Assessment of the Status of Digitalization/Digitization of CRVS systems in Africa

Statistics Department

African Development Bank

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Introduction

Definitions

Digitization/Digitalization:

- Increased use IT systems, the ability to convert paper-based systems into digital form, use of electronic tools to collect, transmit and store CR information

Objectives

- Assess the status of CRVS systems in Africa with regards to digitalization/digitization

- Look at the capacity, potential, opportunities and gaps concerning digitalization of CRVS systems in Africa

Data Collection

- Electronic survey questionnaires were sent to CR offices

- Estimated time to complete the survey was 10 to 15 minutes

- The questionnaires were shared in three languages (English, French and Portuguese)

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Scope of the Assessment – Questions Asked

- Are there legal frameworks to Support CRVS?
- Are there provisions to link CRVS with other databases?
- Does the country have computerized databases where CR records are maintained?
- Are there steps of the CR process that are digitized?
- Does the CR office in the country host its own data or it outsources?
- What type of CRVS IT systems does the civil registration office in the country use?
- What are the existing initiatives that might inform the design of the digitized CRVS system?
- Capacity in terms of human resources, funding and infrastructure
- What are the Challenges/gaps?

Countries Covered

All African Countries were targeted and responses were received from 43 countries (82.7% response rate)
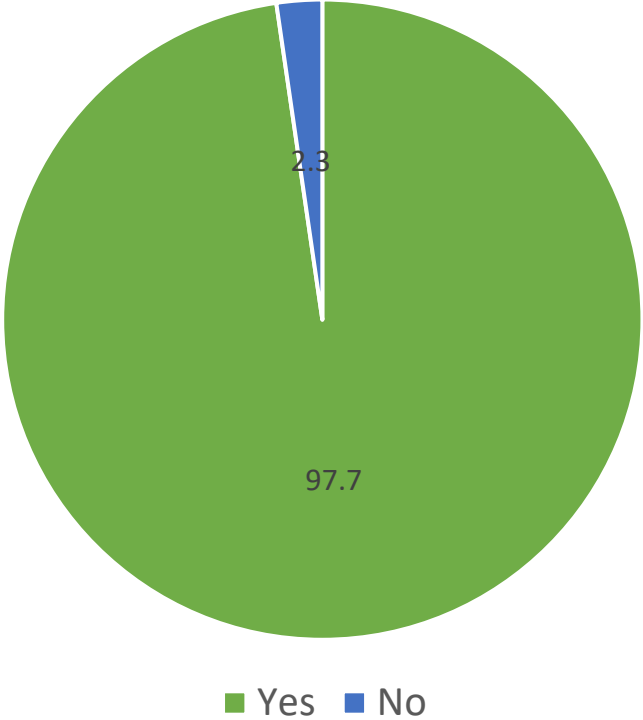

43 countries -responses received
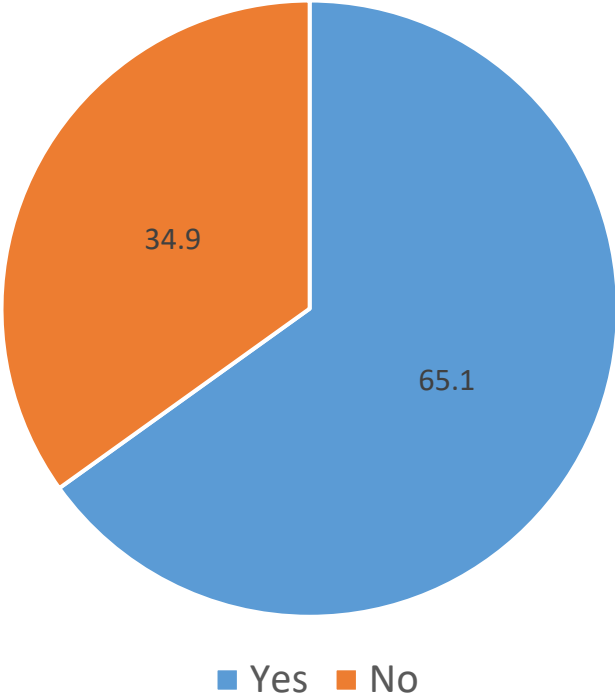
9 countries– not responded

