



Annex 11

**ASSOCIATION OF AFRICAN
CENTRAL BANKS (AACB)**

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OF THE ASSEMBLY OF GOVERNORS**
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**DRAFT REPORT OF THE EXPERIENCES AND INITIATIVES
OF AACB MEMBER CENTRAL BANKS IN FINTECH AND CYBER SECURITY**

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ACCRONYMS

AACB	Association of African Central Banks
AFI	Alliance for Financial Inclusion
AMF	Arab Monetary Fund
AML/CFT	Anti Money Laundering/Combating the Financing of Terrorism
AMCP	African Monetary Cooperation Program
AI	Artificial Intelligence
AU	African Union
AUC	Africa Union Commission
BCEAO	Banque Centrale des Etats de l'Afrique de l'Ouest
BEAC	Banque des Etats de l'Afrique Centrale
BIS	Bank of International Settlement
CAR	Central Africa Republic
CERT	Computer Emergency Response Team
CBUMOA	Commission Bancaire de l'UMOA
DTL/DRT	Distributed Registries Technology
ECOWAS	Economic Community of West African States
CEEAC	Economic Community of Central African States
CEMAC	Economic and Monetary Community of Central Africa
COBAC	Commission Bancaire de l'Afrique Centrale
COMESA	Common Market of Eastern and Southern Africa
DRC	Democratic republic of Congo
EAC	East Africa Community
EAPS	East Africa Payment Systems
IMF	International Monetary Fund
MAU	Maghreb Arabe Union
REC	Regional Economic Community
SADC	Southern African Development Community
CSF	Committee of Financial Stability
WAMZ	West African Monetary Zone
WEAMU	West African Economic and Monetary Union

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Summary

The results of the survey reveal that African central banks, as a whole, have weighted up the impact of FinTech on the monetary sector and the banking landscape. African central banks are engaged in setting policies to further identify the benefits and risks of using FinTech. However, they are not at the same level of progress in setting up the device required for this purpose.

With regard to financial services, significant progress has been made. According to the survey results, most African central banks have a regulatory framework that is adapted or in the process of being modified to integrate new financial services and new means of payment. In addition, of the 31 central banks that responded to the questionnaire, 9 have an operational FinTech Unit and 6 are in the process of setting up Units specifically dedicated to FinTech. These initiatives are implemented in relation with the other economic actors involved as part of a global financial inclusion strategy.

The cryptocurrency problem has, however, appeared less well mastered by African central banks, probably because of the limited volume of these assets on African markets. There is also a problem of availability of relevant statistical data on transactions in cryptocurrencies. The survey results indicate that most African central banks have made arrangements warning people about the risks to potential cryptocurrency users. To date, the impact of cryptocurrencies on financial stability is under study in most African central banks. Of the 31 central banks that answered the questionnaire, 13 have a focus group dedicated specifically to the study of cryptocurrencies.

In terms of cybersecurity, the results of the survey show that almost all African central banks have taken steps to identify cybercrime and have put in place a mechanism to combat it. However, the compliance of existing devices with international standards varies from one central bank to another. The internal organizational structure and the framework for information exchange, which are the essential components of the cybersecurity system, are in different stage in most African central banks. Of the 31 central banks that responded to the questionnaire, 11 have a dedicated structure for monitoring cyber risks.

Taking into account the level of progress and priorities, the initiatives undertaken by the African central banks continue to be at the individual level. They could be undertaken alongside actions taken in identified groups, by sub-region and continent-wide. With regard to cryptocurrencies, the African central banks, at the individual level, seem to be giving priority to the establishment of specialized units and to increase the participation of these units in international forums on cryptocurrencies. Similarly, in the area of cybersecurity, African central banks at the individual level continue to set up specialized units, which will cooperate with other central banks and participate in the exchange of data, techniques and tactics for detection of cyberattacks.

In view of the stakes, African central banks have expressed needs for training, information and infrastructure. The reinforcement of cyberskills appears to be the first concern. Indeed, African central banks are considering extending the scope of investigation of the established FinTech Units, to cover the study of cryptocurrencies and cybersecurity. To ensure greater efficiency, emphasis should be placed on collaboration between central banks, particularly in terms of exchange of experiences and data at the national level (with other actors), at continental level (between African central banks) and at the international level (with the specialized referenced institutions).

As recommendations, each central bank could set up a FinTech Unit, whose area of investigation covers financial services, cryptocurrency studies and cybersecurity. The central bank could possibly create a specific Unit devoted to each of the three components mentioned above.

In view of the information exchange needs in the field of cryptocurrencies and cybersecurity, the continent-wide common organization could be envisaged according to several options:

- The continent-wide creation of a FinTech-Cybersecurity Unit that would address all FinTech related issues, including cryptocurrencies, as well as cybersecurity. The creation of such a continental unit will foster the formation of a continental network among African central banks, particularly on the issue of cybersecurity.
- The creation of two separate working groups, one dedicated to FinTech (including cryptocurrencies) and the other to cybersecurity. These working groups could be set up around the central banks which seem to be the best equipped in these respective fields.

I. Introduction

Following its meeting held in Sharm El Sheikh, Egypt, on August 9, 2018, the Assembly of Governors of the AACB took note of the conclusions and recommendations of the Continental Seminar organized by the Banque des Etats de l'Afrique Centrale (BEAC), from 14 to 16 May 2018 in N'Djamena, Chad, on the theme "*Financial Technology Innovations (FinTech), Cybercrime: Challenges for Central Banks*".

The conclusions of the Continental Seminar highlighted, in particular, the need for central banks to closely monitor FinTech developments in order to fully understand the benefits and potential risks. On this point, the Governors urged African central banks to take appropriate and concerted actions.

In this perspective, the Governors have requested the preparation of a report on the state of play of the experiences and initiatives of the African central banks in the field of FinTech and cybersecurity. The objective is to compile an inventory of AACB members' initiatives in FinTech and cybersecurity, and then indicate how these initiatives can be pursued using a common approach.

In accordance with the guidance of the Assembly of Governors, the preparation of this report was part of the work program of the AACB Technical Committee, with the assistance of the AACB Secretariat and identified specialists in member Central Banks. The report was based on information collected from AACB members, using a questionnaire on FinTech and cybersecurity¹.

The report is submitted to the AACB Bureau for consideration, to enable it to select an option for how the ongoing initiatives in central banks should be pursued. It describes the level of readiness of central banks, as well as their needs and expectations for cooperation in FinTech and cybersecurity.

II. Presentation of the replies to the questionnaire

The questionnaire was sent to the 40 AACB member central banks, on November 11, 2018. As of February 28, 2019, 31 central banks responded to the questionnaire², i.e a response rate of 77,5%. The analysis of the responses and comments collected highlights the main items described hereafter. Detailed tables of central banks' replies and comments are attached to the report (Annex 2 and Annex 3).

2.1. Innovations in Financial Technologies (FinTech)

2.1.1. Financial services

The survey results show that African central banks drive several initiatives to take advantage of financial innovations. The most popular areas of innovation is mobile money, which has promoted the financial inclusion of populations in almost all African countries.

Indeed, the results of the survey reveal that several African central banks³ have already set up Units specifically dedicated to FinTech or similar bodies. The South African Reserve Bank (SARB), for example, set up a FinTech team in August 2017 with a staff of three experts working in full time. The objective assigned to this team is articulated around three axes:

- to identify the implications of FinTech for regulation;

¹The development of the questionnaire has benefited from the experience of the South African Reserve Bank (SARB), which has already participated in such a survey.

