicate the amount of data to be captured according to population size and the degree of accuracy required. For example, with a population of 20 million, to achieve an error rate lower than one per ten thousand, eight fingerprints would need to be registered, whereas only six are usable. As coherence between biometric data and alphanumerical data for identification purposes is governed by the accuracy of data acquisition, registration typology is a key criterion for validating digital identity.

The advantages of biometrics

Biometrics can potentially guarantee the uniqueness of an individual with a digital identity. Some technologies are sufficiently tried and tested to meet the challenges of identifying individuals. Combined with cryptography, which guarantees the confidentiality and authenticity of personal data, biometrics can solve the challenges of mass identification posed in our era.

Studies carried out on the acceptability of civil biometrics show that fingerprints (and palm print) technology is the most accepted. Putting one's hand flat on an optical sensor is seen as a mark of self-assertion.

When properly used, biometrics respects the principles of privacy while maintaining the integrity of personal identity data. A recall of needs analysis and assessment of technologies used, combined with the accuracy of biometric systems, is the right approach in evaluating biometric registration for identification purposes.

The need to provide a framework for biometrics

Biometric systems are a particularly sensitive topic, because they can be used to identify an individual through his physical, biological or even behavioural characteristics. This is why national legislation provides that the implementation of biometric systems must be analysed and expressly authorised by the national personal data protection authority.

Since biometric data is a special form of data because it is produced by the organ itself and designates it in a definite manner, its misuse or misappropriation could have serious consequences. This is why recourse to biometrics must be strictly circumscribed by law, particularly the legislation on personal data protection.

📖 RULES

To ensure data protection from the outset, rules must be included from the functional analysis phase:

1) Biometrics is only one of a number of possible methods, the advantages and disadvantages must be weighed before using it for civil registration or identification. Once it has been decided on, it must be proportionate to needs, with a permanent protection of citizens' data.

2) Using biometrics means maintaining the separation between alphanumerical and biometric databases. With regard to data protection recommendations and to ensure that the databases are not misused, mechanisms must be used to break the automatic link between a biometric file and the attributes in the corresponding civil status file. Using appropriate encrypted link architecture between civil status data and biometrics is an effective solution that makes it impossible to associate a set of biometric data with an identity without the encrypted link between the databases.

3) The third rule concerns strict management of system access profiles, which means drawing up a definition table of the types of user services before the functional specifications, as well as a table setting out the access rights by type of user service. This rule is completed by total traceability of data access, which dissuades against fraudulent use and access by unauthorised persons.

The context for optimal inputting of biometric data should also be determined to limit rejections and keep manual validation to an acceptable level. And of course, registrations in the identity and biometric databases are not kept in the same order...

SEALING DATABASES

Identity database (names) ↔ Encryption module / Encrypted link ↔ Biometric database (prints)
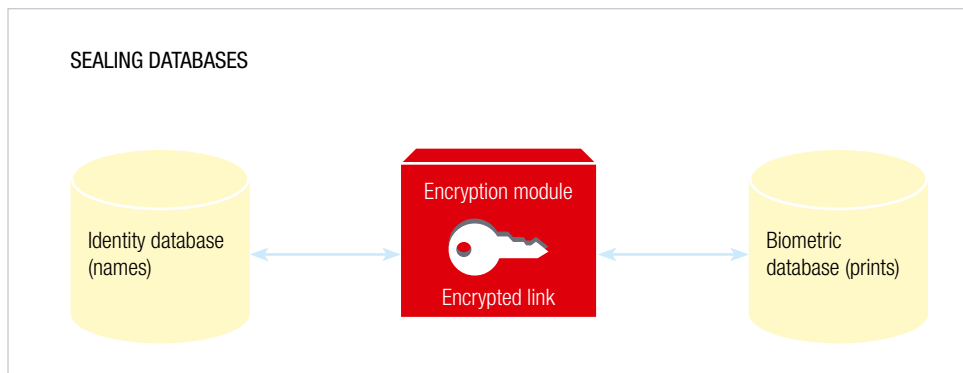
🔑 EFFECTIVE PRACTICES

- Include data protection rules from the functional analysis phase
- Separate alphanumerical and biometric databases
- Implement total traceability of data access
- Professionalise input and registration sites to improve the accuracy and quality of biometric data
- Only use multiple finger sensors for registration
- Retain appropriate inputting (necessity, accuracy) during the registration process
- Avail of the options of multimodal combination.

The national civil registration plan must analyse all incidences of biometric technologies on the organisation and use of data and ensure that it uses industrial solutions with certified accuracy, quality and interoperability, which requires calls for tender so that only applicants with solid references are admitted.

The normative reference for biometric data used for civil purposes is the ISO/IEC 19794 standard, entitled "biometric data interchange formats". The ANSI-NIST data exchange format of the National Institute of Standards and Technologies (NIST) must be used. An automatic fingerprint identification system (AFIS) can be implemented to build the national biometric civil registration system.

To determine the size of the AFIS, the population needs to be calculated according to the age set for recording biometric data – the international recommendation is not less than 12 years for fingerprints. The typology of incoming and outgoing operations must be described. Flows at peak periods over the entire territory need to be estimated, i.e. the number of identification operations [1 : n] to detect duplications and the number of authentications per hour for authentication [1 : 1] for control purposes.

🔧 TOOLS

List of biometric processes to be managed:
- the acquisition of biometric information;
- the process of identifying an individual through comparism with all stored data, including the preliminary uniqueness control process when data is entered on the system;
- the elimination of duplications of biometric data sets during insertion in the database;
- the comparism process through simple verification of a single fingerprint;
- the comparism process using strong authentication of all recorded fingerprints;
- answers to requests made by civil registration users;
- the hit management process (assistance to decision-makers and arrangements for using experts) including or excluding facial recognition on a subsidiary basis.

AFIS performance in terms of response time and accuracy must be described. The same applies for system availability and rules on security access and confidentiality.

> **⚒ TOOLS**
>
> Technical specifications of AFIS:
> - performance in terms of response time and accuracy;
> - system availability performance;
> - rules on security access and confidentiality;
> - modularity specifications at system and software level, system flexibility, data integrity and interoperability;
> - system updating functions;
> - system consultation functions;
> - administration and auditing functions;
> - training, rollout and progressive and corrective maintenance.

Requirements for using censuses

Overhauling civil registration requires a census. As the census must be exhaustive, it must be "active": census officials must meet citizens, go to their home, as with a national population census. A "passive" census must be avoided – where the population goes to officials in host sites – because countries that have adopted this kind of census have experienced significant failure: many citizens did not turn up because of lack of information or of awareness.

Ideally, a civil registration census should be coupled with a national population census. It is organised with the national statistics service, which has extensive experience using forms adapted to computer coding and has methods and tools such as geographical information systems with GPS positioning to help divide up the territory in both urban and rural settings.

Organising this kind of census is a major challenge that requires meticulous planning. As the risk of duplication is high, using biometrics can be a reliability guarantee for the database compiled.

It is essential to draw up a methodological guide to the biometric census so that all actors share the same concepts.

> **⚒ TOOLS**
>
> Methodological guide to a biometric census:
> - "active" census organisation at national and local level;
> - technical organisation (concepts, schedule, preparatory activities);
> - drafting of technical documents (forms and maps);
> - organising the collection of biometric data;
> - staff training tools;
> - modalities for conducting the pilot census;
> - communication and awareness-raising campaign;
> - collection teams (composition, methods, supports);
> - modalities for feeding back the data collected;
> - logistical support units at central and local level;
> - processing, analyses and dissemination of results.

The need for management change

In light of the above, it is clear that there is a generational leap between practices based almost exclusively on "paper" registers and those to be adopted for an updated system based on IT and potentially using biometrics.

This change will require preparing those involved. Preparation will involve, from top to bottom, the government authorities in charge, followed by mayors, prefects and sub-prefects, and civil registrars in charge of implementing the change. After these come enforcement officials directly in charge of drawing up records, issuing them to the public, keeping and archiving them, and reporting any notices likely to affect records issued by other civil registration offices, and finally the population at large.

State and local authority officials will need full initial training with assessment. Particular attention must be paid to preparing the training plan, which is part of the national civil registration plan. To ensure that the system is sustainable, ongoing training must be provided to officials in place and initial training provided to new staff.

The population must be informed through in-depth campaigns based on the principle that electronic civil registration is a step forward for citizens, recognising the right of everyone to an identity. They should also be reminded of the range of rights afforded by civil registration (see above).

The next stage consists of deciding how to implement the system. Only one process seems appropriate today, because it is based on caution and common sense: progressive implementation to control change based on a pilot scheme.

Change management also involves assessing the use of information and communications technologies. Improving civil registration and vital statistics should include internal and external assessment, pilot studies and demonstrators spread throughout the territory.

⚒ TOOLS

Change management tools:
- drafting a training plan;
- raising awareness among decision-makers;
- full initial training of all civil registrars and enforcement officials;
- scheduling ongoing training for all those involved in civil registration;
- external assessment to identify user perception and needs;
- internal assessment to measure performance and gauge the attitudes of data providers, operators and users of data on system performance;
- pilot studies and demonstrators to assess procedures and new technologies;
- monitoring technology to obtain the best tools for improving civil registration and vital statistics.

Good use for computerised civil status registers

FINANCING THE CIVIL REGISTRATION SYSTEM

Cost assessment

The 2020 United Nations Agenda raises the issue of the cost of consolidating civil registration: once a national plan to upgrade or overhaul vital records has been decided, the issue of financing relates to both investment and operation.

The methodical approach of financial analysis for a project of this significance must be one of "overall project costs" comprising all financial estimates over the project duration from the preliminary study to its full rollout across the territory, given that system continuity generates recurring annual operating costs that need to be budgeted for on an ongoing basis.

It is necessary to provide for the duration of the project and its different phases, starting from the principle that the aim is to keep to the roadmap drawn by the United Nations, i.e. computerising event and record management with ultimately local offices fitted with standardised management software linked to a centralised system.

The reasonable thing to do is to spread out the workload over seven to ten years, which can be adjusted halfway depending on the state of progress. This long-term perspective facilitates scheduling and means that financing can be linked to stages completed. An assessment system can be set up if external financial partners are involved in the project, particularly in the front-loaded period of initial investment in the network and central system, including biometric census where used.

In addition to the organisational prerequisites as set out above, computerising the systems requires meticulous planning of the completion stages.

☞ EFFECTIVE PRACTICES

Phasing in three stages as set out above should correspond to three completion phases of the tender awarded to the contractor. The first phase is a firm phase, while the other two are conditional, triggered only after external audit to confirm that the previous phase has met its targets.

✘ TOOLS

List of services provided in the first phase:
- Execution of a virtual private network;
- Execution of a central system with back-up system;
- conception study for electronic administration module;
- Execution of biometric census (in the case of an overhaul);
- Execution of a pilot (and census pilot where appropriate);
- Software development for local offices;
- Staff training;
- Roll-out for stage 1 vital events.

The conditional phases include everything not included in the firm phase and the business content of stages 2 and 3, as mentioned above. The conditional phases also include operating costs and maintenance costs. The first conditional phase includes additional events arising from court rulings. It must also include the execution of the electronic administration module, the study for which was carried out during the firm phase. The same module is to be rolled out in hospitals.