2 countries- no contact

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Analysis of Responses: Legal Environment

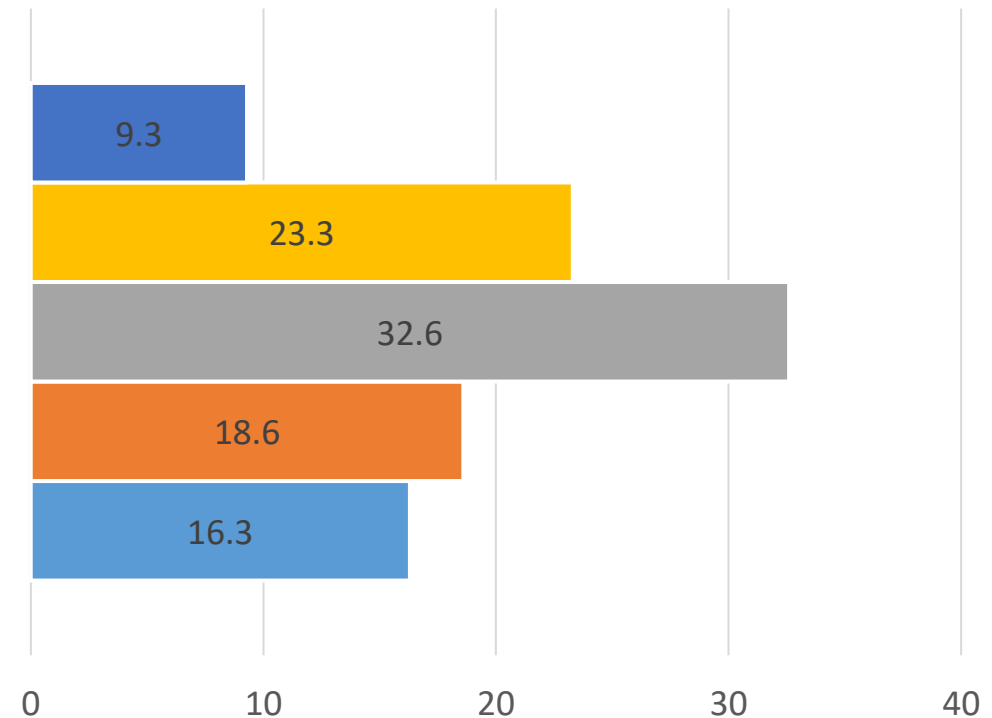**Registration of vital events -births, deaths, marriages, divorce (%)**

2.3

97.7

Yes   No

Linking or interfacing with the other databases (%)