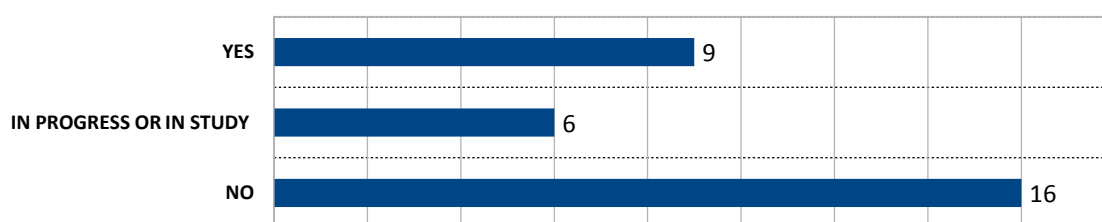
²Bank of Ghana, Central Bank of Seychelles, Central Bank of Liberia, Bank of Namibia, Banco Nacional de Angola, Reserve Bank of Malawi, Central Bank of Sudan, Central Bank of Egypt, BEAC, BCEAO, Banque Centrale de Mauritanie, Banky Foiben I Madagasikara, Bank of Uganda, Bank of Mauritius, Bank Al-Magrib, Bank of Sierra Leone, Central Bank of The Gambia, Central Bank of Lesotho, Reserve Bank of Zimbabwe, South African Reserve Bank, Bank of Botswana, Central Bank of Libya, Banque Nationale du Rwanda, Banque Centrale de São Tome e Príncipe, Bank of Zambia, Central Bank of Kenya, Banque Centrale du Congo, Banco de Moçambique, Central Bank of Nigeria, Banque Centrale de Djibouti et Banque Centrale de Tunisie.

³Central Bank of Libya, Bank of Ghana, Central Bank of Nigeria, Bank of Sierra Leone, Central Bank of Kenya, Bank of Uganda, Bank of Namibia, South African Reserve Bank, Banque Centrale de Tunisie.

- to collect data on FinTech activities in order to inform policy strategies, in particular on cryptocurrencies;
- to facilitate the implementation of FinTech initiatives.

In Namibia, the Bank of Namibia has a FinTech working group (Digital Innovation Working Group : DIWG) which is responsible for researching and making FinTech recommendations. The DIWG has a mandate and a specific reference and is composed of various representatives of the Central Bank's Departments. Each year, the Central Bank approves the key activity area of the DIWG. For 2019, the focus was Cloud Computing, as well as Cybersecurity. At the Central Bank of Kenya, there is a team called FIIT (Financial Innovation and Inclusion Team) which focuses on the FinTech and innovations in the banking sector. FIIT is composed of staff members from different Departments and the team performs this task as part of its other functions within the respective Departments. Of the 31 central banks that submitted the completed questionnaires, 9 central banks have created a dedicated FinTech Unit⁴ (Graph 1).

Graph 1 : Number of central banks with Unit dedicated to FinTech or similar bodies



Units or working groups specifically dedicated to FinTech are being set up in several others African central banks⁵. The reflections relate to the form, the functioning and the operationalization of the FinTech Unit, taking into account the studies carried out and the current duties of the central banks Departments concerned. For example, in Mauritania, a FinTech Adviser has been appointed at the level of the Governor's Cabinet, assisted by a Working Group, to ensure the monitoring and follow-up of FinTech's evolution, to collaborate with other stakeholders of the national ecosystem, the regional and the international institutions, and prepare the regulatory and supervisory framework with the relevant Departments of the Central Bank. The Central Bank of Egypt is developing, in cooperation with an International Consultant, a FinTech strategy, in which the FinTech organizational structure and its mandates will be defined.

Other central banks have not taken the option of creating specific Units and have, for some, mandated Divisions or Departments to monitor FinTech. For exemple, at the BCEAO, the Financial Stability Department and the Financial Inclusion Department are responsible for dealing with FinTech issues. The Bank of Ghana is also in this case. FinTech activities are supervised by the Payment Systems Department of the Bank of Ghana. At the Banco Nacional de Angola, there is a Section within the Payment Systems Department that analyzes development issues including FinTech.

The results of the survey also show that all African central banks have a regulatory framework that takes into account FinTechs, although in a number of countries such regulation falls within the purview of the government. Indeed, in several countries, the drafting of regulations and supervision are organized under the guidance of National Committees in which the central bank is a link in the chain. Depending on the different scenarios, there are either guidelines already made by the central bank or regulations drawn up at national level. In some countries, FinTechs are regulated by already existing

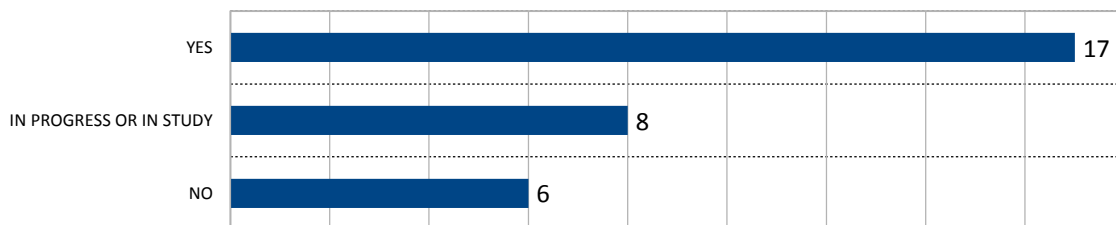
⁴The graph shows the number of central banks that answered "yes", "no" or "in progress" to the following question: does your central bank have a FinTech unit or a similar structure dedicated to FinTech? The total number of central banks that answered the question may be less than the total number of central banks, as some central banks did not give a response to the question.

⁵Central Bank of Egypt, Banque Centrale de Mauritanie, Bank of Mauritius, Banco de Moçambique, Bank of Zambia, Reserve Bank of Zimbabwe

laws, notably those relating to the fight against money laundering, the financing of terrorism and financial crime.

In several countries, regulatory texts are being updated. Central Banks commentaries suggest that the existing regulatory framework is being revised as new financial techniques emerge. At the BEAC, for example, the existing texts set out the obligations of credit and microfinance institutions with regard to the security of their information systems as well as the conditions for approving, exercising and controlling the activity of issuing electronic money institutions. An overhaul of the legal, regulatory and supervisory framework is under study. In Seychelles, new arrangements have been proposed in the e-money regulation to facilitate full interoperability with other payment systems in the country and at the international level.

Graph 2 : Number of central banks with specific FinTech regulations



Of the 31 central banks that responded to the questionnaire, 17 updated the existing regulatory frameworks or developed new frameworks following the latest financial innovations adopted⁶ (Graph 2). In Rwanda, the regulation governing payment service providers has been amended to include the sandbox for innovative products. A new regulation governing non-deposit financial institutions has also been put in place. In Morocco, a new banking law governs FinTech specialized in the field of payments. In Madagascar also, the law on electronic money, which frames mobile money, has been developed since 2016.

Despite the adjustments already made, the regulatory framework in many countries does not yet incorporate the latest trends in financial technology because of the speed with which innovations in the financial sector are taking place. Thus, the survey shows that some financial transactions, in particular migrant remittances via mobile money⁷, bank loans and savings via mobile money, insurance and certification services via mobile money, as well as investment management services via mobile money, are not yet integrated into the regulatory framework in almost all countries. In fact, their integration into the regulatory framework would not be directly under the responsibility of the central bank, with regard to the sectors of activity concerned (insurance market, financial market, etc.).

The importance of financial services and their interrelation with monetary policy has led most central banks to examine the impact of electronic money on the money supply and the main macroeconomic aggregates, so as to highlight, on the one hand, the risks involved on financial stability and, and the other hand, the adjustments to be made concerning the implementation of the monetary policy.

The results of the survey indicate that 12 of the 31 central banks that responded to the questionnaire have an operational risk analysis framework related to FinTech⁸. For example, the Bank of Botswana takes financial technology risks into account when approving relevant products to be launched by banks and other payment service providers. In particular, banks and payment service providers are required to demonstrate that they have controls in place to mitigate the risks associated with FinTech-based products and services. At the BCEAO, the risks borne by FinTech have been defined in several internal documents prepared by the Central Bank. At the Banque Centrale du Congo, instructions on prudential rules for internal control and compliance as well as risk management globally define the risks associated with FinTech.

⁶Central Bank of Libya, Banque Centrale de Mauritanie, Central Bank of The Gambia, Bank of Ghana, Central Bank of Nigeria, Bank of Sierra Leone, Central Bank of Kenya, Bank of Mauritius, Banque Nationale du Rwanda, Bank of Uganda, Banco Nacional de Angola, Bank of Botswana, Banky Foiben I Madagasikara, Reserve Bank of Malawi, Bank of Namibia, South Africa Reserve Bank, Banque Centrale de Tunisie.

⁷In Ghana, Kenya, Rwanda and Namibia, a Regulatory Framework governs migrants' remittances.