Moreover, throughout the project, an awareness-raising and public information campaign is conducted by the national or sub-national authorities.

At this point, it is essential to have extremely accurate project accounting and efficient management tools, particularly KPIs for risk analysis.

Modalities of financing

The national civil registration plan and the cost estimate for the services required from the contractor and assistant project management will be used to present 10-year financing for the plan.

The first year of the computerisation plan involves studies and preparing the tender. After the tender contract is awarded, the firm phase of the contract begins. This corresponds to the first stage of the plan and can be executed over two to three years according to the following schedule, with eight years retained as the overall duration for all three stages:
– Year 1: studies, tender preparation, financing and call for tenders;
– Years 2 to 4: execution of the first stage, in the firm phase of the contract;
– Years 5 to 6: execution of the second stage, in conditional phase 1;
– Years 7 to 8: execution of the third stage, in conditional phase 2.

The national plan can thus be presented to the political authorities and budgetary decision-makers with an approximate cost schedule.

The investment required, especially during the firm phase when the core system and network are implemented, is such that an appeal to the technical and financial partners is justified for this part of the financing. For larger countries and populations, the cost of the firm phase including implementing the central network system, hardware and software for client workstations could be as high as EUR 100 million (2013 value). Each of the conditional phases represents approximately 25 to 30% of the cost of the firm phase.

For example, a country with 17 million inhabitants schedules a budget of EUR 52 million, over the five-year period 2013-2017, for its national civil registration plan. Under the financing plan, the state must contribute EUR 15 million, i.e. 30%, while the technical and financial partners must contribute EUR 37 million (70%).

NATIONAL REGISTER OF ELECTORS AND LISTS OF ELECTORS

The election assessment missions organised by the IOF over the last twenty years or so in partnership with the RECEF show that many member states, particularly in sub-Saharan Africa, experience difficulties in identifying and registering electors and drawing up lists of electors. Most of these difficulties are due to the lack of or mismanagement of civil status registers. Countries emerging from crisis are a perfect illustration of the dramatic consequences that conflicts can have on electoral heritage notably due to disorganised administration and the destruction of public buildings and of official documents.

Without a reliable civil register, these countries sometimes use complex and costly technologies to draw up lists of electors, which require considerable investment in terms of resources and time. Moreover, the "special censuses" carried out in this context are not always suitable for drawing up exhaustive and permanent lists of electors. The result is that they are forever going back to square one without improving the quality of the electoral lists. To break with this method of registering electors and achieve sustainable management of the electoral lists, at the Journées des réseaux institutionnels de la Francophonie in March 2012, the IOF initiated discussions on implementing a national register of electors (NRE) in countries in the French-speaking area. The initial results of these discussions are set out in this guide.

THE NATIONAL REGISTER OF ELECTORS

In this guide, the national register of electors is understood to mean the permanent database used to draw up lists of electors during a vote. It is made up of three parts: "civil status", the "national register of electors" and "lists of electors".

This term is not unique. For example, in Benin, they prefer the term "permanent computerised list of electors" (LEPI), in Burkina Faso "national electoral file", in Quebec, "permanent list of electors" (LEP), in the rest of Canada, "national register of electors". In Belgium, lists of electors are drawn up using a national register of natural persons.

📖 RULES

The advantage of setting up a national register of electors is that it facilitates the enrolment and involvement of individuals eligible to vote in a poll. It meets the major challenges of drawing up lists of electors, which is difficult especially in French-speaking Africa where civil status is often very difficult to establish. Moreover, it boosts the confidence of voters in the lists of electors because using a national register of electors is a transparent procedure

☞ EFFECTIVE PRACTICES

- Consensual electoral legislation
- Citizens eligible to vote
- Voters having a relation with the electoral territory

Before setting up an NRE, it is important to achieve political consensus and to adjust electoral legislation accordingly. This must be as accurate as possible, particularly as regards drawing up and updating the NRE, so that there is no room for subjective interpretations or challenges. The legislation on setting up an NRE must also be precise on certain aspects such as the management organ or organs; the main data source; the procedure for registering voters; the implementation of a process to revise the lists of electors following this procedure; the distribu-tion of tasks between the election management body (EMB), its branches and revision commissions; the role of political parties in updating the NRE; the framework for personal data protection, etc.

Each of these stages must be characterised by the principle of transparency. The first stage of implementing an NRE involves seeking political and social consensus to achieve reliable lists of electors that are accepted by all stakeholders taking part in the process.

The NRE is a permanent database containing information on voters and electoral territories. In principle it is administered by an EMB. Information on voters is drawn from one main source, i.e. either the civil register or the database drawn up during the last electoral census, with the option of using other potential sources for purposes of update. Territorial information is drawn from various official sources. The EMB is responsible for setting the limits of electoral territories.

The NRE is updated regularly or periodically to avoid recourse to exhaustive electoral censuses. The basic principle of an NRE is to constantly improve the quality of its contents in order to establish quality lists of electors for polls. Setting an NRE considerably reduces the time spent drawing up lists of electors and generates savings.

The permanent list of electors in Quebec

The national register of electors is called the "permanent list of electors" (LEP). The LEP was created from information gathered during the electoral census conducted during the 1995 referendum and was used for the first time in 1997. Since then, it has been used to produce all municipal, school and provincial election lists in Quebec and for referendums. Drawing up lists of electors is an operation which now requires only a few hours. Furthermore, the LEP is an important source for updating the Canadian NRE in Quebec.

In 2013, the LEP coverage rate was estimated at 92% and its currency rate at 97%. Since its inception, there has been no electoral census and Quebec's Chief Electoral Officer estimates that savings of over 100 million Canadian dollars have been achieved.

Source: Chief Electoral Officer. http://www.electionsquebec.qc.ca/english/index.php

The civil register is used as a source of information for the NRE and is updated between elections. Before each poll, the electoral lists are revised, allowing voters to verify their registration and, where necessary, to update their data. Following this review, all modifications made to the lists of electors are incorporated in the NRE to remove duplications and improve its quality. Final lists of electors are then produced for the election.

Voters and territories

An NRE consists of two main databases – the electoral database and the territorial database. Territory is understood to mean circumscription. Information on voters may vary from one country to another. Nevertheless, it usually includes the surname, first name(s), gender, date of birth, residence and unique identification number.

⚒ TOOLS

Voter information in Niger

ARTICLE 25

The following information must appear in the list of electors:

- surnames;
- first name;
- mother's first name;
- given name where applicable;
- date and place of birth;
- marital status;
- spouse's surname and first name;
- occupation;
- residence and voter's telephone number where applicable;
- voter's address.

Source: Ordinance 2010-96 of 28 December 2010 on the electoral laws of Niger http://www. assemblee.ne/index.php/les-textes/le-code-electoral

The information that can be obtained from a voter is numerous and can vary. Only information use-ful to the administration of elections should be retained for incorporation in an NRE. The same applies to the cross-referencing number with the civil register, voter status, date and time of registration and date and time of update. These administrative attributes are very important for managing the register.

Territorial information may be linked to physical, administrative and electoral territory. An NRE can be used to locate voters by linking them to the smallest geographical entity (e.g: address, hamlet, village or polling centre). This linkage helps speed up the drawing up of lists for all kinds of elections (national, provincial, regional, municipal, etc.). Furthermore, locating voters in the territory helps fix or adjust the number of representatives for each electoral division (multi-seat constituencies), or to modify the boundaries of single-seat constituencies during legislative elections.

Locating voters also helps to distribute offices over the electoral territory to ensure the fair exercising of the right to vote among all voters. Consequently, a geographic information system (GIS) can be developed alongside the NRE. But where it is not possible to set up a GIS, the NRE can operate with a decent descriptive database of territories and polling centres, assigning each voter to an electoral division and polling centre, with a unique number for the entire national territory.

COMPOSITION OF THE NRE AND THE RELATION BETWEEN A VOTER AND HIS ELECTORAL CIRCUMSCRIPTION

Register of electors

Document

Partner information

Foreign address

Update history

Voters
- Unique identification number
- Cross-referencing number with civil register
- Date & time of registration
- Date & time of update
- Surname
- First names
- Gender
- Date of birth
- Information on residence
- Issuer processing
- User code
- Polling centre identifier
- Date of choice of polling centre

Descriptive territorial file

Administrative

Electoral

Region and department

circumscription

Municipality

Neighbourhood or village

Polling station

Polling centre

Polling station branch

GIS and mapping

Boundaries of circumscription

Municipality boundaries

Neighbourhood / village boundaries

Location of polling centres

From citizens to voters

Civil registration concerns all citizens from birth to death, in contrast to voter status, which is not necessarily granted to every citizen. To determine whether an individual is eligible to vote, all variables used to make this determination must be incorporated when transferring civil status data to the NRE, so that citizens who do not meet the conditions set down by law are not included. However, the capacity to vote differs from one country to another, depending on national electoral legislation.

⚒ TOOLS

The conditions required to be a voter in Mali

ARTICLE 27: Those eligible to vote are Malian citizens of both genders, aged at least eighteen, who enjoy full civil and political rights and who are not affected by any prohibition as provided for by law or by a court.

ARTICLE 28: The following may not be registered on the list of electors throughout the period of their penalty:

- individuals convicted of a crime;
- individuals convicted of theft, fraud, breach of trust, misappropriation of public funds, forgery and use of forged documents, corruption and influence peddling, indecent assault and with a sentence of more than one month's imprisonment, whether it is suspended or not;
- individuals sentenced to over three months' imprisonment, suspended or not, for an offence other than those listed in paragraph 2 above;
- individuals convicted in absentia;
- undischarged bankruptcy.

Individuals disenfranchised pursuant to a court ruling and incapacitated adults may not be included in the list of electors.

ARTICLE 29: Individuals convicted of the following may not be included in the list of electors for a period of five years from the date on which the conviction became final:

- an offence other than those listed in paragraph 2 of Article 28 above, with a sentence of between one month's and three months' imprisonment, unsuspended;
- any offence fined, unsuspended, of more than two hundred thousand francs.

ARTICLE 30: Individuals prohibited by court order from participating in elections may not be included in the list of electors for the period stated in the court ruling.

Source: Act 06-044 of 04 September 2006 on the electoral laws of Mali http://recef.org/bibliotheque/

In this extract from the Malian electoral law, citizenship and the age of majority are essential factors for becoming eligible to vote: individuals need to be aged over 18 and must not have been convicted of various offences.

These provisions require a database to generate and share information on citizens, particularly as regards their identity and any convictions. The EMB must put in place mechanisms for communicating with the judicial administration and the administration in charge of vital events to obtain the right information in real time on the identity of individuals and court rulings that may involve loss of voting capacity. If this is not done the NRE would count every individual who does not meet the conditions imposed by electoral law.

It is also useful, especially for countries where electoral law does not impose any obligation of residence in the country (which is the case in Mali), to indicate in the NRE the address of voters living abroad to facilitate the implementation of the right to vote for elections organised outside the national territory. Voters in the diaspora, like citizens residing on the national territory, must be registered on the list of electors and have a voter's card.

SOURCES OF INFORMATION ON VOTERS

📖 RULES

Putting in place an NRE requires a main data source supplemented by other sources, particularly as regards the territorial aspect.

