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African Committee of Experts on the Rights and Welfare of the Child - ACERWC

Guidance Note on the Digitalization of Civil Registration and Vital Statistics with a Focus on Birth Registration in Africa

The African Committee of Experts on the Rights and Welfare of the Child (ACERWC/the Committee), in line with its mandate to promote and protect the rights and welfare of children in Africa, issued an open call for submissions on trends, challenges and opportunities in digitalization of birth registration in Africa. The call aimed at gathering information on digitalization of birth registration on the continent as part of a wider trend of digitalization of civil registration and vital statistics systems, focusing on challenges and opportunities in relation to children's rights. The call for submissions was led by the Special Rapporteur of the ACERWC on Name, Nationality and Birth Registration, in her mandate to seek, receive, examine, and act upon information about birth registration, name and nationality in Africa, as provided for in the Resolution establishing the mandate of the Special Rapporteur. The ACERWC extends its appreciation to all individuals and organisations that submitted information and shared valuable insights. The submissions received informed the development of this Guidance Note.

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1. Introduction

1.1. Digitalization of Civil Registration and Vital Statistics (CRVS) in Africa: Birth registration

Birth registration is the foundation of Civil Registration and Vital Statistics (CRVS) Systems. It establishes the legal recognition of a person's existence, usually serving as the first point of entry into the CRVS system as an individual. Subsequently, all other vital events and information about the individual, such as nationality, adoption, marriage, and death, form part of the CRVS entry. However, birth registration and certification in Africa face longstanding challenges that limit children's access to legal identity, rights, and services. Weak civil registration systems, inadequate infrastructure, low public awareness, high costs, and geographical barriers leave millions of children unregistered, particularly in rural and marginalized communities. Manual, paper-based processes often result in inefficiency, delays, errors, and loss of records, while cross-border mobility and conflict further complicate registration. The introduction of digital birth registration offers opportunities to address many of these challenges by streamlining processes, reducing costs, and improving accuracy and accessibility. It holds potential to accelerate access and equity provided it is implemented in a well-structured approach. Moreover, it also comes with its own limitations and challenges.

The African Committee of Experts on the Rights and Welfare of the Child (ACERWC/the Committee) recognizes the growing interest in leveraging digital technologies to improve civil registration systems, including birth registration. While digitalization presents clear opportunities, it also raises questions about equity, accessibility, data, data protection, and the broader implications for children's rights. It is in light of these concerns that this document outlines trends and status, opportunities and benefits, challenges and risks, children's participation, legal and policy frameworks, good practices and innovations, and recommendations.

The purpose of this Guidance Note is to provide information on emerging trends, challenges and opportunities in digitalization of birth registration, with the aim of enhancing the rate of birth registration on the continent in an inclusive and efficient manner. Specifically, the Guidance Note has the objective to:

- Provide insight for states on digital birth registration systems that are inclusive, accessible, and affordable.
- Highlight areas of concern and caution against potential negative impacts of digitalization.
- Promote child rights through universal, inclusive, and secure digital birth registration.
- Foster alignment with the ACRWC and other continental and global policy goals.

1.2. Birth registration under the African Charter on the Rights and Welfare of the Child

Article 6(1) of the African Charter on the Rights and Welfare of the Child (ACRWC/ the Charter) provides that every child shall have the right from birth to a name, to be registered immediately after birth, and to a nationality. The Committee has elaborated on the right to name, birth registration and nationality, as well as on the corresponding obligations of States Parties in its General Comment No 2.

The General Comment provides that States have the obligation to establish and strengthen universal, functional, and accessible civil registration systems to ensure that every child's birth is registered and certified. They must adopt new laws where none exist, implement existing ones effectively, and reform outdated or deficient laws to align with international standards and the Charter. Furthermore, birth registration and certification must be free, immediate, and non-discriminatory, ensuring equal access regardless of a child's gender, ethnicity, social status, or parents' circumstances. The General Comment provides that immediate birth registration means as soon as possible after birth, taking into account cultural and local practices related to maternity and infant feeding. States are also required to regulate clear procedures for timely and late registration, safeguard privacy, prevent fraud, and use technology to secure records. Birth certificates must avoid stigmatizing information, and where certificates are unavailable, alternative forms of proof such as hospital records or oral testimony should be accepted. Importantly, States must ensure that birth registration is closely linked to the child's right to a nationality, thereby preventing statelessness and protecting the child's identity and rights.