⁸BCEAO, Bank of Ghana, Central Bank of Nigeria, Banque Centrale du Congo, Banque Centrale de São Tome e Principe, Central Bank of Kenya, Bank of Botswana, Banky Foiben'I Madagasikara, Reserve Bank of Malawi, Bank of Namibia, South African Reserve Bank, Bank of Zambia

Work is underway in 10 other central banks⁹ to identify the latest technological innovations and to associate them with levels of risk. This work is carried out in collaboration with the operators involved, with whom it is necessary to define the information sharing modalities. For example, at Bank Al-Maghrib, an internal Group is working to integrate emerging risks related to FinTech into the mapping of systemic risks to financial stability. These innovations concern, for example, the activities of crowdfunding, the study of cryptocurrencies, the use of Distributed Ledger Technologies (DLT) as well as the development of Digital Business Models in the banking, insurance and capital markets sectors. The new associated risks illustrate, for example, the use of new computer platforms for illicit and criminal purposes, the protection of consumers and investors and the cybercrime.

Graph 3 : Number of central banks with a FinTech risk analysis framework



It should be noted that many of the work done by the African central banks on FinTech is based on the conclusions of exchange forums and collaboration with the partners, FinTech being a phenomenon of global scope. At the international level, the consultation frameworks most cited by the African central banks are the continental seminars organized by the AACB, the meetings organized through the AFI (Alliance for Financial Inclusion) which is a platform for collaboration between regulators dealing in particular with the issue of the development of FinTech. The IMF and the World Bank are also key partners for African central banks in FinTech collaboration. Exchanges within the RECs also favor the harmonization of FinTech-related processing, especially in the area of regional payment systems (SADC, ECOWAS, Arab Monetary Fund).

The results of the survey revealed that the FinTech issue is being addressed by African central banks at two levels. The first level deals with the role of supervisor, regulator and promoter of FinTech played by central banks. It is this first level which has just been the subject of the synthesis above. A second level deals with the appropriation of new technologies by the central banks themselves, in their capacity as companies destined to be modernized. Indeed, central banks are called upon to develop their own tools of work and analysis and to adapt the services they provide to the economic operators and the financial market.

Important investment initiatives have been taken in this direction. For example, the Central Bank of Egypt is considering setting up a FinTech Fund to strengthen and finance innovative ideas in the Egyptian market, with a capital of one billion Egyptian pounds. In Angola, Banco Nacional de Angola is working to set up an Innovation Laboratory to develop FinTech. The Central Bank of Nigeria supports FinTech through the SANEF initiative (Shared Agency Network Expansion Fund) which is a Fund to provide FinTech companies with credit at a specific interest rate. The Bank of Sierra Leone, in collaboration with other stakeholders in the ecosystem, such as the United Nations Capital Development Fund (UNCDF) is organizing actions to identify FinTechs that would promote financial inclusion. These investments appear necessary. Indeed, the new tools of analysis and modeling based notably on artificial intelligence and the use of biometrics are to date less mastered by the African central banks, according to the results of the survey.

2.1.2. Crypto-currencies

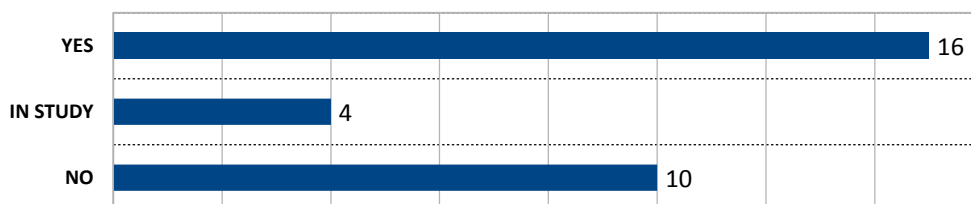
The results of the survey confirm that the amount of cryptocurrencies is limited in Africa. In addition, there is currently no consensus on how cryptocurrencies should be considered. Of the 31 central banks that responded to the questionnaire, 16 of them noted the circulation of crypto-currencies within their

⁹Central Bank of Egypt, Central Bank of Libya, Bank Al-Maghrib, Central Bank of Liberia, Bank of Mauritius, Banque Nationale du Rwanda, Bank of Uganda, Central Bank of Seychelles, Banco de Moçambique

national economy¹⁰. For example, the Bank of Botswana has observed the use of cryptocurrencies and has responded to inquiries about the cryptocurrency market and the user protection scheme. The survey also notes that some cryptocurrency stock exchanges would operate in Zimbabwe.

The reserves observed by the central banks on the possibilities of circulation of cryptocurrencies could

Graph 4 : Number of central banks that have detected crypto-currencies



be linked to the unavailability of statistical data, insofar as currencies of this nature circulate within local communities or on trading platforms. Like most African central banks, the Bank of Mauritius does not collect data to "detect" the use of cryptocurrencies in the national economy. However, there have been instances where reports have been received on allegations of promotion or use of these currencies. In South Africa, SARB has been working with the local cryptocurrency community since 2013, including with local cryptocurrencies trading platforms, and has been collecting preliminary data from these entities.

Given their limited size in most countries, there are still no specific regulatory texts on cryptocurrencies. In addition, new areas of analysis resulting from the use of cryptocurrencies, such as blockchain technology, are being examined in most central banks. The data shows that 13 of the responding central banks created Reflection Units specifically dedicated to cryptocurrencies¹¹ (Graph 5). For example, in 2017, the Banque Centrale de Tunisie created a think tank on crypto-monnaies and blockchain technology, involving representatives of stakeholders (FinTech companies, Government, Banks, Researchers, Academics, Experts and operators practicing in telecommunications). The work of the commission was crowned by a white paper summarizing the recommendations made, which allowed the Central Bank of Tunisia to identify fundamentals on crypto-currencies.

In countries where FinTech Units are operational, their work typically covers all financial services, including cryptocurrencies and cybersecurity monitoring. For example, the scope of work of the Unit dedicated to the study of the impact of FinTech in the SARB includes cryptocurrencies issued by the private sector as well as digital currencies issued by central banks. In several countries, the study of cryptocurrencies is carried out by Departments whose attributions relate to payment systems. For example, at the Bank of Ghana, the Payment Systems Department is responsible for digital currency, studying and monitoring the cryptocurrency space. In Angola, the Central Bank's Payment Systems Department is organizing internal forums to allow Departmental technicians to better understand these tools.

Graph 5 : Number of central banks with a crypto-currency study Unit



Like in Banco Nacional de Angola, it appears that in most central banks, studies are underway to apprehend the technologies on which cryptocurrencies are based. For example, some central banks such as the Reserve Bank of Zimbabwe have not yet considered creating an autonomous cryptocurrency unit. They set up Financial Technology Working Groups whose mandate is to study innovative technologies, including cryptocurrencies. In Madagascar also, the creation of a permanent

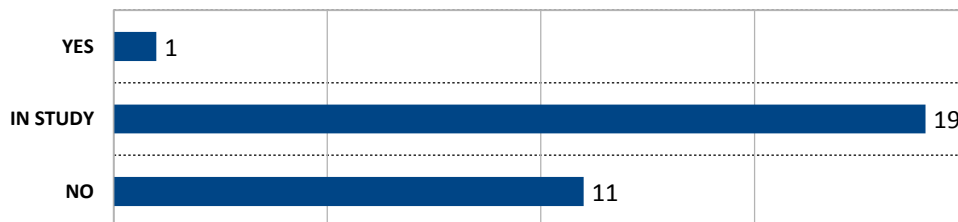
¹⁰Central Bank of Egypt, Bank Al-Maghrib, Bank of Ghana, Central Bank of Nigeria, Central Bank of Kenya, Bank of Uganda, Central Bank of Seychelles, Bank of Botswana, Central Bank of Lesotho, Banky Foiben I Madagasicara, Banco de Moçambique Bank of Namibia, South Africa Reserve Bank, Bank of Zambia, Reserve Bank of Zimbabwe, Banque Centrale de Tunisie.