🗝 EFFECTIVE PRACTICES

- The main source of information is the civil register
- A national census can be used to make up for the lack of vital records or shortcomings therein
- Other information can be used to supplement the NRE
- Voters must be able to register directly with the EMB
- These different information sources must be integrated using a protocol to ensure the integrity of the information and detect duplications.

Although the main information source on voters is the civil register, a special electoral census can help set up and update the NRE, as illustrated below.

INFORMATION SOURCES OF THE NATIONAL REGISTER OF ELECTORS

Information on voters		Territorial information
Civil registration management		Ministry of the Interior or territorial administration
OR Electoral census		Ministry of Transport
Electoral revision	NRE	Ministry of Education
Voter		Institute of statistics
Other sources		Other sources
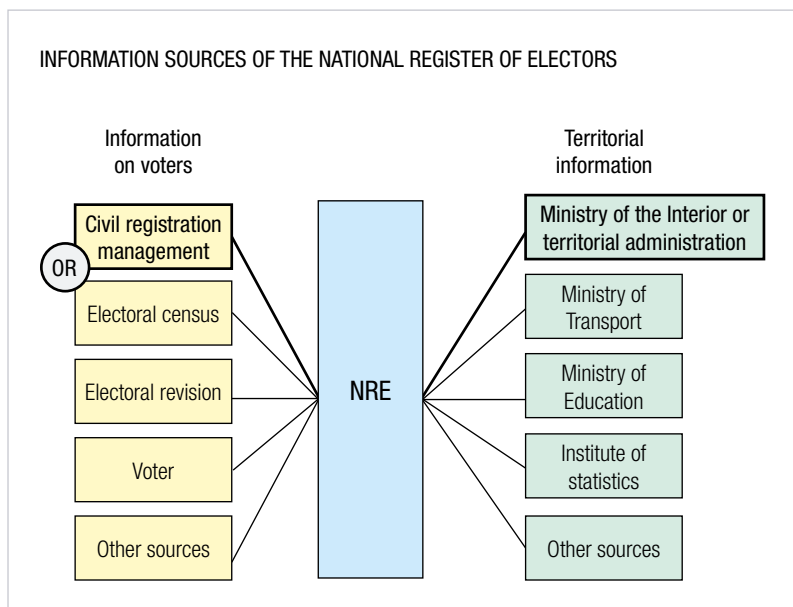
The civil register

The organ in charge of civil registration and the NRE administrator should set up a means of exchange by virtue of an agreement protocol to enable secure communication of information on voters. This secure information exchange is made possible thanks to the existence of a cross-referencing number.

Electoral censuses

Depending on the country's civil registration update period, the rate of current information on voter residence may not be high enough to ensure reliable lists of electors. In this scenario, the EMB may have periodic recourse to national census data or, where necessary, carry out special electoral censuses.

Depending on the legislation, these special censuses are carried out on an annual basis. The aim is to update the NRE, notably information on voter residence, a factor that determines to which polling centre voters are assigned, taking into account the fact that they may have moved from one house to another between updates.

Updating the register is a less costly operation on a much smaller scale than using biometrics, a process in which many African countries have engaged in recent years.

Other information sources

In order to have a comprehensive and updated NRE, it is recommended that other information sources be used, especially for territorial data. Some countries decentralise the management of their vital records to provinces or municipalities, supplemented by data drawn up by consular services, the courts, the armed forces, etc. These additional sources must be used with great caution as they may contain contradictory information depending on the date they were updated. Furthermore, EMB needs to analyse the quality of this information before modifying the NRE.

With a great number of decentralised government services in ten provinces and three territories, Canada is an example of how the register can be updated from multiple information sources. It is important not to lose sight of the necessity of appropriate personal data protection in the collection and processing of information required to keep the lists of electors up to date.

Direct registration by voter

Voters must be able to register with the NRE at any time or update their details if they transfer from one house to another, even if they have not been counted in the census or do not appear on the civil register. To this end, the EMB sets up appropriate procedures for registration, rectification and striking off.

Under the current electoral legislation, entry on the National Register of Electors may be mandatory or optional. In Belgium, for example, it is mandatory, as the case also is with voting. In Canada, by contrast, entry on the list of electors is optional, as the case also is with voting. These differences are mostly linked to the historical and cultural contexts of the states in question. In any case, the EMB must carry out awareness-raising campaigns among voters to encourage them to check that they are registered and, if necessary, ask for the rectification of details regarding their identity, residence or any other personal information.

This involvement of voters in the drawing up of the list of electors has the advantage of ensuring a better rate of current information and increasing NRE transparency.

Multiple sources and a single national register of electors

The NRE may be compiled from various information sources but this diversity entails risks of errors related to multiple registrations and unwarranted striking off.

Depending on the context, these various information sources can be organised in hierarchical order according to precise criteria such as:
- quality;
- comprehensiveness and standardisation over the entire territory;
- date of update;
- verification (transparency criterion).

Updating the NRE requires the EMB to identify the most reliable sources. For example, if a voter dies, his death is usually registered by the health services, law enforcement, the town hall, the civil registry, etc. An event must correspond to a unique information source to minimise the risks of error, as shown in the table below.

EVENT	INFORMATION SOURCE
Attainment of voting age	Civil status
Criminal conviction	Courts
Military service	Armed forces
Transferring from one house to another	Town Hall
Emigration outside the country	Ministry of Foreign Affairs
Mortality	Civil status

It is also important, before modifying the NRE database, to set up reliable identification procedures such as:
- the descriptive method (surname, first name, gender, date of birth, address, etc.);
- the use of a cross-referencing number determined by the civil registry;
- verification of data with voters;
- use of biometrics.

SOURCES OF INFORMATION ON ELECTORAL TERRITORIES

📖 RULES

In addition to the requirement for reliability inherent to lists of electors guaranteeing the right to vote to each voter, it is important to ensure that voters are fairly represented and that they have access to polling stations in all regions.

- Fair electoral representation for all voters
- Polling centres at a distance that is accessible to all voters
- Polling stations with a balanced number of voters
- An up-to-date "voter-territory" relation so that voters are associated with one polling centre.

Electoral representation and the management of electoral territories

Fair electoral representation

Fair electoral representation is the condition that must be met to uphold the fundamental principle of one voter, one vote. The principle of one voter, one vote is closely linked to the polling method. With plurality polling in a single-seat district, it is recommended that electoral divisions have a similar number of inhabitants or voters to ensure that voters are fairly represented. With proportional, mixed or multi-seat polling, the number of elected representatives must be proportional to the total population or to the number of voters in the circumscription.

Thus, the electoral legislation provides for the periodic revision of circumscription boundaries and the number of elected representatives per circumscription to ensure that voters are fairly repre-sented. France recently adjusted its electoral circumscriptions significantly.

⚒ TOOLS

The electoral circumscriptions in France established in 2010
In July 2008, the French government revised the boundaries of electoral circumscriptions, which had not changed since 1986. This adjustment of circumscritpions was undertaken by an ad hoc commission, known as the "Guéna Commission" named after its chairman. The aim was to revise the circumscription boundaries to reflect changing population trends in France. Using an original approach, this reform introduced eleven international circumscriptions to represent French people living abroad. The Constitutional Council validated the new electoral circumscriptions in February 2010 and these were implemented in the 2012 parliamentary elections.
Source: 2010 redefinition of French legislative constituencies
https://en.wikipedia.org/wiki/2010_redistricting_of_French_legislative_constituencies

The information contained in the NRE, especially on the link associating voters and the smallest possible entity (address, place of residence or polling station), made it possible to revise the electoral circumscriptions in compliance with the rules and processes laid down by law. This revision should preferably be conducted upstream of election periods so that the work can be done without hindrance and voters can be informed in good time of any changes made to the circumscription boundaries.

Managing electoral territories

Once the circumscriptions have been carved out and have a precise number of voters associated with them, polling stations and centres can be determined, ensuring that no voter is too far away from his polling station.

Polling station is understood to mean the smallest electoral entity to which a voter is associated. A polling centre is the smallest electoral territory to which a number of polling stations are attached. An electoral circumscription may contain a number of polling centres. Therefore, one polling centre may contain a number of polling stations. Even if the law does not stipulate any limit to the number of voters per polling station, the EMB must carry out a fair distribution of voters in the different centres set up for this purpose to ensure that everyone has equitable access to the right to vote and avoid long waiting lines during polling.

For instance, the electoral laws of some French-speaking countries set the number of voters authorised to vote in a polling station as follows: Quebec (425), Mali (500), Niger (500), Central African Republic (700), Burkina Faso (800), Belgium (800) and Guinea (1000). Some states have qualified these restrictions. For example, in Senegal, urban polling stations cannot accommodate more than 900 voters and rural polling stations not more than 500. In the Central African Republic, each station may accommodate up to 700 voters, with the option of installing a second polling booth to speed up polling. In Niger, the electoral laws stipulate that a polling station must be set up in any village with at least 300 voters.

An up-to-date NRE allows the EMB to determine polling centres well in advance, identify polling stations and make periodic adjustments according to demographic trends among the electorate.

Geographical information and electoral territory

A poll is an event linked to the existence of an electoral territory. To manage this event more efficiently, it is recommended to use a GIS with as much information as possible on the physical, administrative and electoral territories. Where there is no GIS, an NRE can be administered by associating voters to administrative and electoral territories. See Tools below for some examples of information to be held on territories.

Examples of geographical information

Physical territory:
- rivers;
- mountains and elevation;
- roads and other transport infrastructures.

Social and administrative territory:
- borders;
- administrative boundaries (region, municipality, hamlet, district, etc.);
- public and commercial infrastructures (e.g.: school, town hall, etc.);
- location and distribution of social phenomena such as ethnicity, religion or language of the population.

Electoral territory:
- electoral circumscriptions;
- electoral sectors;
- polling divisions;
- location of polling centres;
- location of voters entered in the NRE (residence – district, village);
- location of administrative offices of electoral branches.

Geographical information sources vary widely from one country to another. In general, territorial data is held by a number of administrations. They give information to the EMB and ensure that data is kept up to date in its own sphere of competence:
- the Ministry of the Interior;
- the Ministry of Territorial Administration;
- the Ministry of Transport;
- the Ministry of Education;
- the Institution in charge of statistics;
- other sources.

If a GIS is not linked up to the NRE, an EMB may use detailed paper maps of the national territory, on which it locates the main elements necessary for administering elections.

An NRE can operate very well without being associated with a GIS provided it has a descriptive database that links to electoral territories, including polling centres and polling stations in particular.

Electoral territory and the national register of electors

The quality of the relationship between voters, territories and the NRE determines the rapidity of the various operations necessary for polling, such as:
- setting electoral territory boundaries according to the criteria set out by law;
- determining the number of voters according to different electoral territories;
- determining the location of electoral branch offices;
- setting up or removing polling stations and polling centres according to the number of voters;
- determining the roads to use and the time needed to deploy electoral material.

Localising polling stations and matching voters to the appropriate polling stations

Once electoral circumscriptions have been drawn, the EMB identifies polling centres that will accommodate one or more stations. To conduct this exercise, it may use its territorial branches or representatives of municipal public administrations throughout the territory. Electoral legislation in some French-speaking countries provides that schools and other public infrastructures are used as polling centres and accommodate a number of polling stations.