The General Comment further sheds light on the obligation of states in relation to digitalization of birth registration. It highlights that States have an obligation to regulate the use of digital technologies in birth registration systems to ensure that civil records maintain their probative (legal) value. It emphasizes that digitalization should be implemented in a way that protects the privacy of children's data, prevents fraud and counterfeiting, and guarantees accessibility. States are encouraged to adopt international and continental best practices when formulating laws and policies on digital birth registration, ensuring that technology strengthens the efficiency, reliability, and inclusiveness of civil registration systems while upholding the best interests of the child. Furthermore, digital birth registration can be used to enhance decentralization and interoperability, with the potential of reducing several barriers to enhancing the rate of registration.

2. Guiding principles of the African Charter on the Rights and Welfare of the Child

The principles of non-discrimination and child participation are paramount in the process and implementation of digitalization of birth registration. The Charter provides for the enjoyment of the rights contained therein, including the right to birth registration, 'irrespective of the child's or his/her parents' or legal guardians' race, ethnic group, colour, sex, language, religion, political or other opinion, national and social origin, fortune, birth or other status.' It further provides that every child to express their views freely in all matters affecting them, with those views being given due weight in accordance with their age and maturity. The implementation of these principles in digital birth registration remains concerning.

When it comes to child participation, children are rarely consulted on the design, implementation, and monitoring of digital birth registration. Crucially, digital birth registration systems risk discriminating certain groups of children, owing to lack of inclusivity in design. Vulnerable populations of children include:

- **Children with disabilities:** children with various kinds of disabilities specific barriers (e.g., stigma, lack of universal design, physical/communication barriers, lack of accommodation).

- **Children in street situations:** Children in Street situations are highly vulnerable and routinely excluded population with unique challenges, such as high mobility, distrust of institutions, difficulty obtaining parental consent, increased risk of trafficking, and criminalization.
- **Children of older caregivers:** The significantly lower rate of digital literacy and access among older caregivers risks excluding children in their care from registration.
- **Children born out of wedlock/unregistered parents:** systemic legal and administrative barriers, including discriminatory practices, disproportionately affect single mothers and children born out of wedlock.
- **Children on the move:** Refugee children, internally displaced children and other groups of children on the move face several barriers in registering, owing to continued movement, fear of approaching authorities due to risk of deportation, lack of recognition in national systems and others.
- **Children living in poverty:** Poverty is one of the most common causes of the lack of registration of children. While it usually intersects with the other causes of vulnerability, it is crucial to take poverty as a barrier on its own and take note of the various direct and indirect costs of registration.
- **Children in emergency situations:** Children affected by armed conflict, natural disasters and disasters caused/exacerbated by climate change, public health emergencies, and other emergency situations are at higher risk of not being registered or losing registration documents.

3. Key trends and status in digital birth registration in Africa

Manual birth registration remains the predominant method of birth registration across most African states. However, several countries are gradually adopting hybrid systems that combine physical and digital registration processes. There are also emerging innovations, such as the use of biometric data for unique identification and blockchain technology for secure data storage. For example, UNICEF has supported pilot projects in Ethiopia (using tablets in health facilities), Uganda and South Africa (using mobile registration kits).

A shift towards centralized management and integration is evident, with systems typically overseen by national authorities, for instance, Nigeria's National Population Commission and Kenya's Civil Registration Services. Increasingly, e-immunization programmes are being paired with birth registration, while systems are designed for interoperability with national identification systems and social registries. Mobile applications are also being deployed, particularly in remote or hard-to-reach areas, though challenges such as connectivity and usability remain.

There is a noticeable gravitation towards integration with health facilities, national ID systems, and broader e-governance initiatives. For example, Kenya's Unique Personal Identifier system links birth records with school and health records. At the regional level, there are combined and cross-border initiatives, such as the ECOWAS ID programme and the Digital ID4Africa movement, which promote harmonization and cross-border recognition of identity systems.

4. Key barriers to the digitalization of birth registration in Africa

There are several barriers that hamper the digitalization of birth registration in Africa. For digitalization to enable an effective implementation of the right to birth registration for all, it is crucial to be cognizant of and address these design, coordination and technical challenges. Some of the key challenges observed are listed hereunder.