¹¹Central Bank of Egypt, Bank Al-Maghrib, Banque Centrale des Etats de l'Afrique de l'Ouest, Banque des Etats de l'Afrique Centrale, Banque Centrale du Congo, Central Bank of Kenya, Banco Nacional de Angola, Reserve Bank of Malawi, Banco de Moçambique, Bank of Namibia, South Africa Reserve Bank, Reserve Bank of Zimbabwe, Banque Centrale de Tunisie.

working group on cryptocurrencies is under study. The Central Bank of Egypt has set up a cryptocurrency working group to carry out a detailed informative study on these currencies and make recommendations. In October 30, 2018, a Working Group was set up to conduct a reflection on the Fintech, cryptocurrencies and blockchain technology within the BEAC.

The results of the survey indicate that central bank opinions on the introduction of regulations on the use of cryptocurrencies are not settled. While waiting for a better understanding of the scale of the phenomenon, most banks have developed circulars or briefing materials for users and the general public to prevent them from the risks associated with use of cryptocurrencies (Graph 6). To date, no African central bank, with the exception of Banque Centrale de Djibouti, has declared itself in favor of a regulation dedicated to cryptocurrencies.

Graph 6 : Number of central banks favoring cryptocurrency regulation

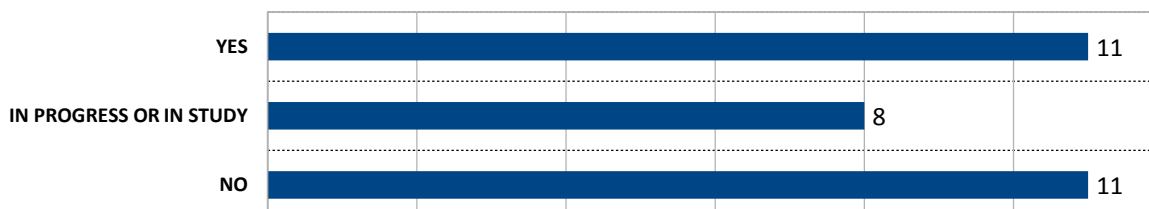


2.2. Cybersecurity

Data collected shows that African central banks are committed to setting up appropriate cybersecurity devices. In fact, with regard to regulation, almost all African central banks have laws regulating cybercrime. Most of the central banks that responded to the questionnaire use the legal framework for money laundering, terrorism financing and the fight against financial crime. Some central banks have already developed new cybercrime-related texts, other central banks are making the necessary changes to take into account the new threats and to align with best practices.

Of the 31 central banks that responded to the questionnaire, 11 banks have a specific legal framework against cybercrime¹². Botswana recently adopted the 2018 Cybercrime and Computer Crimes Act, which deals with related offenses. The legal framework of the Bank of Botswana is based on the same national law. In Rwanda, a bank was the victim of a cyber-attack and the Banque Nationale du Rwanda had to provide technical support. This triggered the release of cybersecurity regulations and regular cybersecurity assessments for banks. In Kenya, cybercrime is of criminal nature and is not regulated by the Central Bank of Kenya. However, the Central Bank of Kenya has issued a guideline on cybersecurity for financial institutions to guide them in the development and implementation of standards to protect them against cyberattacks. This is in addition to the risk management guidelines that require institutions to put in place robust risk management strategies, including technology management and cyber risks.

Graph 7 : Number of central banks with specific cybersecurity regulation



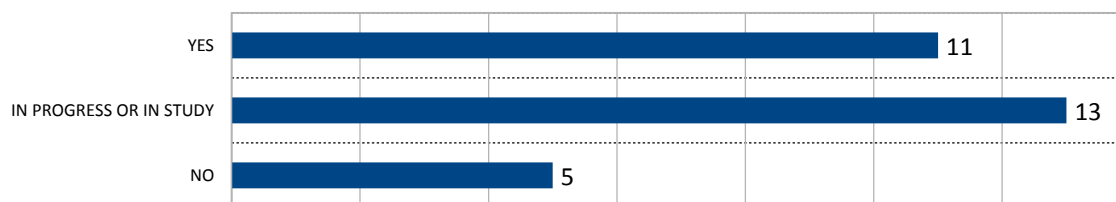
The results of the survey show that, in several central banks, the mapping of security risks takes into account cybersecurity risks and is updated regularly. The Central Bank of Kenya, for example, has

¹²Central Bank of Egypt, Bank Al-Maghrib, Bank of Ghana, Central Bank of Nigeria, Bank of Sierra Leone, Banque Centrale du Congo, Central Bank of Kenya, Banque Nationale du Rwanda, Bank of Uganda, Bank of Botswana, Reserve Bank of Malawi

trained managers certified in cyber risk monitoring who use cyber risk analysis practices (ISO 31 000¹³ and ISO 27005¹⁴). At the BCEAO, the mapping of information security risks takes into account the risk of cybersecurity. It is updated annually. The cybersecurity risk assessment is done in collaboration with the business structures and the structure in charge of information systems. In Seychelles, cybersecurity risk analysis is part of the overall risk management framework of the Central Bank. In Morocco, the Central Bank has a risk analysis system backed by a methodology compliant with the standards (ISO 27005).

In some other central banks, the implementation of a specific cyber security risk analysis system is not yet effective or is being implemented (Graph 8). This is the case at BEAC, where the Central Bank has several entities in charge of risk analysis related to the Information System. However, the establishment of a specific system for cybersecurity risk analysis is in progress. In Namibia, the Central Bank is working on the creation of a Security Operations Center (SOC).

Graph 8 : Number of central bank with a cyber-risk analysis framework

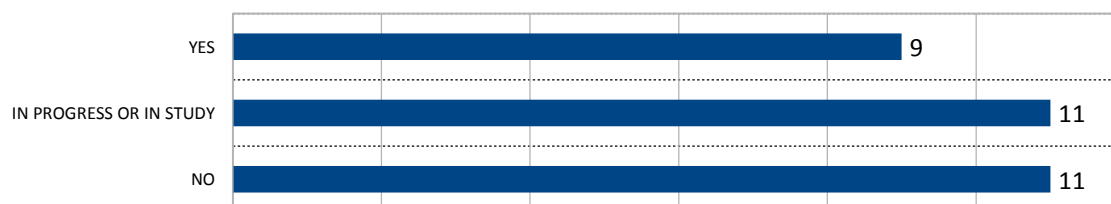


The prevention-based risk monitoring system is not yet fully operational in most central banks¹⁵. In addition, customer awareness and involvement is not yet the subject of formalized programming. However, several central banks conduct stress tests regularly¹⁶. In Rwanda, for example, the Central Bank carries out an annual penetration test. In the Seychelles, the Central Bank conducts 3 penetration tests assessments and one vulnerability assessment per year. In Lesotho, penetration tests are conducted by the Central Bank.

In the area of cybersecurity, it is important to take into account the place and role of the central bank in the national system in place. In some countries, the most important roles are played by National Treatment Units or Information Centers, as part of a global and national determined policy. Of the 31 central banks that responded to the questionnaire, 9 have a response capability in the form of a Group or Cybersecurity Team involving the Departments concerned¹⁷. For example, the Central Bank of Lesotho has set up a cyber-alert team made up of representatives from the high-impact departments. At the Bank of Sudan, there is an information security committee comprising the services concerned. At the Central Bank of Congo, the cybersecurity group exists within the Information Technology Department and ensures the security of the Central Bank's information system.

Some central banks in Africa have not moved towards setting up a team dedicated solely to cybersecu-

Graph 9 : Number of central banks with special Unit dedicated to Cybersecurity



urity. Rather, they rely on collaboration between several internal entities at the central bank. For example, as part of cybersecurity management, the information security services of the Central Bank of Kenya share cybersecurity cases with Departments and relevant stakeholders. In South Africa, SARB's

¹³Risk management

¹⁴Risk management related to information security

¹⁵The device is operational in Kenya and South Africa

¹⁶Bank of Sierra Leone, Central Bank of Kenya, Banque Nationale du Rwanda, Central Bank of Seychelles, Central Bank of Lesotho, Reserve Bank of Malawi, Bank of Namibia

¹⁷Bank of Sudan, la Bank of Ghana, la Central Bank of Nigeria, la Banque Centrale du Congo, la Banque Nationale du Rwanda, la Bank of Uganda, la Central Bank of Seychelles, la Central Bank of Lesotho et la South Africa Reserve Bank

cybersecurity supervisory structures include a security committee, a computer security committee and a technical forum on cybersecurity. These structures address the strategic dimensions of cybersecurity, in addition to the work of existing IT governance structures.