Voter access to polling centres must be ensured when associating voters to centres. Particular attention must be paid to rural regions with low population density. The distance that a voter has to cover to exercise his right to vote must be reasonable. This is why legislation in a number of French-speaking countries provide for one polling centre in each village with a minimum number of voters. In all cases, polling centres and stations should be accessible to disabled persons and those with reduced mobility.

If this significant operation of matching voters to their polling centre is carried out before or at the start of the election period, it is easier to inform voters in good time where they can exercise their right to vote.

Depending on the link chosen between voter and territory (address or polling centre), matching voters to the smallest electoral entity (polling station) uses different processes. There are three possible scenarios:
– If the voter is linked to an address (number, street, municipality), a map is needed to identify the boundaries of each circumscription to which polling centres and stations are attached. This approach is a little difficult to implement in the initial development phase. It can be a long-term objective.
– If the voter is directly attached to a polling centre due to his proximity to it, the process is different: a given number of polling stations must be set up according to accessibility rules. For example, if 5000 voters are attached to a polling centre, the EMB divides the electoral register for the centre in 10 stations with 500 voters each. In this case, voters must be informed of the location where they can exercise their right to vote. This approach can be transposed into other electoral contexts.
– If voters are linked to a hamlet or village, it is difficult to match them to a polling station because a village can be quite spread out and the EMB may not have sufficiently accurate information to determine the nearest polling centre to voters. A voter may be required to vote at the other end of the village even though there is a polling centre nearer his residence. This situation should be avoided where possible because it can cause tension during polling.

ELECTION MANAGEMENT ORGAN

📖 RULES

There must be an EMB administering the NRE on a continuous and ongoing basis and it is recommended that a permanent, multi-party committee be set up to study particular cases.

🔑 EFFECTIVE PRACTICES

- Set up a permanent management structure dedicated to the NRE
- Develop an IT system dedicated to the NRE
- Set up processes for updating the NRE
- Entrust particular cases to a permanent, multi-party committee
- Work transparently to instil a climate of trust

A permanent management structure dedicated to the NRE

Setting up a permanent NRE must go hand in hand with the existence of a permanent EMB that manages the entire electoral cycle incorporating a department exclusively in charge of NRE.

To enhance the successful implementation of an NRE, competence and transparency must be given priority when staff is hired. Staff must demonstrate neutrality in the workplace. It is important to promote ongoing training so that employees stay up-to-date with technological developments related to their work.

> **⚒ TOOLS**
>
> **The expertise required to administer an NRE**
>
> NRE governance directorate and management of electoral territories:
> - a manager in charge of controlling the system,
> - an analyst-coordinator for the voter data system,
> - an analyst-coordinator for the system focusing on territorial data,
> - technicians for making manual adjustments to voter allocations,
> - technicians for making manual adjustments to territorial allocations,
> - secretariat officials
>
> The main tasks of this department are as follows: collaborating with bodies providing information to the NRE; incorporating modifications into the NRE database (voters and territory); producing provisional and final lists of electors; removing duplications; taking part in training revision commissions; supporting the work of revision commission and the multi-party committee.
>
> Information technology department:
> - person in charge of servers, computer workstations and networking,
> - database administrator,
> - computer analysts in charge of the voter and territorial aspects,
> - computer programmers,
> - secretariat officials.
>
> The main tasks of this department are as follows: purchasing, installing and maintaining all computer hardware; developing and programming interfaces for the NRE database; programming automated requests; providing general technical support to the NRE governance directorate and electoral branches.

The number of employees and expertise vary from one state to another, according to the administrative organisation in place, the workload during an electoral event or a massive update, following an electoral census or revision during election periods. The important thing is to retain minimum expertise throughout all stages of the NRE life cycle.

To protect data collected in the NRE it is important that the staff working there is bound by strict regulations and a system that records access history and logs modifications in the NRE, to ensure transparency of all operations and guarantee the integrity of information while maintaining the confidentiality of voters' personal information.

A computerised system dedicated to the NRE

The basic equipment is: one computer per person, printers and a minimum of two servers. The first server is dedicated to the NRE database being used and the second is used, among other things, to make a back-up copy. The security aspect must not be overlooked. Antivirus software must be installed and kept up to date on each computer and server. Appropriate protection of the power supply is highly recommended to protect investment in terms of time and money.

There are many software packages to help manage the relational database and GIS. Before acquiring any computer hardware it is important to carry out an assessment of needs and to purchase according to the financial resources available for both acquisition and maintenance.

Open-source software could be considered as it avoids licence renewals and encourages the development of local expertise and economy (PostgreSQL and MySQL are excellent solutions for relational databases; PostGIS and Quantum GIS for the GIS). The investment in training internal resources is the same as for purchasing commercial products.

⚒ TOOLS

The main characteristics of a database management system (DBMS) dedicated to an NRE are as follows:
- meet the needs of the EMB and fits the legislative, financial and operational context;
- must only be used by EMB employees trained and authorised for this purpose;
- must contain sufficient information for the entire electoral population, generally several million entries;
- must be associated with a database interrogator in consultation mode to enable the execution of several requests;
- must enable the creation of different user profiles, unique and secure access for each user;
- can communicate with electoral branches and revision commissions;
- can be associated with a GIS;
- can be used to develop interfaces aimed at different users, for example, an overview for consultation only and simple forms for addition, modification or striking off;
- can be used to develop web applications, for example so that voters can verify their entry on the internet.

Centralising information sources and updating the NRE

In principle, an NRE is updated on an ongoing basis according to various information sources giving it information.

If the civil register is the main source for updating identities in the NRE, it is recommended to provide a mechanism (weekly, monthly, quarterly) for making modifications in the civil register. A number of updates can be processed automatically, such as adding citizens over the age of majority or striking off deceased individuals.

During updates, there are always particular cases of voters who are not cross-referenced with the civil register. This is why the electoral legislation must provide for the creation of a multi-party committee to revise particular cases.

Handling particular cases

Centralising different information sources may give rise to uncertainties on how to handle information on one or more voters. It is precisely in order to analyse particular cases that it is recommended to set up a dedicated revision commission. The composition of such a commission must provide for the inclusion of representatives of the main political parties so that they have full confidence in the work undertaken. In 1999, Quebec set up the Permanent revision commission.

The mandate of the revision commission is to verify particular cases, such as where a voter is registered but not cross-referenced with the civil register, for whom all information relating to his entry on the National Register of Electors is verified, including by summoning witnesses. The com-mission can thus settle certain situations transparently, thus reinforcing confidence in the NRE.

NRE transparency

An NRE updated on an ongoing basis by a team of public servants requires setting up certain transparency measures to boost confidence with regard to actors taking part in the electoral process.

Two main measures can be taken to ensure transparency in updating the NRE. Firstly, voters must be able to check their own entry on the National Register of Electors and update their information.

Secondly, a mechanism for transmitting certain NRE information to the political parties must be provided so that they can check the update of the register. This sharing of information can be done periodically. For example, in Quebec, the Chief Electoral Officer sends a copy of the lists of electors to each circumscription three times a year to the political parties. This approach allows them to mobilise their electoral base where some members are not registered.

The participation of political parties in improving the coverage rate and current rate of the register also ensures greater quality in the register. It is important, however, to circumscribe the use of lists of electors by political parties to protect voters' personal data.

PRODUCING LISTS OF ELECTORS

📖 RULES

Coming up to a poll, it is highly recommended that the lists of electors be revised to allow electors to validate or modify their entry on the provisional lists of electors. Afterwards, duplications must be removed before producing final lists that will be used during polling.

🗝 EFFECTIVE PRACTICES

- The EMB sets up electoral branches and electoral revision commissions
- The EMB distributes tasks between branches and revision commissions in accordance with electoral legislation
- The EMB distributes provisional lists of electors for the revision commissions
- The EMB launches an information and awareness-raising campaign among voters
- The EMB displays lists of electors to allow voters to verify their entry while protecting their personal data
- The revision commissions revise the lists of electors and make the following modifications: entry, rectification and striking off
- The revision commissions send all modifications to the EMB which removes duplications
- Revision of electoral lists must be done in a transparent manner

Once the NRE has been set up, the EMB can produce the lists of electors necessary to hold a poll. To do this, a copy of the register is made for the archives. This is used as a back-up if the master file is incorrectly handled or destroyed following a natural catastrophe.

In accordance with electoral legislation, the EMB draws up a precise schedule for setting up electoral branches throughout the territory and attaching revision commissions to allow voters to verify their entry before the poll. Depending on each state's electoral legislation and resources, these commissions will be rolled out a few months or days before the poll. For example, Quebec's legislation provides for pre-electoral revision to allow voters to modify their entry up to four days before the poll, whereas Malian electoral legislation provides for annual revision between 1 October and 31 December – the lists thus drawn up or revised are used for elections during that year until the next revision.

Ideally, the period provided for revising electoral lists must be as near as possible to the polling date so that voters can update their file, particularly their attachment to a polling centre. As the polling date approaches, voters become more interested in the revision process for the list of electors.

The EMB must draw up the lists of electors necessary to undertake electoral revision. In the case of parliamentary elections, there are as many lists as there are electoral circumscriptions and the EMB must forward these to the electoral branches – electronically if the technology is in place to do so. The same principle applies to other elections, such as local elections. To ensure that the revision of electoral lists is successful, it is recommended to involve political parties and to carry out an awareness-raising campaign among citizens.

Once the revision is finished, modifications made to the lists of electors are centralised to verify if they comply with the electoral legislation (voter uniqueness, voter capacity, etc.).

The EMB draws up and sends the final lists of electors to be used in the voting process. Following the revision, a copy of the NRE must also be archived for security purposes. The figure below shows the main stages of the revision of electoral lists.
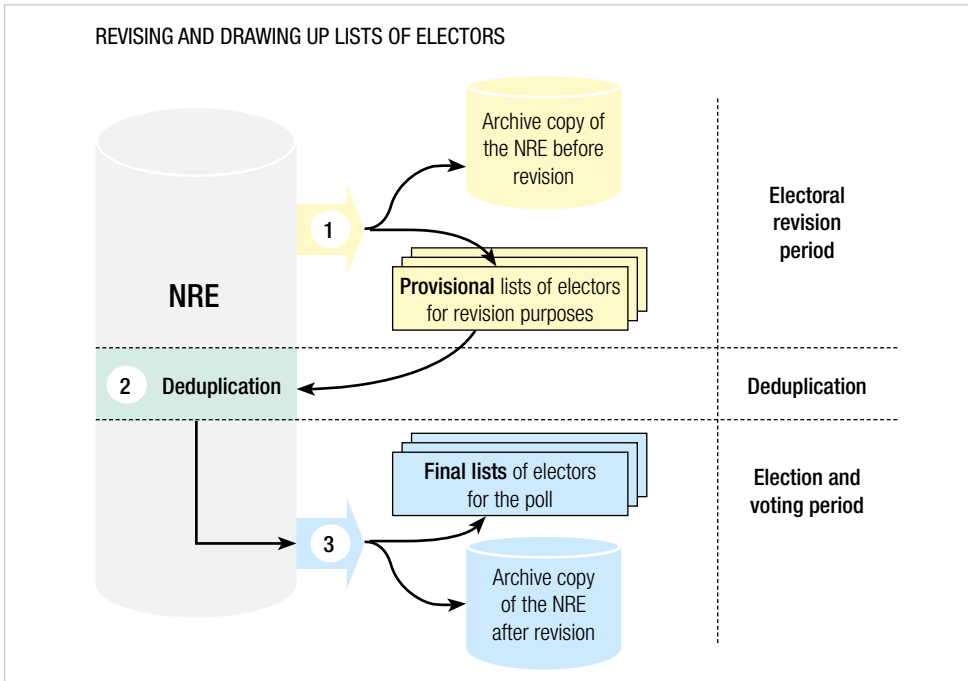
The electoral branches and revision commissions

Under current electoral legislation, there can be one or more types of electoral branches – for example, regional and local. In general, they support the work of the revision commissions, which must be as decentralised as much as possible, to offer voters greater access.