34.9

65.1

Yes   No

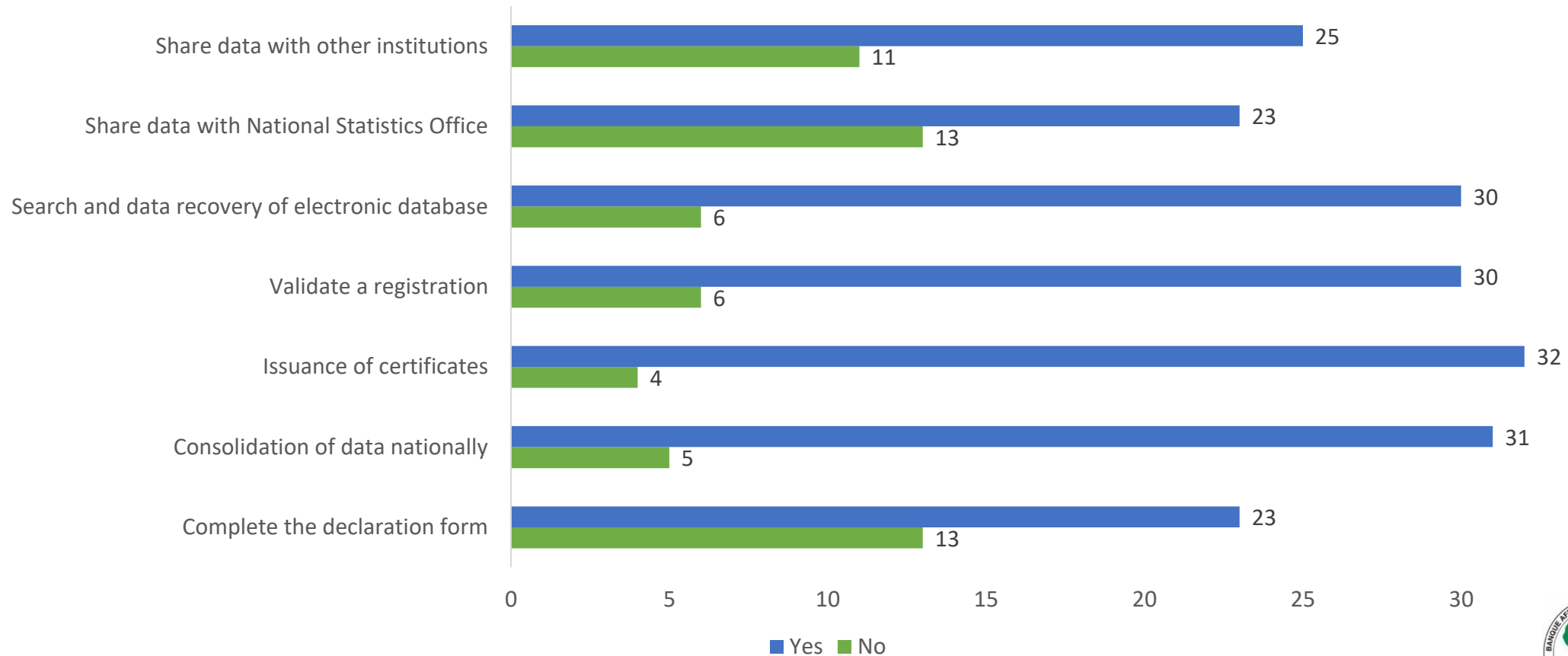# Analysis of Responses: Computerization of databases

Existence of Computerized databases where civil registration records are maintained (%)

- Yes, only towns in the urban areas have electronic databases — 9.3
- Yes, all civil registration offices countrywide have electronic databases — 23.3
- The country has a national database — 32.6
- No, only few offices in major cities have electronic databases — 18.6
- No electronic CRVS database in the country — 16.3

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Analysis of Responses: Digitalization of processes

Steps of the registration processes that are digitized

Process	Yes	No
Share data with other institutions	25	11
Share data with National Statistics Office	23	13
Search and data recovery of electronic database	30	6
Validate a registration	30	6
Issuance of certificates	32	4
Consolidation of data nationally	31	5
Complete the declaration form	23	13

■ Yes   ■ No

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Analysis of Responses: use of ICT

Transmission of birth and death records from local and regional offices to a central storage- 48.8% electronic