III. ANALYSIS OF THE RESULTS OF THE SURVEY

3.1. Categorization of central banks

Based on the results of the survey, it is observed that African central banks are not at the same level of progress as regards the development of regulatory texts or the creation of FinTech Units. Significant progress has been made in the area of financial services by all African central banks, but progress gaps are observed in the field of cryptocurrency studies and monitoring of cybersecurity. In addition, the internal organization to be put in place, as well as the exchange of information, which constitutes the basis of the fight against cybercrime are at different stages.

On the basis of this diversity of central banks' progress levels, a categorization of central banks was proposed taking account the level of achievement of the actions listed in the questionnaires. Central bank groups have been formed to define for each Group how the actions initiated can be organized through synergy. The breakdown of central banks is based on the number of positive responses to the questions contained in the questionnaire¹⁸. Key questions were selected from the 92 questions in the questionnaire and criteria defined using international best practices (CPMI-IOSCO, BIS CPI Wholesale Payment Security Task Force, NIST).

Thus, in Financial Services, the focus was on the existence of a FinTech Unit, the existence of a specific Regulation including FinTech and the relevance of the risk mechanism related to FinTech. On this point, the 10 key criteria taken into account for the categorization of central banks are as follows:

- 1) *The central bank has set up a FinTech Unit or a similar structure which is mainly dedicated to FinTech.*
- 2) *The central bank has updated existing regulatory frameworks or developed new frameworks following an innovation in FinTech.*
- 3) *The central bank has defined risks related to FinTech (operational risks, outsourcing risks, liquidity risks, etc.).*
- 4) *The central bank has taken investment initiatives in FinTech.*
- 5) *The central bank has set up innovation facilitators such as regulatory sandboxes, accelerators and innovation laboratory.*
- 6) *The central bank has identified its main innovative trends in FinTech (for example, electronic KYC, blockchain, biometrics, etc.)*
- 7) *Current regulations take into account interoperability relationships between banks and mobile service providers.*
- 8) *The central bank has put in place regulations to control the information system of electronic money issuers.*
- 9) *The central bank has taken specific initiatives to improve the rate of access to financial services through the use of FinTech.*
- 10) *The central bank examined how technology and mass data could be exploited for monitoring and regulation purposes.*

In terms of cryptocurrencies, the central interest have been the existence of a study unit on cryptocurrencies (or a Reflexion Unit) and the expression of an opinion on the regulation of cryptocurrencies. On this point, the 6 key criteria taken into account for the categorization of central

¹⁸The purpose of the survey is, in addition to the inventory, to allow the central banks to make an assessment of their own individual devices (actions carried out, actions in progress, actions not realized), compared to standards and norms.

banks are indicated hereafter:

- 1) *The central bank has detected the use of cryptocurrencies within the national economy.*
- 2) *The central bank is favorable to the establishment of a regulation on the use of crypto-currencies for the exchanges within the national economy.*
- 3) *The central bank is considering whether to issue cryptocurrencies.*
- 4) *The central bank has taken initiatives for a good understanding of cryptocurrencies, including for example the creation of a Cryptocurrency Unit.*
- 5) *The central bank has considered issuing digital central bank money as an alternative to cryptocurrency.*
- 6) *The central bank made recommendations regarding cryptocurrencies.*

In the area of cybersecurity, emphasis was placed on the existence of a Cyber-risk Analysis Unit, the existence of legal frameworks against cybercrime, as well as the readiness of the central bank to exchange information, provide intelligence and assistance to other central banks in this field. On this point, the 20 key criteria taken into account for the categorization of central banks are as follows:

- 1) *There is a cybersecurity regulation within the central bank.*
- 2) *The infrastructure of the central bank has been at least once the target of a cyber attack.*
- 3) *The Central Bank have a legal framework against money laundering and the fight against the financing of terrorism.*
- 4) *Cyber attacks on commercial banks have been detected in your country and brought to the attention of the central bank.*
- 5) *The central bank has a specific legal framework against cybercrime.*
- 6) *The central bank has a cybersecurity risk analysis system.*
- 7) *The central bank has established a framework for local, regional and international collaboration with regulators and stakeholders on cyber risks.*
- 8) *The central bank performs stress tests to see the impact of a possible attack on the system.*
- 9) *The central bank has adequate skills and capabilities to detect and combat cyber attacks.*
- 10) *The central bank has set up a response capability (Cybersecurity Group involving the relevant Departments).*
- 11) *The central bank is ready to compare cybersecurity regulation with that of other countries.*
- 12) *The central bank is ready to coordinate risk assessments related to cyber resilience across the financial sector in Africa.*
- 13) *The central bank organizes, coordinates or runs cyber-readiness testing of companies, which could be standards across Africa.*
- 14) *The central bank can work with other central banks in Africa to facilitate cyber-certification and best practices in financial sector assessment.*
- 15) *The central bank shares information about threats or incidents with other central banks.*
- 16) *The central bank is willing to be part of a sharing platform at the national, continental and international levels on the financial sector.*
- 17) *The central bank uses several technologies for all of its computer security devices.*
- 18) *There is a mutual sharing from the sector and national level Financial and Monetary Institutions (FMIs) with the central bank for integrated financial sector awareness.*
- 19) *The central bank could provide or share emergency support and skills during a cybersecurity incident at sectoral and national level.*
- 20) *The central bank has well-defined procedures in the event of an incident (data loss, system failure) or cyber attack.*

The above approach has made it possible to identify groups of central banks whose homogeneity could be possibly analyzed in depth. The level of progress of a central bank is considered advanced when it has already achieved at least 2/3 of the 36 initiatives listed above. The level of progress is considered satisfactory when the central bank has already achieved at least 1/3 of the 36 initiatives. The level of

progress is considered less satisfactory when the central bank has made less than 1/3 of the 36 initiatives listed. Central banks that have not yet submitted the completed questionnaires to the AACB Secretariat have not been integrated¹⁹.

Table 1 captures three groups of central banks on the basis of FinTech's progress, including the study of cryptocurrencies. The advanced group is colored in green. The intermediate group is colored in yellow and less satisfactory group is colored in grey.

Table 1 : Groups of central banks according to the level of progress of the FinTech monitoring framework (including cryptocurrencies)

Sub-regions	Central Banks	Groups
North Africa	Central Bank of Egypt	2
	Central Bank of Libya	2
	Banque Centrale de Mauritanie	1
	Bank of Sudan	1
	Bank Al-Maghrib	2
	Banque Centrale de Tunisie	2
West Africa	Banque Centrale des Etats de l'Afrique de l'Ouest	1
	Central Bank of The Gambia	1
	Bank of Ghana	2
	Central Bank of Liberia	1
	Central Bank of Nigeria	3
	Bank of Sierra Leone	2
Central African	Banque des Etats de l'Afrique Centrale	1
	Banque Centrale du Congo	2
	Banque Centrale de São Tome e Principe	1
East Africa	Banque Centrale de Djibouti	1
	Central Bank of Kenya	3
	Bank of Mauritius	2
	Banque Nationale du Rwanda	2
	Bank of Uganda	2
	Central Bank of Seychelles	1
Southern Africa	Banco Nacional de Angola	2
	Bank of Botswana	2
	Central Bank of Lesotho	2
	Banky Foiben I Madagasicara	2
	Reserve Bank of Malawi	2
	Banco de Moçambique	2
	Bank of Namibia	3
	South Africa Reserve Bank	3
	Bank of Zambie	1
	Reserve Bank of Zimbabwe	2

Table 2 captures three groups of central banks based on progress on cybersecurity. The advanced group is colored in green. The intermediate group is colored in yellow and less satisfactory group is colored in grey.

¹⁹Banque d'Algérie, Banque Centrale de Tunisie, Banco de Cabo Verde, Banque Centrale de la République de Guinée, Banque de la République du Burundi, Banque Centrale Comores, Bank of Tanzania, National Bank of Ethiopia, Central Bank of Somalia. The replies and comments of the Central Bank of Tunisia, which transmitted the completed questionnaire on 18 February 2019, are being taken into account and will be included in the final version of the report.