- **Sectoral fragmentation:** Misalignment between sectoral priorities and registration objectives remains a major barrier. Ministries of civil registration, health, and justice often pursue uncoordinated goals, undermining coherent reform.
- **Centralized decision-making:** Overly centralized systems limit local responsiveness. Subnational offices are frequently left without sufficient authority, budgets, or staffing, slowing progress towards decentralization.
- **Premature technological deployment:** New platforms and mobile tools are sometimes rolled out before addressing basic issues such as connectivity, interoperability, and comprehensive training. This leads to inconsistent usage and unreliable data.
- **Pilot project dependency:** Heavy reliance on pilot projects, without costed pathways for scale-up, necessary tools for revision and software upgrades, prevents local innovations from being institutionalized. Shifting donor priorities exacerbate this problem.
- **Parallel data systems:** Even with digital platforms, parallel systems persist. Limited interoperability leads to fragmented databases, duplicated efforts, and incompatible data standards.
- **Infrastructure gaps and the digital divide:** Poor electricity supply and unreliable internet connectivity, particularly in rural and remote areas, remain fundamental operational challenges. It is particularly concerning given the digital divide between urban and rural population as well as the gender digital divide.
- **Low digital literacy and cultural resistance**: Many communities lack awareness of the benefits of registration or resist digitalization due to cultural stigma (e.g., viewing it as taboo or harmful).
- **Human resource shortages:** Inadequate numbers of trained personnel at field level significantly undermine the effectiveness of digital operations.

5. Emerging good practices and experimental trends

There are several initiatives in various countries that show promising signs of enhancing inclusive birth registration through the use of digital tools. While these innovations represent important advances, careful consideration is needed to prevent the exclusion of marginalized groups who may face barriers to accessing digital platforms. Observed promising good practices include the following:

- The development and rollout of mobile-accessible registration tools using SMS or USSD technology to reach areas with limited or no internet connectivity;
- Assisted registration for those unable to access digital platforms, ensuring no child is left unregistered due to infrastructural or socio-economic barriers;
- The inclusion of universal design principles for digital platforms, incorporating accessibility tools for persons with disabilities and multilingual interfaces;

- In Nigeria, mobile phone-based technology such as RapidSMS has been deployed to monitor and evaluate birth registration processes in real time. The country has also adopted Intelligent Data Recognition (IDR) to convert analogue records into digital data, marking a significant step towards the digitalization of civil registration systems; and
- In Ethiopia, progressive measures include the amendment of the Refugee Civil Registration Directive to waive fees for birth certificates issued to refugees. This reform has proven effective in reducing the marginalization of refugees and improving their access to birth registration services

Furthermore, various advanced solutions are in trial in several countries with the aim of enhancing digital registration. Such experimental solutions include:

- Connected bracelets for newborns with QR codes for immediate and secure registration;
- The integration of Artificial Intelligence (AI) for detecting births in refugee camps, language translation; and
- Voice recognition via chatbots for illiterate populations, and Self-Sovereign Identity (SSI) prototypes for empowering parents and protecting data.

While these are promising innovations, they must be approached with the necessary caution given the lack of continental or global guidance regulating the use of AI, SSI or other similar advanced technologies within CRVS systems and, in particular, for assistance in birth registration. Connected bracelets and AI-assisted birth detection involve continuous data collection on newborns or populations, often in contexts where consent, oversight, and cybersecurity safeguards are weak. SSI, meanwhile, operates under a decentralized model that could compromise the authoritative role of the state in civil registration if not properly regulated. Exploration of such tools must be guided by strict data protection and privacy principles and the consideration of the best interest of the child.

6. Strategic positioning of CRVS as a foundational national infrastructure and digital public infrastructure

The proliferation of fragmented initiatives of digitalization undermines sustainability and efficiency, underscoring the need for a whole-of-government approach to digital birth registration. It is crucial to treat CRVS systems as a core national infrastructure and a foundational component of digital public infrastructure. This framing elevates CRVS beyond a mere administrative function, emphasizing its strategic importance for social protection, financial inclusion, and digital public service delivery, and necessitates a collaboration across all levels of government. Relevant stakeholders, including development partners, should align behind African-led strategies and avoid fragmented digital ID pilots to ensure sustainable systems strengthening.

This approach further highlights the need for adequate and sustained public financing for CRVS as a core state function, rather than an overreliance on donor funding, for long-term sustainability. Specific alignment with existing AU and UN frameworks such as the Digital Transformation Strategy for Africa (2020-2030), the AU Interoperability Framework for Digital ID, the AU Data Policy Framework, the AU Convention on Cyber Security and Personal Data Protection (Malabo Convention), and Africa Programme on Accelerated Improvement of Civil Registration and Vital Statistics (APAI-CRVS) is crucial for national and continental coherence and efficiently.