The branches of the CENI of Burkina Faso

ARTICLE 17

The branches of the National Electoral Commission (CENI) are:
- the Independent Provincial Electoral Commission at provincial level (CEPI);
- the Independent Municipal Electoral Commission at municipal level (CECI);
- the Independent Electoral subdivision Commission at subdivision level (CEIA).

Outside the national territory, the CENI takes the necessary steps to organise referendums and presidential elections in the embassies and consulates general of Burkina Faso.

Source: Electoral laws of Burkina Faso

To guarantee the transparency of revision operations, it is recommended to involve representatives of political parties in the revision commissions. The political parties mobilise their member base to take part in revising the municipality's or circumscription's list of electors, depending on the type of election and most importantly have more confidence in lists of electors used for the poll. This approach helps boost confidence in the quality of final lists of electors and to dispel allegations relating to fraudulent manipulation.

Communication with electoral branches and revision commissions

Communication and the transfer of information between the EMB, its branches and revision commissions may vary widely from country to country. Two options are possible depending on whether the electoral branches and revision commission are:
- computerised and can carry out electronic transactions with the EMB,
- computerised but cannot carry out electronic transactions with the EMB or are non-computerised.

The level of computerisation significantly affects how work is organised between the EMB, the electoral branches and the revision commission scattered across the entire territory. Depending on the situation, the schedule for the revision period is drawn up taking into account the nature and reliability of the technological infrastructure and access to electricity in the country.

If the electoral branches and revision commissions are computerised and can carry out electronic transactions with the EMB, the work can be more decentralised and the revision period shortened, while facilitating an ongoing deduplication process.

The main features required for computer applications and to organise the work of computerised electoral branches are as follows:

- a stable electricity supply;
- computer workstations that can carry out transactions with the central system;
- simplified interfaces and forms for information entry by agents. Employees of electoral branches or revision commissions entering modifications across the territory are not always familiar with computers. Consequently, it can be challenging to recruit quality manpower;
- a printer to print out provisional lists of electors;

– permanent IT support in branches and at EMB level;

– permanent support from the NRE governance directorate for the overall revision process.

Given the many challenges of organising work according to a wholly computerised model, most countries choose to do without computers.

If the electoral branches and revision commissions are computerised but cannot carry out electronic transactions with the EMB or are not computerised, the EMB has to take on a higher workload. Moreover, the revision period – or the period required to draw up the final lists of electors – can be longer because of the centralisation of modifications issuing from the revision. National deduplication carried out between the revision and the election period often requires a number of weeks or months because modifications from the entire national territory must be entered at the same time by EMB employees.

The characteristic elements for organising the work of non-computerised electoral branches are as follows:

– a sufficient number of copies of the provisional lists of electors to carry out the electoral revision, including one copy sorted by centre and by polling station, and another by surname in alphabetical order;

– paper change request forms transmitted by revision commissions to the EMB via the branches. Ideally, these forms should be in three copies: one copy for the applicant, one for the local branch and one for the EMB;

– permanent support from the NRE governance directorate and management of electoral territories.

In both options, the most important thing is to provide adequate training to all staff in charge of revision and provide them with an instruction manual explaining the legal framework for their work, the procedure to follow and an inventory of case studies that they might encounter.

Drawing up and distributing provisional lists of electors

Once the electoral branches have been set up and ready to revise the lists, the EMB draws up and distributes provisional lists of electors in accordance with the organisational realities of the branches. Firstly, it copies the NRE in as many electoral circumscriptions or regional administrative territories so that each electoral branch has a copy of the list of electors for its territory.

The EMB then sends a soft or a hard copy of the provisional lists of electors to the branches. All those involved in this process (staff in charge of printing, truck driver, etc.) must be supervised and must swear not to modify or disclose the information contained in the lists of electors. To this end, a contract must be entered into with the various service providers including a clause on protecting voters' personal data.

The information included in the lists of electors relates in particular to:

– the polling date;

– electoral circumscription;

– the unique polling office number;

– the unique polling station number;

– the unique voter number;

– voter numbering for each list of electors;

– page numbering for each list of electors.

Citizen education campaigns

To encourage greater participation of voters in revising their entry on the provisional list of electors, the EMB should set up an awareness-raising campaign among voters. For example, during the parliamentary and local elections of 2 December 2012, the Independent National Electoral Commission (CENI) of Burkina Faso organised a campaign to raise awareness of biometric censuses and to draw up a biometric electoral register. The CENI recorded a song that was broadcast on the radio, called "Le moment est arrivé" [The time has come].

The more voters participate in revising the electoral lists, the higher the coverage and current rates.

Distributing and displaying provisional lists of electors and protecting identity

A common practice involves displaying lists of electors on the external walls of public buildings so that voters can check their entry during the revision period.

Moreover, it has been noted that in some states the EMB makes all lists of electors available on its website, with the dual aim of encouraging voters to verify their entry and ensure that the lists of electors are wholly transparent.

Although these display methods provide a certain degree of transparency in the review of electoral lists and significantly facilitate the task of verifying voters' entries, protecting their identity and personal information must be borne in mind.

New technologies such as the internet provide additional means of communication between the EMB and voters but distributing complete lists of electors or NRE on the internet carries the risk that they could be used for purposes other than those provided for by the electoral legislation, thus jeopardising the confidentiality of voters' personal data.

One solution that could be envisaged is to provide an interface enabling voters to verify their entry without being able to access the entire list of electors. Another efficient means of communicating with voters is via text messaging (SMS); this has been tested in some countries with great success.

Revision of electoral lists

The revision of electoral lists is the last opportunity for voters to register or change their entry on the electoral list before polling. Where a voter has not been assigned the right polling centre, he can notify the board and indicate the location nearest his place of residence. This improves access to the voting process for all.

The revision commissions are made up of individuals recommended by the main political parties to boost the transparency of transactions and develop confidence in the final lists of electors. However, a political party should not be able to paralyse the work of a commission by refusing to appoint a representative. If this is the case, the EMB must be able to appoint an independent member to ensure that the work is carried out.

The number of members in the revision commissions should be stipulated in the electoral legislation. It varies depending on the context in each country. The number of commissions is determined in proportion to the number of voters in a circumscription or municipality.

Board members must have in-depth training before the election revision period to prevent errors and ensure that quality lists of electors are drawn up.

The revision commissions must also be well equipped. Access to a computer system and the necessary training to use it properly are means to facilitate exchanges with branches and the EMB on modifications made during or after the revision period. To facilitate their work, they need to have a copy of the provisional list of electors sorted by polling station and another by surname in alphabetical order.

Revision boards have the power to rule on registration, rectification or striking off requests made by voters. In the event of a disagreement, they can generally rule by simple majority. They must act in accordance with the national legislation on the identity documents and proof of residence which voters must present when requesting a review. Applications submitted by third parties such as a parent or a spouse are admissible but must comply with the national electoral legislation, which may require, for example, a proxy or other administrative procedures. In this case, the voter must be informed of the change made to his file to ensure that he has given his consent and that it has not been modified maliciously.

✖ TOOLS

The three modifications possible during an electoral revision

Registration: There are two scenarios: a new voter or a voter who is transferring from one house to another. In the first case, the voter has attained the age required to vote, has acquired citizenship or was not registered previously. He must present the supporting documentation required by electoral legislation, indicate his residence and/or the polling office where he wishes to vote. In the second case, he must also indicate his former address so that his name is struck off the list of electors where he was registered before and ensure that he cannot vote twice.

Rectification: A voter can request a rectification if there is an error in his identity (surname, first names, gender, date of birth), address or assigned polling centre: he must present the supporting documentation to prove his identity and place of residence.

Striking off: Striking off requests are sensitive because the voter's vote is at stake. In each case, the reason must be clear and all relevant supporting documentation must be adequately verified to arrive at a fair and informed decision. The main reasons for striking a voter off are: death, transferring from one house to another or loss of voting capacity such as placement under guardianship or a criminal conviction. It is imperative to provide standards so that parents or spouses can strike off an individual, for example if he has died, because the individual cannot make this request himself.

Depending on the legislation, revision commissions may have the power to investigate or compel or summon witnesses and the parties involved. They must verify the authenticity of information they receive. They also generally have the power to modify a previous decision if new evidence is discovered.

Transmission of updated lists of electors to the NRE and deduplication

At the end of the revision period, it is highly recommended that the revision commission should send to the EMB an updated file containing all modifications made to the lists of electors (regis-tration, rectification and striking off). If they cannot do this, they should send a copy of all change request forms to the EMB, which will enter them in the central system. This information is cen-tralised so as to update the national list of electors (NRE copy at the start of the review period). The EMB can thus detect duplications caused by the revision to ensure that each voter is regis-tered only once and ensure compliance with the principle of "one voter, one vote". Depending on the electoral legislation, the electoral schedule and political context, any such duplications are handled directly by the EMB and submitted to the revision commissions so that they can investigate special cases.

Countries which have not centralised modifications from the revision and deduplication phase between the review period and elections have often attracted strong criticism. This omission can give rise to suspicion as regards the quality of the lists of electors and lead to legal challenges of election results.

If modifications made to lists of electors during the review period cannot be centralised before the poll, centralisation must take place during the post-electoral period to ensure that the NRE is updated and improved between polls.

Transparency, the principle at the heart of drawing up lists of electors

It is recommended that final lists of electors are transmitted to political parties and independent candidates so that they can verify the integrity of the revision work. These parties are central to the process of drawing up lists of electors, from creating the NRE to establishing final lists of electors. This limits accusations of fraudulent manipulation of lists of electors and boosts confi-dence in the overall quality of lists of electors used on polling day.

Good and bad practices in the use of lists of electors

Transparency in lists of electors must be reconciled with the protection of voters' personal data. Here are some examples:

– In Quebec: before 1995, the lists were published. Since the electoral census which was used to set up the permanent list of electors in 1995, the list of electors has been computerised and is confidential. It is no longer available for consultation by all and there are restrictions on the use of voters' information.

– In France: in January 2012, the CNIL, the French Data Protection Agency published a new recommendation on political communication and a guide for political parties which stated that lists of electors may be disseminated, including by electronic means (against payment or free of charge), to ensure that electoral operations are transparent and fair, but that the conditions of use are strict, e.g. it is prohibited to retain the list of non-voters for a period longer than that between two ballots.

In some countries, service providers are used (and given access to personal data) to develop software and process the data. The data protection authorities recommend taking measures to ensure that the service provider provides sufficient guarantees as regards data security and confidentiality. The agreement drawn up with the external service provider must contain a clause on its mission and obligations, such as a prohibition on using data for purposes other than the mission, a prohibition on disclosure to third parties and the obligation to return or securely destroy the data at the end of the agreement.