Table 2 : Groups of Central banks according to the level of progress of the cybersecurity monitoring framework

Sub-regions	Central Banks	Groups
North Africa	Central Bank of Egypt	3
	Central Bank of Libya	2
	Banque Centrale de Mauritanie	2
	Bank of Sudan	2
	Bank Al-Maghrib	3
	Banque Centrale de Tunisie	2
West Africa	Banque Centrale des Etats de l'Afrique de l'Ouest	3
	Central Bank of The Gambia	2
	Bank of Ghana	3
	Central Bank of Liberia	1
	Central Bank of Nigeria	3
	Bank of Sierra Leone	2
Central Africa	Banque des Etats de l'Afrique Centrale	2
	Banque Centrale du Congo	3
	Banque Centrale de São Tome e Principe	2
East Africa	Banque Centrale de Djibouti	2
	Central Bank of Kenya	3
	Bank of Mauritius	3
	Banque Nationale du Rwanda	3
	Bank of Uganda	3
	Central Bank of Seychelles	3
Southern Africa	Banco Nacional de Angola	2
	Bank of Botswana	2
	Central Bank of Lesotho	3
	Banky Foiben'I Madagasicara	2
	Reserve Bank of Malawi	2
	Banco de Moçambique	1
	Bank of Namibia	2
	South African Reserve Bank	3
	Bank of Zambia	2
	Reserve Bank of Zimbabwe	2

Table 3 (next page) captures three groups of central banks based on progress on FinTech (financial services and cryptomonnaies studies) and cybersecurity monitoring. As in the others tables above, the advanced group is colored in green. The intermediate group is colored in yellow and less satisfactory group is colored in grey. The level of progress takes account of the 36 initiatives listed above (pages 15 and 16). The analysis of table 3 allowed to forward some comments and draw some useful insights with regards to the implementation of central banks initiatives based on a collective perspective.

Table 3 : Groups of Central banks according to the level of progress of FinTech and cybersecurity

Sub-regions	Banques Centrales	Groupes
North Africa	Central Bank of Egypt	3
	Central Bank of Libya	2
	Banque Centrale de Mauritanie	1
	Central Bank of Sudan	2
	Bank Al-Maghrib	3
	Banque Centrale de Tunisie	2

West Africa	Banque Centrale des Etats de l'Afrique de l'Ouest	2
	Central Bank of The Gambia	1
	Bank of Ghana	3
	Central Bank of Liberia	1
	Central Bank of Nigeria	3
	Bank of Sierra Leone	2
Central Africa	Banque des Etats de l'Afrique Centrale	2
	Banque Centrale du Congo	3
	Banque Centrale de São Tome e Principe	1
East Africa	Banque Centrale de Djibouti	1
	Central Bank of Kenya	3
	Bank of Mauritius	3
	Banque Nationale du Rwanda	3
	Bank of Uganda	3
	Central Bank of Seychelles	2
Southern Africa	Banco Nacional de Angola	2
	Bank of Botswana	2
	Central Bank of Lesotho	3
	Banky Foiben'I Madagasicara	3
	Reserve Bank of Malawi	2
	Banco de Moçambique	2
	Bank of Namibia	3
	South African Reserve Bank	3
	Bank of Zambia	2
Reserve Bank of Zimbabwe	2	

In the central banks belonging to Group 3 (green color), specific Departments or Units dedicated to FinTech analysis exist. The field of investigation of these Departments or Units covers the study of cryptocurrencies and cybersecurity. These Units are partially or fully operational. As an indication, the Central Bank of Nigeria has recently established a Payment Systems Management Department to regulate the activities of FinTech companies. This Department also follows the evolution of cryptocurrencies. The Nigerian Forum on Electronic Fraud (NeFF), chaired by Central Bank of Nigeria, is a platform created to foster stakeholder collaboration in the FinTech ecosystem and cybersecurity, law enforcement, telecommunications, etc.. This Forum had begun to discuss the creation of the African Electronic Fraud Forum to foster continental collaboration. The South African Reserve Bank, the Central Bank of Kenya, the National Bank of Rwanda and the Banque Centrale du Congo belong to this Group 3 and have made considerable progress in the field of FinTech and Cybersecurity.

In Group 2 central banks, there are Departments in charge of FinTech analysis. These central banks also have Departments responsible for cybersecurity. However, within the central banks belonging to this Group, some points of improvement have been identified in comparison to the central banks belonging to Group 3. Indeed, within some of the central banks of Group 2, the scope of responsibilities of the mandated Departments relate to several activities other than the FinTech follow-up. Within some other central banks of Group 2, the studies relating to cryptocurrencies do not appear to be significantly advanced. Within the others central banks of Group 2, some cybersecurity actions are not yet implemented.

In the central banks of Group 1, most FinTech-based structures, cybersecurity and cryptocurrencies studies are in the process of being set up. This is the case in Liberia where 23 initiatives are in the process of being carried out or studied and 49 actions identified in the questionnaire are not taken over (out of the 92 provisions listed). In Sao Tome and Principe too, only 4 initiatives are under way or in

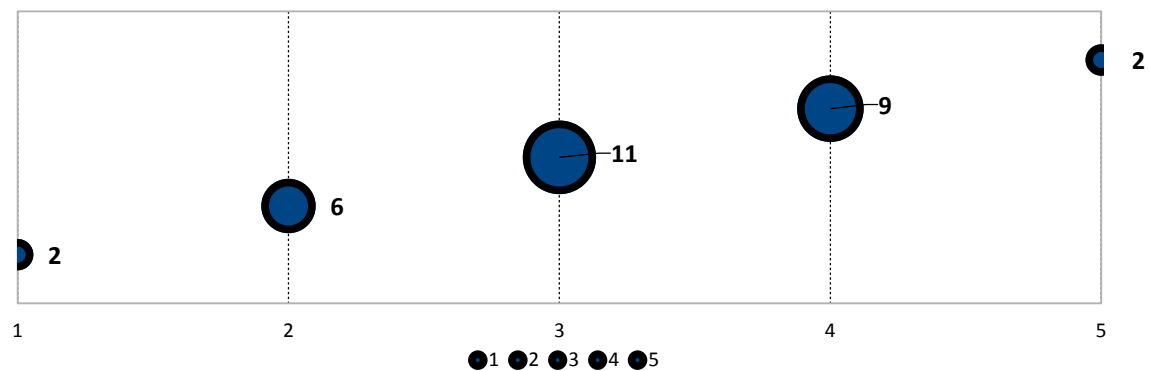
study and 68 actions identified in the questionnaire are not yet taken over. In Djibouti, 20 initiatives are in progress or under study and 60 actions identified in the questionnaire are not yet taken over.

3.2. Needs of central banks and definition of priorities

On the basis of the assessments made by the central banks on their system (actions carried out, actions in progress, actions not implemented), their opinions and comments on the main issues addressed, needs and priorities were identified.

The results of the survey show that skill shortage appears to be the major concern for African central banks. African central banks have a large number of computer skills, but they seem to work within available resources. On a scale of 1 to 5, the priority given to the cyber skill shortage is at least 3 for 22 central banks out of the total of 31 central banks that responded to the questionnaire. The graph below gives the number of central banks (circle size) affected by the priority level (abscis axe²⁰).

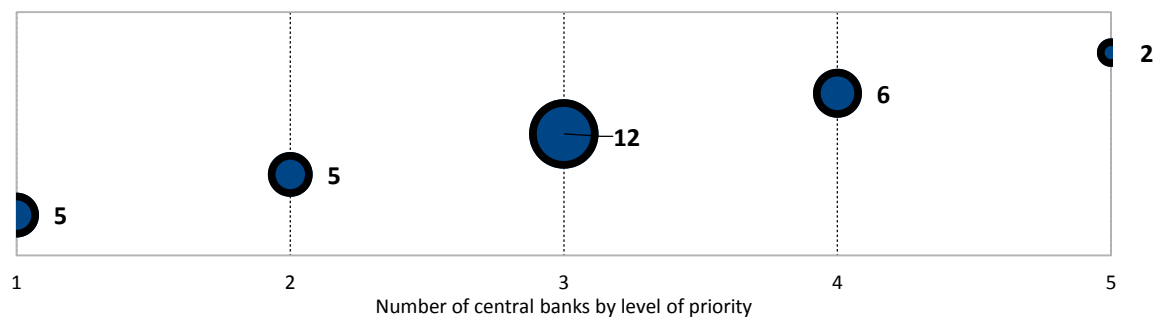
Graph 10 : Prioritization of cyber-skill needs



The survey results indicate that in most African central banks, capacity building is underway, particularly in the area of cryptocurrency and cybersecurity. The Central Bank of Libya, the Banque Centrale de Mauritanie, the Central Bank of Sudan, Bank Al-Maghrib, the Bank of Sierra Leone, the Banque Nationale du Rwanda, the Banco Nacional de Angola, the Central Bank of Lesotho, the Bank of Namibia and the Banque Centrale de Djibouti have placed particular emphasis on the need for cyber-skills.