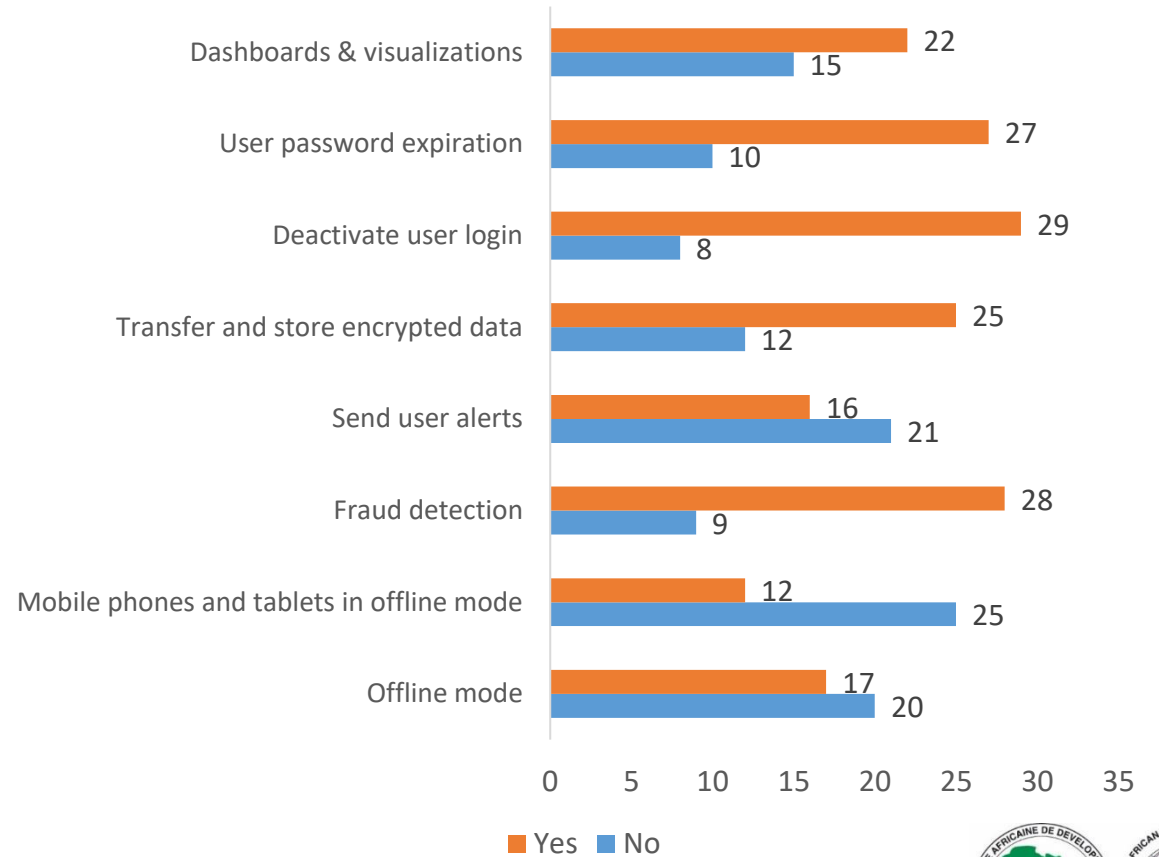| Mode of transmission	Countries (%)
All information is exchanged electronically	48.8
Paper copies are sent from local office	14.0
Paper copies are used throughout the system	25.6
The system is still mainly paper based	11.6

Type of CRVS IT systems used by the civil registration office in the country -72.1% custom developed

CRVS IT software	Countries (%)
Commercial off-the shelf software	9.3
Community-supported open-source software	4.7
Custom developed software	72.1
N/A	14.0

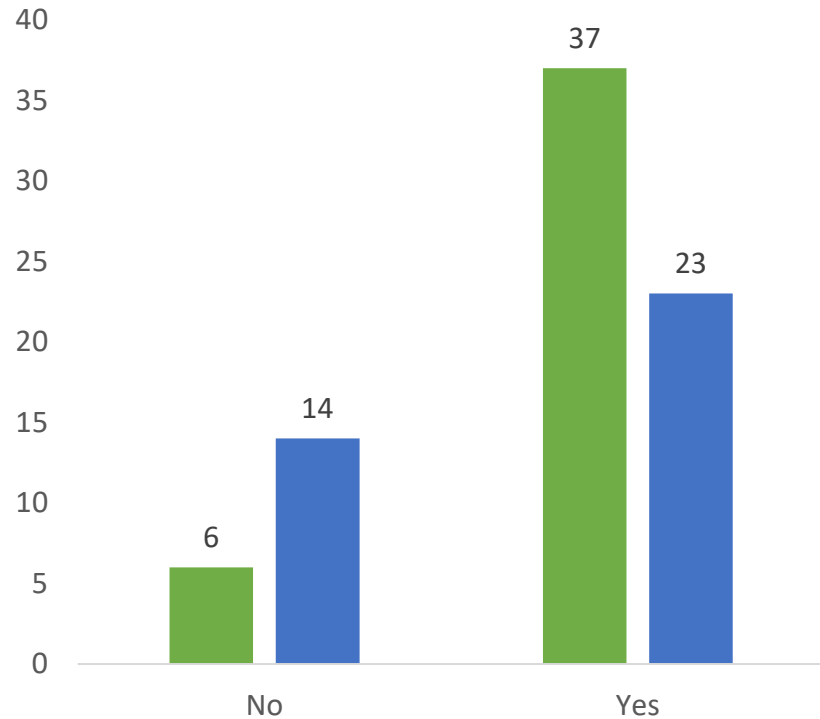**Data hosting by civil registration office in the country – 72% self hosted**