This gives rise to another worry, that of ensuring that the data collected will not be used for a purpose other than that for which it was collected. Consequently, lists of electors must be used in accordance with the predetermined aim and may not be used for purposes that are incompatible with this aim.

In Quebec, lists of electors are provided to political parties and MPs for the sole purpose of electoral work. They also may not be used for commercial purposes or to categorise the population in terms of religion, ethnicity, etc.

The role of the personal data protection authority in the electoral process

The consolidation of public files is a major concern for personal data protection authorities. The mission of the supervisory authorities is to ensure that these files are set up and used in a supervised manner and do not threaten the privacy of citizens. To this end, precise rules must be drawn up as regards data collection and use.

Across the globe, technological progress has led to the development of new tools to draw up lists of electors that are more representative of citizens and are more secure. While this progress is to be welcomed, as it allows lists of electors to be retained between elections and ensure voters' rights, the way in which this data is collected must also be addressed.

One of the missions of the personal data protection authorities is to monitor compliance with the personal data protection rules using the legal and computer measures applied to draw up and manage vital records and lists of electors.

The decisions and measures set out below are useful for personal data protection authorities and EMBs. These examples can also help define and understand the role of personal data protection authorities in managing the electoral process.

Examples of measures relating to personal data protection
- Opinion of the CIL, the Data Protection Authority of Burkina Faso, in response to a request from the CENI when the lists of electors were being drawn up in 2010, and again in 2012 when biometrics were being introduced into the electoral process.
- Notes and (regular) statements from the authorities to update and restate the obligations of personal data controllers: the note on elections published by the Privacy Commission (CPVP) of Belgium or the practical guide drawn up by the CNIL (France) on political communication.
- During the preparations for the online election of MPs representing French people residing abroad (introduced in 2009), the CNIL actively participated in improving the voting mechanism by imposing measures to reduce personal data risks, especially concerning the expression of political opinions.
- While preparing for the nomination of candidates by political parties for the French presidential election in 2012, the CNIL monitored the setting up of "primaries" exclusively reserved to members of political associations or, more widely, voters on the lists of electors (Parti socialiste, Union pour un mouvement populaire and Europe-Écologie Les Verts).
- While preparing for the French presidential and legislative elections, the CNIL set up an Electoral Observatory for the elections in January 2012 to maintain dialogue with political parties and citizens. The Observatory presented its final report in August 2012 after meeting with each party involved in managing data files. The CNIL also made proposals to the government for amending the legal framework in the area of political canvassing.

Another mission of the personal data protection authorities is to inform the public about case law and to play an advisory role to foster personal data protection in the electoral process. All these experiences show that the vigilance of personal data protection authorities at all stages and during each election is indispensable for both data protection and more widely to foster democracy in the electoral process.

To highlight non-compliance with personal data protection rules in the public sector and in other sectors, the personal data protection authorities may:
– carry out checks (upon complaints or on its own initiative); and/or
– directly impose sanctions and/or refer matters to the competent authorities.

Examples of powers held by some French speaking personal data protection authorities:

- In France, the CNIL organised the monitoring of the socialist party's presidential primaries in October 2011. In spring 2012, after the Constitutional Council struck down the legal framework introducing the new passport format (eight fingerprints), the CNIL inspected a number of departments in charge of collecting fingerprints for the new French passport.
- The Office of the Privacy Commissioner of Canada (OPC) has no jurisdiction to monitor vital records, which falls under the competence of the provinces. In contrast, the OPC can intervene in the event of non-compliance with personal data protection rules relating to the NRE and to the lists of electors which come under the responsibility of Elections Canada.
- The Data Protection Authority of Burkina Faso (CIL) acted as observer to the work of the CENI, particular during the selection of the company to carry out the biometric census.

IDENTIFYING VOTERS AND VOTER INFORMATION

📖 RULES

To ensure that an election runs smoothly, reliable lists of electors are required, but it is also important to be able to correctly identify voters to prevent a voter from impersonating another and voting in his place. Moreover, voters must be correctly informed on the voting process and the location of the polling centre they are to vote in.

☞ EFFECTIVE PRACTICES

- A national identity card issued by the State to all citizens.
- Voter's cards and information to voters on their polling location.
- Production of voter's cards adapted to the country's needs.
- Efficient and secure issuing of voter's cards.
- Voter's cards must be updated according to their life cycle.

Civil status and the issuing of a national identity card

The issuing of an identity card is the responsibility of state services, which do not necessarily have electoral competence. Thus, to identify themselves when voting, voters must present proof of identity accepted by the electoral legislation of their country.

In addition to the various identity documents, a number of French-speaking states require voters to also have a voter's card.

Identity cards and voter's cards

The purpose of different identity cards is to establish the identity of their holder but also to give them certain rights, such as the right to cross international borders (passport) or to drive a vehicle (driver's licence).

In electoral matters, the voter's card identifies the person who is voting on polling day. Depen-ding on the country, it can also be used to locate the polling centre or to identify it on the list of electors. A voter's card may therefore contain fixed information, such as the identity of a person, or information that varies over time, such as polling centre location. In this case, "change in information" can be updated without having to draw up an entirely new voter's card.

Some states do not provide for the use of voter's cards. To inform voters on electoral modalities and on the location of their polling centres, they use other methods, such as sending notices by post, as is the case in Quebec and the rest of Canada.

Producing voter's cards

Producing voter's card may be relatively arduous for an EMB because to prevent any falsification of these important documents, the technology used must be sufficiently sophisticated. The cost of producing voter's cards can be very high.

✖ TOOLS

Voter's card in Senegal
ARTICLE L.55
The administration is in charge of printing and establishing voter's cards at the expense of the State.

In addition to the voter's registration number, the location of the polling station, digitised photograph, signature where applicable, the fingerprint barcode, the issue date, and all information in the list of electors must be indicated on the voter's card.

Voter's cards are valid for ten years. They are drawn up using the same technical specifications and using the same database as the digitised national identity card.

If the card is lost, the voter must make a declaration to the administrative commission. The commission will draw up a statement which the voter can then use to apply for a duplicate voter's card.

Expired voter's cards are renewed in the year following their expiry, as part of the standard revision process.

In the event of an exceptional revision prior to a general election, renewal is performed by the administrative commissions set up for this purpose.

However, if a voter's card expires between a review of electoral lists and an election, it can be used on an exceptional basis.

When renewing the card, the photo and electoral address may be subject to change.
Source: Act No. 2012-01 on the Electoral Laws
http://www.au-senegal.com/le-code-electoral-du-senegal.3352.html

As stated above, voter's cards in Senegal are drawn up "*using the same technical specifications and using the same database as the digitised national identity card*".

In 2001, the Chief Electoral Officer of Quebec tabled his study on a *digitised Voter I.D. card with a photo: from feasibility to opportunity*, which concluded that *"introducing a voter's card for the sole use of the electoral system does not have sufficient advantages to justify the costs of setting up, updating and using it"*. This observation is explained by the fact that citizens of Quebec already have several identity cards.

In the Democratic Republic of Congo (DRC), for example, most of the population did not have any identity card before the 2006 elections. The production of voter's card by the CEI in this country was not only a solution for identifying voters during polling but for confirming the citizenship of millions of people who have never had any proof of identity. The examples from Quebec and the DRC clearly show that the important question of producing voter's cards depends on the particular context of each state.

Issuing voter's cards and managing residual cards

Voter's cards can be produced during an electoral biometric census. Depending on the case, they are issued immediately upon enrolment or sent later to the voter. This last option, which is the most widely used, has the advantage of giving the electoral administration enough time to verify all voter data. This results in better quality cards.

Depending on the electoral legislation of the country, voter's card may contain a digital photograph and fingerprints and can be used as a biometric identity card.

voter's card may contain a "barcode" or electronic chip to record voter information and thus facilitate the implementation of electronic or online voting, as in Estonia, where, since February 2007, the national identity card has been used for a number of purposes, including for online voting.

This means that the production, management and delivery of voter's card and the retention thereof require a strict legal and administrative framework to guarantee the protection of the personal information they contain and consequently to prevent them from being falsified.

Life cycle and updating of voter's cards

As with any other identity document, voter's cards must be regularly updated. In Senegal, as already mentioned, voter's cards are valid for a maximum period of ten years. Depending on the electoral legislation, the deadlines for updating voter's cards can be very different. The more precise information they contain on voting, the shorter the update deadlines. However, if the card is not associated with the voter's address the deadline for updating is longer.

It may be practical to provide for the updating of changing information, such as voter's residence, in a simplified process without having to draw up an entirely new voter's card.

FINAL LISTS OF ELECTORS AND THE EXERCISING OF VOTING RIGHTS

📖 **RULES**

Lists of electors are linked to polling operations. The EMB must ensure the secure transmission of lists of electors and the modalities for identifying and marking these to ensure compliance with the principle "one voter, one vote".

➤ **EFFECTIVE PRACTICES**

- Ensure appropriate production of final lists of electors and ensure secure transmission to polling stations.
- Provide simple and efficient measures to identify voters.
- Ensure the secrecy of votes and counter attempts to buy votes.
- Provide measures preventing voters from voting more than once.
- Provide special votes for voters with particular needs.

The EMB must ensure the secure transmission of the final lists of electors to polling stations to ensure that polling runs smoothly, particularly by verifying that the voter's identity is accurate, that he does not vote more than once and that his vote remains secret.

Drawing up and transmission of final lists of electors

After the revision of electoral lists and the deduplication process, the EMB must draw up all final lists of electors and send them to its branches, which are generally responsible for transmitting them to each polling station, in line with national electoral legislation. If computer systems allow it, lists can be printed off at branch level.

Production and delivery of final lists of electors (staff in charge of printing, truck driver, electoral employees) must be secured so that they are transmitted to each polling station on the morning of the election before they open.

The lists must be easy to consult because it is through these that electoral staff can locate personal voter information. It is recommended that only useful information be entered on the final lists, classified in logical and practical order.

> ⚒ TOOLS
>
> To ensure that lists of electors are presented properly:
> - Sort voters by surname, classified in alphabetical order, according to residence or unique identification number.
> - Hand over bound or stapled lists to polling station staff: if the list of electors is not bound, it can quickly become disorganised, making it very difficult to locate a voter.
> - Number voter sequencing on the polling station list of electors.
> - Number the pages of the list of electors and include a header and footer to ensure the list is complete.
> - Provide more than one list of electors per polling station to identify voters as soon as they come into the polling centre and indicate where they should vote.

List of electors, voter identification and voting

When voting, voters must generally fulfil two conditions: be entered on the list of electors and have an identity card. French-speaking legislation is quite diverse as to the method used to identify voters in a polling station: either the national identity card, voter's card or another document is required, as in Niger (see below).