7. Guiding recommendations

i. Adopt a child rights-based approach

- Ensure all digital birth registration initiatives uphold Article 6 of the African Children's Charter and General Comment No. 2, guaranteeing that registration is free, immediate, and non-discriminatory.
- Safeguard children's right to privacy and protection of personal data in digital systems. The use of technology involving biometrics, AI, or digital tracking of newborns should explicitly reference the need for data governance, consent, and accountability mechanisms, consistent with the Malabo Convention and UNICEF's Child Data Protection Principles.

ii. Adopt a whole-of-government approach

- Position CRVS as foundational national Digital Public Infrastructure to avoid fragmentation and donor-driven pilots.
- Ensure interoperability of digital CRVS and align civil registration, health, education, justice, and social protection functions under a whole-of-government approach.
- Ensure that CRVS as Digital Public Infrastructure are grounded in a rights-based and ethical framework. This includes adherence to the principles of legality, purpose limitation, proportionality, and data minimization, ensuring that data processing is lawful, necessary, and respectful of privacy and human dignity. Equally, accountability, transparency, and security must be guaranteed through strong institutional oversight and safeguards against misuse.

iii. Promote inclusivity and non-discrimination

- Design digital systems that are accessible to marginalized groups, including children with disabilities, children in street situations, refugees, IDPs, children of single mothers, children in emergency situations, children living in poverty and those in rural/remote areas.
- Incorporate universal design, multilingual interfaces, and offline/mobile solutions to close the digital divide.

iv. Ensure child participation

- Establish mechanisms for consulting children, in line with their evolving capacity, in the design, rollout, and monitoring of digital birth registration systems to reflect their perspectives and needs.

v. Ensure maximum data protection

- Digitalization of CRVS systems must be guided by the principles of legality, purpose limitation, proportionality, data minimization, and accountability, ensuring that all data processing is lawful, necessary, and aligned with the best interests of the child. Systems should also uphold transparency, security, and accuracy, additionally mechanisms for redress and oversight must be established to ensure accountability.

vi. Invest in sustainability

- Prioritize sustained domestic public financing of CRVS over donor dependency.
- Develop costed scale-up strategies for successful pilot projects to ensure institutionalization.

vii. Build technical and human capacity

- Train frontline staff and ensure adequate staffing at local levels.
- Address operational challenges such as connectivity, electricity, interoperability, and data standards before introducing new digital tools.

viii. Foster innovation, responsibly, and interoperability

- Support responsible adoption of emerging tools (e.g., RapidSMS, IDR, biometric solutions, SSI, blockchain, AI-assisted tools) while ensuring equity and accessibility.
- Pair digital systems with assisted registration mechanisms for those unable to access technology directly.
- Deploy mobile registration units to reach remote and underserved communities.
- Promote one-stop service models (birth notification + registration + certification) to streamline processes and encourage timely registration.
- Apply the principle of “collect once, use many times” to design interoperable CRVS systems, reducing duplication, improving efficiency, and building public trust.

ix. Advance regional and continental coherence

- Align national reforms with AU frameworks (Digital Transformation Strategy 2020–2030, Interoperability Framework for Digital ID, AU Data Policy, Malabo Convention).
- Support cross-border harmonization through initiatives such as ECOWAS ID and Digital ID4Africa.

ANNEX 1: TOOLS AND RESOURCES

Regional frameworks and initiatives guiding various aspects of CRVS digitalization

- The APAI-CRVS Digitalization Guidebook;
- The APAI-CRVS practitioners' guidelines for digital CRVS systems
- The Africa eCRVS Shared Asset initiative; and
- The AfDB baseline survey on the digitalization of CRVS systems in Africa.
- African Union Online Safety and Empowerment Policy (COS Policy,2024)
- ID4Africa
- UNICEF KRC #7 Birth Registration Communication & Advocacy Toolkit
- UNICEF Accessibility Toolkit

Examples of digital CRVS in Africa

State	Digital CRVS Platform	Comment
Uganda	OpenCRVS	The program began with pilot districts and followed with integration into health facilities for birth notification. Nationwide rollout is in progress. Interoperability: Integration with the health sector is a primary feature. Plans for National ID integration
Togo	MOSIP-Modular Open-Source Identity Platform	Interoperability: Seamless integration with national ID; collaboration with health and education sectors. Emerging technologies: Use of mobile applications for remote registration; biometric data collection.
Ethiopia	MOSIP-Modular Open-Source Identity Platform/used for Fayda digital ID program	The Fayda program was piloted in Addis Ababa and is progressively rolling out to other regions Interoperability: The core objective is to create a foundational ID that integrates with various sectors, including CRVS
Kenya	Integrated Population Registration Service (IPRS) and eCitizen	Interoperability: eCitizen and the IPRS aim to interoperate with various government databases.
South Africa	eHome Affairs	The Department of Home Affairs has a "Live Capture" system for smart ID cards and passports, and an electronic Birth Registration system in health facilities. **eHome Affairs** is primarily a *booking portal* for these in-person services.

** NB: It should be noted that multiple digital CRVS platforms exist across the continent, often at varying stages of maturity and institutionalization. The list provided here is illustrative.*