The survey also shows that the development of strategies, guidelines and standard laws is one of the priorities for African central banks. On a scale of 1 to 5, the priority given to the development of strategies, standardized guidelines and laws is at level 3 for 12 central banks and level 4 for 6 central banks, out of the total of 31 banks responding to the questionnaire (Graph 11). The Central Banks of Libya, the Banque Centrale de Mauritanie, the Central Bank of Sudan, the Bank of Sierra Leone, the Banque Centrale de Sao Tome e Principe, the Bank of Mauritius and the BEAC emphasized the need for standardized strategies, guidelines and laws.

Graph 11 : Prioritization of Strategic Framework Development needs, Guidelines or standard Laws

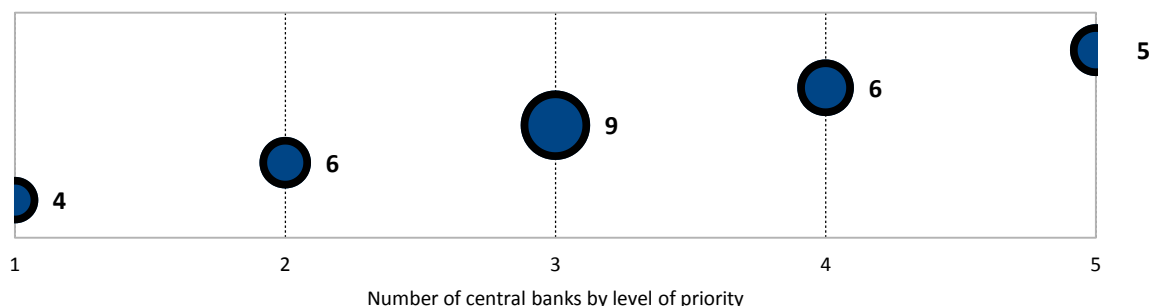


²⁰The priority scale is defined from 1 to 5, from the least of the priorities (1) to the most urgent priority (5). The total number of central banks that answered the question may be less than the total number of central banks.

Similarly, the need of information sharing and intelligence is a major priority for African central banks, particularly in the area of cybersecurity. On a scale of 1 to 5, the priority given to the establishment of an information-sharing and intelligence mechanism is level 3 for 9 central banks and level 4 for 6 central banks, out of the 31 central banks having answered to the questionnaire. The Central Banks of Libya, the Central Bank of Sudan, the Bank of Sierra Leone, the Bank of Uganda, the Central Bank of Lesotho, the Bank of Namibia, the Bank of Zambia, the Banque Centrale de Djibouti, the BCEAO and the BEAC highlighted the need of information and intelligence sharing.

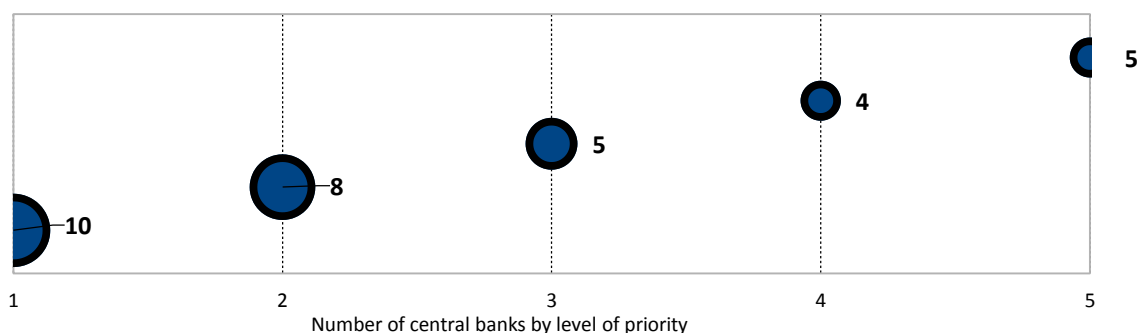
On the other hand, the updating of IT security is a less urgent priority for some central banks, compared

Graph 12 : Prioritization of Information Sharing and Intelligence Needs



to the priorities mentioned above. On a scale of 1 to 5, the priority given to IT security is level 1 for 10 central banks and Level 2 for 8 central banks out of the total of 31 central banks that responded to the questionnaire. The update of the computer security has been expressed as a major priority by the Central Banks of Libya, the Bank of Ghana, the Bank of Mauritius, the Central Bank of Lesotho and the Bank of Zambia (Graph 13, next page).

Graph 13 : Prioritization of computer security update requirements



IV. PERSPECTIVES

In view of the continuation of the initiatives, the distinction should be made between, on the one hand, the use of FinTech by the central banks themselves, in their capacity as companies called to offer services adapted to the evolution of the financial environment, and the role of the central bank as supervisor and regulator of the money and financial market. With regard to the first part, all central banks should gradually adapt their own infrastructure to FinTech and become involved in the application of new analytical techniques such as biometrics, artificial intelligence and big data analysis. They should integrate technological innovations into their frameworks to modernize their analysis and study tools.

With regard to the second part, central banks, according to the degree of progress, should stimulate the adjustment of the regulation to FinTech. Thus, the continuation of the initiatives could be undertaken both at the individual level and at the level of the groups of central banks, in terms of collaboration²¹, at three levels.

²¹As noted in the report, the place and role of the central bank in the national arrangements put in place are different from one country to another. In some countries, the most important roles are played by National Treatment Units or

4.1. Upgrading of the infrastructure and supervision framework

According to the results of the survey, a category of central banks needs to upgrade infrastructure to better exploit FinTech and ensure cybersecurity. IT upgrade needs to be considered at the national level and each individual central bank should undertake the necessary investments. The seminars or workshops could allow exchanges of experiences on the relevance of supervisory frameworks, at sub-regional level, with a view to harmonization.

In addition, there is already within the AACB a Technical Group on Banking Supervision, in this case the Community of African Banking Supervisors (CABS), which is a forum for exchange on regulatory texts and supervisory practices. This Technical Group could be an achievement for African central banks and a channel to be exploited.

On this basis, the improvement actions for the upgrading of the infrastructure and supervision framework have been proposed in table 4 below.

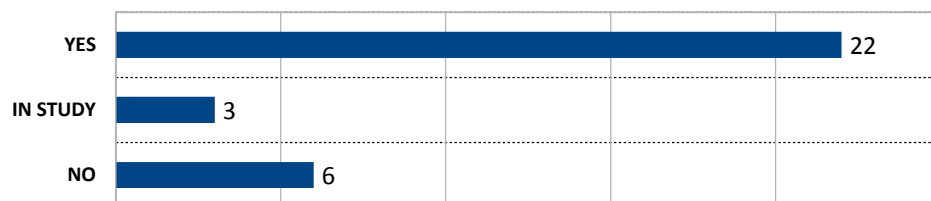
Table 4 : Improvement actions for upgrading infrastructure and supervisory frameworks

Actions to be undertaken by central bank	Actions to be undertaken within the ABCA
<ul style="list-style-type: none"> • Participation in the FinTech Forums • Investment in infrastructure and logistics • Human Resources Training • Define the role and place of the central bank in the national system to combat cybercrime 	<ul style="list-style-type: none"> • Organization of seminars, workshops and internships for AACB central banks members • Association with the work of the CABS

4.2. Experience sharing on laws and practices in order to adopt a common approach

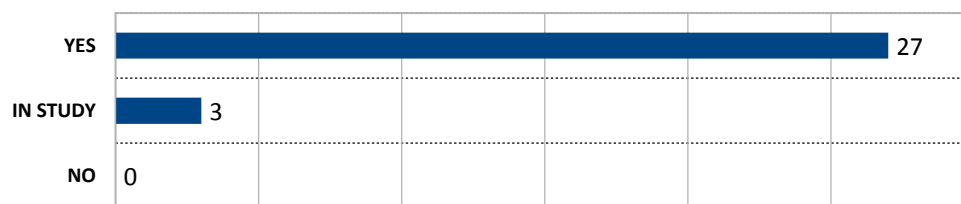
Central bank exchange of experience initiatives are useful and effective, as central banks do not play the same roles in the national FinTech promotion scheme. Depending on the country, the laws and regulations can be elaborated by the central banks, by the Ministry of Finance or by other structures of the Government. The results of the survey show that African central banks are willing to compare cybercrime regulations with those of other central banks. Of the 31 central banks that responded to the questionnaire, 22 were in favor of exchanging experiences on the regulatory framework for cybersecurity (Graph 14). Thus, in addition to internal initiatives of central banks, workshops and seminars could be organized for targeted groups of central banks.