Data Hosting	Countries (%)
Outsourced system	14.0
Self-hosted system	72.0
N/A	14.0

Software Capabilities

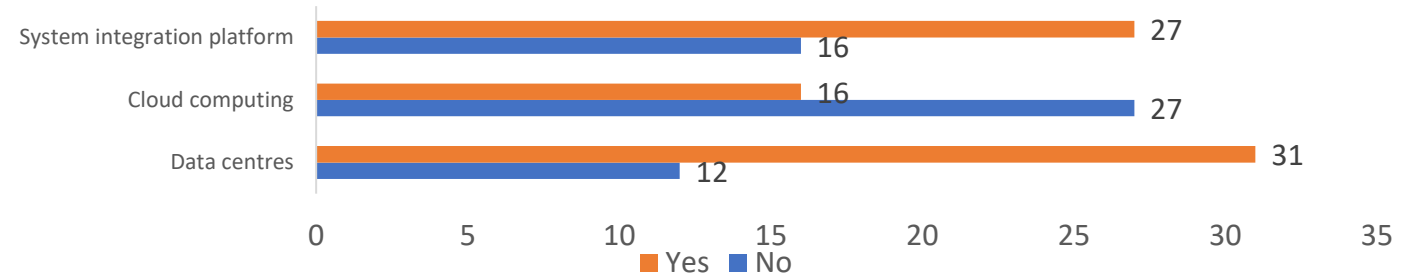| Capability	Yes	No
Dashboards & visualizations	22	15
User password expiration	27	10
Deactivate user login	29	8
Transfer and store encrypted data	25	12
Send user alerts	16	21
Fraud detection	28	9
Mobile phones and tablets in offline mode	12	25
Offline mode	17	20

■ Yes ■ No

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Analysis of Responses: Opportunities/Existing initiatives for Digitalization

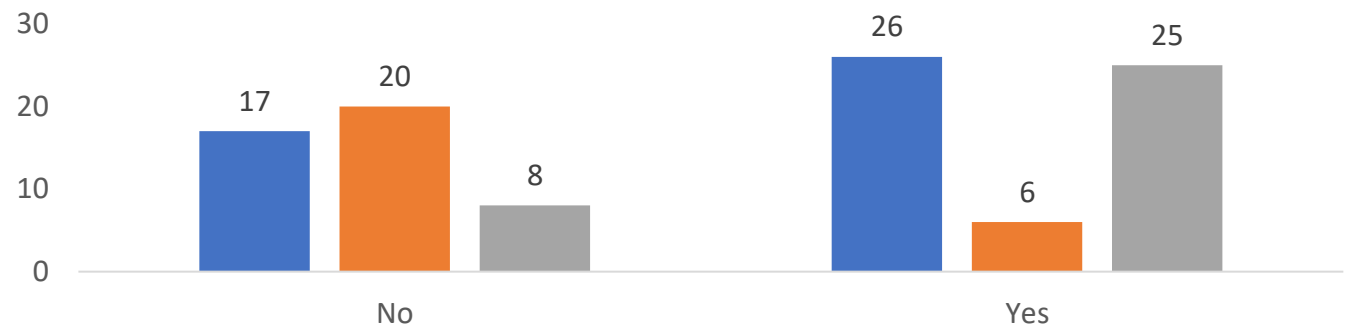## National identification databases-linkage to the civil registration system

Legend:
- Country has electronic national identification database
- National identification database linked to the civil registration system

Values:
- No: 6, 14
- Yes: 37, 23

e-Government technical infrastructure

	Yes	No
System integration platform	27	16
Cloud computing	16	27
Data centres	31	12