> ⚒ TOOLS
>
> **Voter identification in Niger**
> ARTICLE 25
>
> To justify their identity, voters must produce the following documents:
> - national identity card;
> - passport;
> - driver's licence;
> - consular card;
> - military ID card or security forces ID card;
> - civil or military pension book;
> - family record book or card.
>
> Where none of these documents are produced, voters may be provisionally registered if they produce two valid witnesses to swear that their identity is accurate.
>
> *Source: Ordinance 2010-96 of 28 December 2010 on the electoral laws*
> *http://www.assemblee.ne/index.php/les-textes/le-code-electoral*

In federal elections in Canada, voters can vote without being registered on the list of electors and without showing proof of identity in accordance with the procedure specified by Elections Canada:

"*Take an oath and have an elector who knows you vouch for you (both of you will be required to make a sworn statement). This person must have authorized identification and their name must appear on the list of electors in the same polling circumscription as you. This person can only vouch for one person and the person who is vouched for cannot vouch for another elector.*"

The disadvantage of this type of vote by oath is that it encourages multiple voting. Voting under oath should therefore only be envisaged where there is real trust between the stakeholders taking part in the electoral process.

The secrecy of the vote and vote-buying

Compliance with the principle "one voter, one vote" goes hand in hand with the setting up of a framework guaranteeing the secrecy of the vote. This is why polling booths are usually installed so that voters can vote in private.

There are sometimes claims of vote buying. To combat this phenomenon, the law can provide mechanisms to prevent voters from "selling" their votes and provide proof by returning ballot papers for non-selected candidates. To this end, some electoral legislation prohibits the use of cameras or telephones inside the polling booth, to prevent voters from proving who they have voted for in exchange for a "reward".

In this respect, single ballot papers are tending to replace multiple ballot papers (one ballot paper per political party or candidate), which are more susceptible to vote buying.

Multiple voting

There are several ways to combat multiple voting, including marking the list of electors each time a voter presents himself, thus immediately revealing any returning voters. Another widely used method involves marking the voter's finger with indelible ink to dissuade him from going to another polling station to vote.

⚒ TOOLS

Voting lists and use of indelible ink in Madagascar
ARTICLE 91
After putting the ballot in the ballot box, the voter signs the voting list; if he cannot write, his fingerprints are recorded. In both cases, a polling station official countersigns each signature or set of fingerprints on the voting list.
A polling station official must ensure that the signature corresponds to that on the national identity card.
Before the voter leaves the polling station, a polling station official marks his left thumb using indelible ink or another similar product. If the voter has been mutilated, polling station officials decide which finger to mark, indicating this on the voting list.
Source: Organic law 2012-005 on the electoral laws of Madagascar
http://recef.org/bibliotheque/

Some countries also use biometric identification with fingerprints. However, this new technology also complicates poll management. All polling centres must have an electricity supply and considerable investment is required to purchase computer terminals and train staff, which is not always easy in remote parts of the country.

Special votes

Some legislation allows special votes for individuals in a particular situation.

✖ TOOLS

What are special votes?
- Advance voting (voting before polling day)
- Voting in a territorial branch office
- Voting at the voter's residence
- Voting in residential centres for senior citizens
- Voting in hospital
- Voting for the military
- Voting for prisoners
- Voting in educational establishments
- Voting for electoral agents posted far from their polling station
- Postal voting for voters residing abroad
- Embassy voting for voters residing abroad
- Internet voting
- Proxy voting

All these types of voting are inherent to the democratic culture of each state, although each electoral system must implement measures to combat electoral fraud and particularly multiple voting.

POST-ELECTION WORK AND THE NRE LIFE CYCLE

📖 RULES

NRE quality can be improved during the post-election period by carrying out a quality assessment and performing regular updates.

☞ EFFECTIVE PRACTICES

- Ensure secure archiving and/or destruction of marked lists of electors
- Maintain a partnership with the personal data protection authority
- Periodically assess the quality of NRE
- Take measures to improve the quality of NRE

During the post-election period, the EMB's mission continues with the archiving of annotated lists of electors. During this stage, the electoral institution conducts an exhaustive analysis of the quality of these lists and the NRE so that it can immediately implement the necessary reforms to improve NRE quality for future elections.

Archiving and destroying lists of electors

Once the poll is over, all annotated lists of electors and documents containing personal information such as voting lists must be returned in a secure manner to the EMB office, which will store it in line with its document retention schedule.

The retention schedule is a reference document that sets out all deadlines for retaining or destroying the archives of an organisation. Thus, the EMB retains annotated lists of electors for a period of several months or even years because they could be used in legal proceedings. After the deadline set in the retention schedule, the EMB destroys the lists using secure methods such as shredding or incineration.

In some French-speaking states, annotated lists of electors are used for research purposes. In this case, the research must be carried out within the framework of a memorandum of understanding to ensure that voters' personal data remains confidential.

Collaboration between institutions

For the EMB, the post-election period is a good time to develop new collaborations, particularly with the national personal data protection authority. This collaboration is both logical and beneficial as it will improve consideration of personal data protection rules in the overall electoral process.

The major benefits of collaboration between the EMB and the personal data protection authority include:
– sharing expertise, experience and best practice;
– analysing practices and current projects to provide solutions to technological developments;
– drawing up common principles;
– raising awareness and educating those in charge of electoral processes upstream.

Assessing the quality of the NRE

The post-election period is a good time for carrying out a statistical study of the NRE. The transparency rate, coverage rate and current rate presented at the start of this guide provide basic indices for carrying out a statistical assessment of NRE quality.

The EMB can refine the NRE quality assessment by changing the indices according to age group, gender group and region of residence. These studies are carried out by cross-referencing vital statistics and national census statistics.

Using the age pyramid to compare the voting-age population to the number of voters entered in the NRE can be a very useful exercise, as the case is with mapping coverage and currency rates. In this way, the EMB can identify weaknesses in the NRE. For example, if the urban male population is better represented in the NRE than the rural female population, the EMB will carry out a targeted awareness-raising campaign to reach out to groups which are not well represented.

Measures to improve the NRE

Once the NRE analysis has been done, the EMB takes concrete measures to improve the quality of the register. It can carry out a partial census in targeted areas that have less coverage, or conduct a regional or national awareness-raising campaign to encourage voters to register or update their entry.

If the NRE is regularly updated, this will quickly increase its coverage rate. Thus, lists of electors should be relatively complete from one poll to another, allowing a large majority of the electorate to exercise their voting rights.

If the work of the EMB is carried out in a transparent manner and involves political parties while ensuring the security and confidentiality of personal data, this instils confidence among voters and political parties in the basis of the entire electoral system: lists of electors.

CONCLUSION

With this practical guide, the International Organisation of La Francophonie and three of its institutional networks – Association francophone des Autorités de protection des données personnelles (AFAPDP), Association du Notariat francophone (ANF) and Réseau des compétences électorales francophones (RECEF) have highlighted the importance of civil registration in drawing up lists of electors and the protection of data collected in the voter registration process. This is therefore an unprecedented joint and multidimensional effort that takes a cross-disciplinary approach and with stakes that go well beyond electoral matters.

The material putting in place the principles adopted by the United Nations, the rules and tools included in this guide are a source of inspiration for those in charge of civil registration, the national register of electors and personal data protection in their respective tasks. In concrete terms, it contributes to helping nationals acquire the mechanisms for organising elections, especially to manage the register of electors.

Another advantage of this book is that it offers a sort of "toolbox" for drawing up and presenting vital record projects to donors in line with international requirements and human rights instruments.

For its part, the IOF will gain much through its actions to encourage the consolidation of vital records and improve the reliability of electoral registers. Promoting this practical guide will raise awareness among national and international actors of the stakes and responsibilities in this area.

GLOSSARY

ACCURACY OF REGISTRATION: When data items for each vital event on the vital record have been correctly and completely filled out, i.e. there are neither response errors nor missing items. The measurement of any deviation from correctness is called "content error".

ADOPTION: Legal and voluntary taking and treating of the child of other parents as one's own in so far as provided by the regulations of the country. By means of a judicial process, whether related or not to the adopter, the adopted child acquires the rights and status of a biological child born to the adopting parents.

ANNULMENT: The invalidation or voiding of a legal marriage by a competent authority, according to the laws of the country, thus conferring on the parties the status of never having been married to each other.

APPGAR SCORE: System of scoring infant's physical condition at one minute and five minutes after birth. The heart rate, breathing, muscle tone, colour and response to stimuli are scored 0, 1 or 2. The maximum total score for a normal baby is 10. Those with low scores require immediate attention if they are to survive.

ATTENDANT AT BIRTH: The person who assisted the mother in giving birth, e.g. a physician, midwife, nurse, other paramedical person or lay person.

AVAILABILITY OF DATA: Data that has been collected, filed, processed and stored in each system, thus civil registration and vital statistics, are accessible in a user-friendly format to users upon request.

BURIAL PERMIT: Official document issued for a legally registered death, authorising the removal of the dead body (corpse) to the cemetery or other final place of burial.

CAUSES OF DEATH: All diseases, morbid conditions or injuries that either resulted in or contributed to death, and the circumstances of the accident or violence that produced any such injuries. Symptoms or modes of dying, such as heart failure or asthenia, are not considered to be causes of death for vital statistics purposes (see UNDERLYING CAUSE OF DEATH and CONTRIBUTORY CAUSE OF DEATH).

CERTIFIER (OF CAUSE OF DEATH): Person authorised by law to issue a certificate, in a prescribed format, stating the underlying and contributory causes of death and other facts related to the event for submission to the local civil registrar or other appropriate authority. The certifier is usually the physician who cared for the deceased in his/her last illness or, in the case of deaths of persons who were not cared for during the last illness by a physician or who may have died due to violence or injury, the coroner or medical examiner.

CITIZENSHIP: Legal nationality of a person.

CIVIL REGISTER: Loose-leaf file, ledger book, electronic file or any other official file set up for the permanent recording, in accordance with established procedures, of each type of vital event and its associated data occurring to the population of a well-defined area (a county, district, municipality, village, parish etc.).

CIVIL REGISTRAR: Official charged with the responsibility for civil registration of vital events in a well-defined area (an entire country, a county, district, municipality, parish etc.) and for recording and reporting information on those vital events for legal and statistical purposes.

CIVIL REGISTRATION SYSTEM: the institutional, legal and technical settings established by government to conduct civil registration in a technical, sound, coordinated and standardized manner throughout the country, taking into account cultural and social circumstances particular to the country (see CIVIL REGISTRATION and VITAL STATISTICS SYSTEM).

CIVIL REGISTRATION: The continuous, permanent, compulsory and universal recording of the occurrence and characteristics of vital events (live births, deaths, fœtal deaths, marriages and divorces) and other civil status events pertaining to the population as provided by decree, law or regulation, in accordance with the legal requirements in each country. It establishes and provides legal documentation of such events. These records are also the best source of vital statistics.

COMPLETE CIVIL REGISTRATION: Situation where all vital events occurring in the population of a country, in a given period, have been recorded in the civil registration system, thus achieving 100% coverage. Any deviation from complete coverage is measured by "coverage error".

COMPLETE VITAL STATISTICS: Vital statistics from civil registration data are complete when, in addition to the requirement of registration of each vital event (see COMPLETE CIVIL REGISTRATION), a vital statistics report is forwarded to the agency responsible for the compilation and production of vital statistics.

CONTRIBUTORY CAUSE OF DEATH: A significant medical condition that contributes to death but is not related to the disease or condition directly causing death.

COVERAGE RATE: Estimated percentage of voters entered in the NRE compared to the total population eligible to vote. It is calculated by taking the number of voters entered in the NRE and dividing this by the total population eligible to vote and multiplying the result by 100.