Interoperability between the CRVS database and the patient-level electronic health record system

Legend:
- Country has a patient-level electronic health record system
- Interoperability between the CRVS database and EHR system
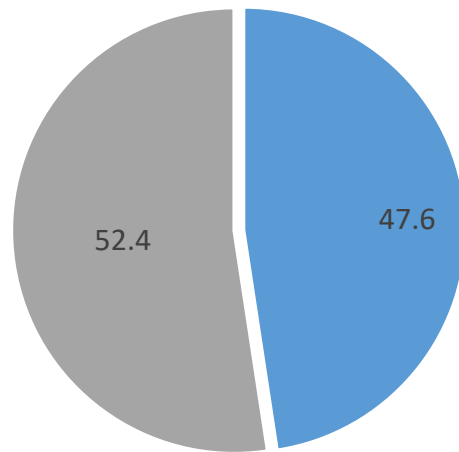- Have a data transfer agreement with the Ministry of Health

Values:
- No: 17, 20, 8
- Yes: 26, 6, 25

Analysis of Responses: Challenges/Gaps

Funding	Infrastructure	Legal Provisions	Human Resources

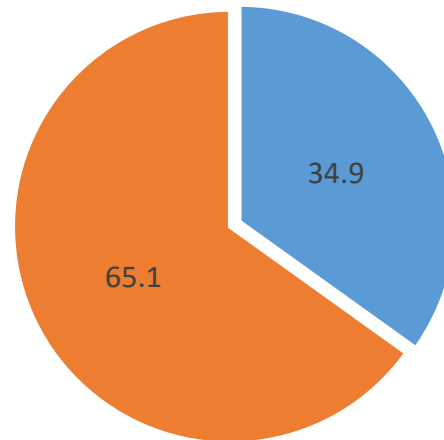**Does the Government provide adequate funding meant for any maintenance and upgrades required over the expected lifetime of the CRVS IT system? (%)**
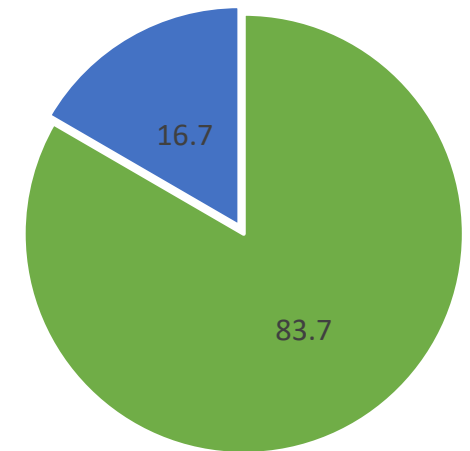
52.4 No
47.6 Yes

■ Yes ■ No

Legislation that has provisions for linking or interfacing with the other databases (%)

34.9 No
65.1 Yes

■ No ■ Yes

Does the civil registration office have dedicated staff members responsible for the management of the IT system? (%)

16.7 No
83.7 Yes

■ Yes ■ No

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Conclusions

- There is a gradual digitization/digitalization of CRVS systems
- The digitization of registration processes for the consolidation of data nationally, issuance of certificates and validation of a registration appear to be more common, among the countries, than other registration processes
- The least common digitized processes are the completion of the declaration form and sharing of data with the national statistical offices and other institutions
- Most countries have electronic databases for storing and maintaining vital events records
- There are scalable initiatives for interoperability and integration of systems/databases
- There are best practices of digitalization/digitization within the continent
- In depth study of various systems is needed to identify and document the best practices
- Gaps still exist in resources, capacity, infrastructure and legal provisions

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Recommendations

- **Digitalize CRVS business processes:** It is in the best interests of the countries to digitalize CRVS systems to improve their efficiency, accuracy, and accessibility.
- Conduct an **assessment**, based on APAI-CRVS guidelines, of the current CRVS system
- Develop a comprehensive digitalization **strategy**
- Engage with stakeholders
- Invest in technological infrastructure
- Train and engage human resources
- **Ensure data privacy and security:** The country should develop and enforce laws, regulations, and standards to protect personal information, prevent data breaches, and ensure data interoperability