CRUDE BIRTH RATE: A vital statistics summary rate based on the number of live births occurring in a population during a given period of time, usually a calendar year, i.e. the number of live births occurring among the population of a given geographical area during a given year, per 1,000 mid-year total population of the given geographical area during the same year.

CRUDE DEATH RATE:A vital statistics summary rate based on the number of deaths occurring in a population during a given period of time, usually a calendar year, i.e. the number of deaths occurring among the population of a given geographical area during a given year per 1,000 mid-year total population of the given geographical area during the same year.

CRUDE DIVORCE RATE:A vital statistics summary rate based on the number of divorces occurring in a population during a given period of time, usually a calendar year, i.e. the number of divorces occurring among the population of a given geographical area during a given year per 1,000 mid-year total population of the given geographical area during the same year.

CRUDE MARRIAGE RATE:A vital statistics summary rate based on the number of marriages occurring in a population during a given period of time, usually a calendar year, i.e. the number of marriages occurring among the population of a given geographical area during a given year per 1,000 mid-year total population of the given geographical area during the same year.

CURRENT RATE: Estimated percentage of voters entered in the NRE with all their information up to date at a given time, in particular their association with a polling centre and polling station.

This indicator is calculated during an electoral review, taking the total number of modifications and dividing this by the total number of voters registered before the review period and multiplying the result by 100.

DATE OF OCCURRENCE: The day, month and year of occurrence of a vital event, including hours and minutes in the case of births and in the case of infants dying in the first week of life.

DATE OF REGISTRATION: The day, month and year when an entry of registration of a vital event is made in the civil register.

DEATH: Death is the permanent disappearance of all evidence of life at any time after live birth has taken place (post-natal cessation of vital functions without capability of resuscitation). This definition excludes fœtal deaths (see fœtal DEATH).

DELAYED REGISTRATION: The registration of a vital event after the prescribed period denoted in existing laws, rules or regulations (including any grace period, if one is specified). As the grace period is generally one year after the event, registration of a vital event is considered delayed if it occurs one year or more after the event.

DIVORCE: Final legal dissolution of a marriage; a separation of husband and wife that confers on the parties the right to remarriage under civil, religious and/or other provisions in accordance with the laws of the country.

ELECTION MANAGEMENT BODY: Institution whose main responsibility is to run an election or referendum at national level.

ELECTORAL PRECINCT: Territory served by the same polling centre.

FŒTAL DEATH RATE: A vital statistics summary rate based on the number of fœtal deaths relative to the total number of births (live births plus reported fœtal deaths) occurring during a given period of time, usually a calendar year, in a given geographical area, i.e. the number of fœtal deaths occurring in a given geographical area during a given year per 1,000 total births (live births plus fœtal deaths).

FŒTAL DEATH: The death prior to the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the period of gestation; the death is indicated by the fact that after such separation, the foetus does not breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles.

INFANT DEATHS: Deaths of live-born children under one year of age.

INFANT MORTALITY RATE: A vital statistics summary rate based on the number of infant occurring during the same period of time, usually a calendar year, i.e. the number of deaths under one year of age occurring in a given geographical area during a given year, per 1,000 live births occurring among the population of the given geographical area during the same year.

JUDICIAL (LEGAL) SEPARATION: separation of married persons, without conferring on the parties the right to remarriage, according to the laws of each country.

LATE CIVIL REGISTRATION: A late civil registration is the registration of a vital event after the legally specified time period but within a specified grace period.

LEGITIMATION: Formal vesting of a person with the same status and rights of a person born in wedlock, according to the laws of the country.

LISTS OF ELECTORS: Lists used during an election or referendum by the electoral staff of a polling station to allow registered voters to vote

LIVE BIRTH: The result of the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy, which after such separation breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such a birth is considered to be live-born.

MATERNAL DEATH: The death of a woman while pregnant or within 42 days after the termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.

MATERNAL MORTALITY RATE:A vital statistics rate based on the number of deaths due to maternal causes relative to the number of live births occurring during a given period of time, usually a calendar year, i.e., the number of deaths to women resulting from (a) direct obstetric complications of pregnancy, labour and the puerperium, (b) from interventions, omissions or incorrect treatments or their results, or (c) from indirect obstetric causes resulting from previously existing disease or disease arising during pregnancy and which was not due to direct obstetric causes but which was aggravated by the physiological effects of the pregnancy, occurring in a given geographical area during a given year per 100,000 (or 10,000) live births occurring in the given geographical area during the same year.

NATIONAL REGISTER OF ELECTORS: This contains all information on voters. The NRE forms the basis for drawing up lists of electors.

NEO-NATAL DEATHS: Deaths among live births during the first 28 completed days of life.

NEO-NATAL MORTALITY RATE: A vital statistics rate based on the number of infants who die in their first month of life relative to the number of live births during a given period of time, usually a calendar year, i.e. the number of infants dying at ages up to but less than 28 completed days of life per 1,000 live births in a given geographical area during a given year.

NEO-NATAL PERIOD: The neonatal period commences at birth and ends 28 completed days after birth.

NOTIFIER: An individual appointed by the local civil registrar to act as intermediary between the local civil registrar and the declarer in providing all information and characteristics of an event that is to be legally registered by the local civil registrar.

PERINATAL PERIOD: The perinatal period commences at 22 weeks (154 days) of gestation (the time when birth weight is normally 500 grams) and ends seven completed days after birth.

PERSONAL DATA PROTECTION AUTHORITY: An independent administrative authority in charge of ensuring that the principles of data protection are applied (rules relating to the implementation of data processing, personal rights, the obligations of data processors), in particular by empowering the actors and setting up oversight and sanction mechanisms.

PERSONAL DATA: Information on an identified individual or which can be used to identify an individual directly or indirectly. This is information that directly names the individual and information that can be used to indirectly identify an individual.

POLLING CENTRE (or VOTING PLACE or VOTING LOCATION): Infrastructure accommodating one or more polling stations. The production of lists of electors is based on the relationship between polling centre and a voter's association with it.

POLLING CIRCUMSCRIPTION: it is the smallest electoral territory which combines voters voting in the same polling station. Polling circumscriptions are optional as they require the precise location of the residence of the voter in the territory, which is not possible in all countries.

POLLING STATION: The smallest electoral entity to which a voter is associated. A polling station is run by electoral staff for the benefit of all voters associated with it. There is one ballot box per polling station.

PROCESSING OF PERSONAL DATA: This refers to any operation involving data, regardless of the technical process used and includes in particular collection, registration, retention, modification, retrieval, consultation, communication, transfer, combining but also blocking, erasure or destruction.

QUALITATIVE ERRORS: Errors arising from ignorance or forgetfulness of the facts, refusal to reply to a question, failure to understand a question or failure of an interviewer to put the question clearly or to record its answers properly.

QUALITY OF A VITAL EVENT RECORD (REPORT): This element of a vital event report refers to its effectiveness as the preferred legal proof of the fact that the event occurred, and to the accuracy and timeliness of its subsequent compilation for statistical purposes.

QUALITY OF DATA: In the civil registration system or in the vital statistics system, quality of data is measured according to their degree of completeness, correctness (accuracy), timeliness and availability (See ACCURACY, AVAILABILITY, COMPLETE CIVIL REGISTRATION AND TIMELINESS IN REGISTRATION).

RECORD LINKAGE: A process, usually computer-based, that brings together information from two or more data files into a new combined file containing selected information about individuals or events that were not available in the separate records.

DECLARER: The individual whose responsibility, designated by law, is to report to the local civil registrar the fact of the occurrence of a vital event and to provide all the information and characteristics related to the event. On the basis of such a report, the event may be legally registered by the local civil registrar.

SAMPLING ERROR: A type of false or mistaken result obtained in a survey or experiment which is due to chance (random error) when the result from the sample differs from the result that would have been obtained if the entire population were studied.

SAMPLING FRAME: A collection of units (persons, households, institutions, events etc.) from which a sample may be drawn.

SAMPLING: The process of selecting a number of representative cases from all the cases in a particular group or population for the purpose of drawing inferences about the entire group or population.

TIMELINESS IN REGISTRATION: This element of a vital event report is determined by the difference between the date of the event and the date of its registration when compared to the interval specified by legislation.

TRANSPARENCY RATE: Estimated percentage of data that can be validated with regard to an entry on the National Register of Electors.

UNDERLYING CAUSE OF DEATH: The disease or injury that initiated the train of morbid events leading directly to death or the circumstances of the accident or violence which produced the fatal injury. The underlying cause of death is used as the basis for tabulation of mortality statistics (see CONTRI-BUTORY CAUSE OF DEATH).

VITAL EVENT RECORD: A legal document entered in the civil register which attests to the occurrence and characteristics of a vital event.

VITAL EVENT: The occurrence of a live birth, death, fœtal death, marriage, divorce, adoption, legitimation, recognition of parenthood, annulment of marriage or legal separation.

VITAL STATISTICS SYSTEM: The process of: (1) collecting information by civil registration or enumeration on the frequency of occurrence of specified and defined vital events as well as relevant characteristics of the events themselves and of the person or persons concerned, and (2) of compiling, processing, analysing, evaluating, presenting and disseminating these data in statistical form (see VITAL EVENT).

VOTER: Person with the right to vote at an election or referendum.

ACRONYMS AND ABBREVIATIONS

ACS	African Centre for Statistics
AFAPDP	Association francophone des Autorités de protection des données personnelles
AfDB	African Development Bank
AFIS	Automatic Fingerprint Identification System
ANF	Association du Notariat Francophone
APAI-CRVS	Africa Program for Accelerated Improvement of Civil Registration and Vital Statistics
APF	Assemblée parlementaire de la Francophonie
AU	African Union
AUC	African Union Commission
CAI	Commission d'accès à l'information (Quebec)
CEI	Commission électorale indépendante
CENI	Commission électorale nationale indépendante
CIL	Commission de l'informatique et des libertés (Burkina Faso)
CNIL	Commission nationale de l'informatique et des libertés (France)
CPVP/OPC	Privacy Commission (Belgium) ; Office of the Privacy Commissioner (Canada)
CRVS	Civil Registration and Vital Statistics
DBMS	Database management system
ECA	Economic Commission for Africa
ECOWAS	Economic Community of West African States
EDM	Electronic document management
EMB	Election management body
GIS	Geographic information system
IAS	Identification, authentification and signature
ICAO	International Civil Aviation Organization
ICEC	International Cost Engineering Council
IOF	International Organisation of La Francophonie
ISO	International Organization for Standardization
LEP	Permanent list of electors (Quebec)
LEPI	permanent computerised list of electors (Benin)
MDG	Millennium Development Goals
NEPAD	New Partnership for Africa's Development
NIST	National Institute of Standards and Technologies
NRE	National Register of Electors
OECD	Organisation for Economic Co-operation and Development
PBD	Privacy by design
PDM	Precedence Diagram Method

PERT	Project Evaluation and Review Technique
PIN	Personal identifier number
PKI	Public key infrastructure
RAPF	Réseau des associations professionnelles francophones
RECEF	Réseau des compétences électorales francophones
RNF	Réseau normalisation et Francophonie
S**HaSA**	Strategy for the Harmonization of Statistics in Africa
UN	United Nations
UNECA	United Nations Economic Commission for Africa
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
WHO	World Health Organization

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