Graph 14 : Number of central banks favoring FinTech information sharing



To reinforce this perspective, the results of the survey show that African central banks are even willing to be part of a platform for sharing experiences and information at national, continental and international levels on these issues. Of the 31 central banks that responded to the questionnaire, 27 were in favor of setting up a platform dedicated to exchanging experiences on the FinTech regulatory framework and cybersecurity. None of the 31 African central banks that responded to the questionnaire would like to stay out of a platform dedicated to exchanging experiences on the regulatory framework for FinTech and cybersecurity (Graphique 15).

Graph 15 : Number of central banks willing to participate in a plate-forme of FinTech exchange



On this basis, the improvement actions for the sharing of experience on laws and practices have been proposed in table 5 below.

Table 5 : Improvement actions for sharing experiences on laws and practices

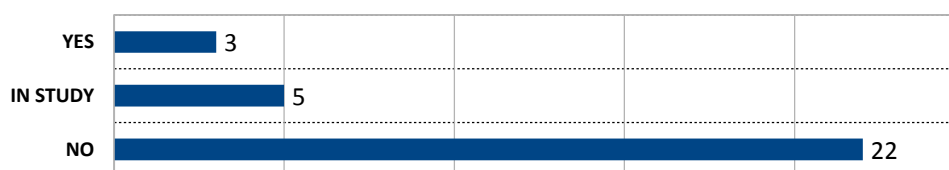
Actions to be undertaken by central bank	Actions to be undertaken within the ABCA
<ul style="list-style-type: none"> Reinforcement of the Fintech team (in particular the understanding of cryptocurrencies) Strengthening the cyber security team (regulatory aspects) Participation in the Cryptocurrency and Cybersecurity Forums 	<ul style="list-style-type: none"> Leverage collaboration with FRBNY and the ECB (organization of meetings and internships) Organization of seminars, workshops and internships for AACB central banks members Setting up an exchange platform

4.3. Information follow-up and assessment of the cyber-preparedness in central banks

Initiatives to evaluate cyber-preparedness in central banks must be pursued by individual central banks. However, gaps in progress lead to encouraging cooperation. According to the survey results, a majority of African central banks do not share information on threats or incidents with other central banks. Of the 31 central banks that responded to the questionnaire, only 3 reported sharing information with other central banks²² on threats or incidents. Yet this form of collaboration seems to already exist at the level of the Regional Economic Communities.

The results of the survey show better prospects in the field of cooperation in the fight against

Graph 16 : Number of central banks sharing informations about cyber-incidents



cybersecurity. Of the 31 central banks that responded to the questionnaire, 14 said they could provide emergency support and expertise during a cybersecurity incident at the sectoral and national levels²³, and another 10 are in the process of putting in place the required mechanisms, to be able to meet these needs. For example, the Central Bank of Madagascar has technical expertise but the intervention should be in accordance with defined conditions and the various regulations relating thereto. For its part, SARB has established an internal cyber incident management capability that could be improved to provide support at the national level.

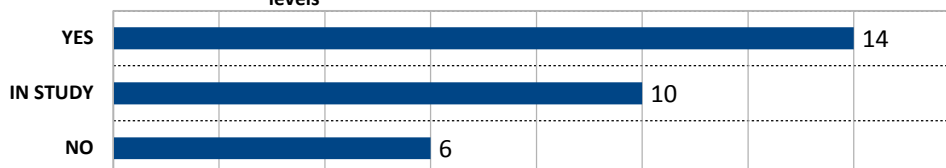
For cryptocurrencies, it is useful to set up a continent-wide Experts Group whose members are familiar with the analysis of the outlines of new payment instruments. The Expert Group could draw on the experience of central banks that already have expertise in this area. Similarly, for cybercrime, as

²²Bank of Sudan, Banky Foiben I Madagasikara, South African Reserve Bank

²³Central Bank of Egypt, BCEAO, Central Bank of Nigeria, Banque Centrale du Congo, Banque Centrale de São Tome e Príncipe, Central Bank of Kenya, Banque Nationale du Rwanda, Bank of Uganda, Central Bank of Seychelles, Banco Nacional de Angola, Central Bank of Lesotho, Banky Foiben I Madagasikara, Reserve Bank of Malawi

performance is based on the exchange of information, the quality of technical infrastructure and the competence of human resources, it is possible to set up a continent-wide Group of Experts, including members trained in new methods of detecting and neutralizing cyber attacks. The Experts Group could draw on the experience of central banks that already have expertise in this area.

Graph 17 : Number of central banks able to bring support in case of cyber-incident at sectorial and national levels



On this basis, the improvement actions for the sharing of experiences on laws and practices have been proposed in table 6 below.

Table 6 : Actions to improve cybersecurity

Actions to be undertaken by central bank	Actions to be undertaken within the ABCA
<ul style="list-style-type: none"> Strengthening the cyber security team Participate in the exchange of data, techniques and tactics for the detection of cyber-attacks 	<ul style="list-style-type: none"> Organization of seminars, workshops and internships for AACB central banks members Leverage collaboration with FRBNY and the ECB (organization of meetings and internships) Creation of a Group of Experts or Experts Network between African central banks on the issue of cybersecurity

V. Conclusion et recommandations

The results of the survey highlight the interest shown by African central banks and significant advances in the FinTech field. Most of these central banks have regulatory texts that are adapted or in the process of being amended. On the other hand, the features linked to the use of crypto-currencies in African economies are less well-controlled, particularly because of the still limited scope of these activities. In these circumstances, arrangements are made to warn potential users of cryptocurrencies against the risks incurred.

In addition, almost all African central banks have made provisions for cybercrime and set up a mechanism to combat the phenomenon. Conformity of devices to international standards, however, varies from one central bank to another. The infrastructures and the internal organization to be set up, as well as the collaboration and exchange of information that is the basis of the fight against cybercrime are in the design phase in several central banks.

Some initiatives need to be pursued by individual central banks. The central bank could, if necessary, create a FinTech Unit whose field of investigation covers financial innovations, the study of cryptocurrencies and the monitoring of cybersecurity. The central bank could eventually create a specific Unit devoted to each of the three components mentioned.

In view of the information exchange needs in the field of cryptocurrencies and cybersecurity, a continent-wide common organization could be envisaged according to several scenarios:

- The continent-wide creation of a FinTech-Cybersecurity Unit that would address all FinTech related issues, including cryptocurrencies, as well as cybersecurity. The creation of such a Continental Unit will foster the formation of a continental network and exchange of experiences among African central banks, particularly on the issue of cybersecurity.
- The establishment of two separate working groups, one dedicated to FinTech (including cryptocurrencies) and the other to cybersecurity. These two Working Groups could be formed around central banks which seem to be better equipped in these respective fields.

Following its meeting held in Dakar on March 13, 2019, the AACB Bureau recommended that Fintech and Cybersecurity activities be incorporated into the activities of the Community of African Banking Supervisory (CABS) Working Groups.

During the meeting held on June 11, 2019, in Cairo, Egypt, participants proposed that the issue of FinTech be addressed by the Working Group on Cross-Border Banking Supervision, chaired by the South African Reserve Bank (SARB) and the issue of cybersecurity be addressed by the Working Group on Crisis Management and Banking Resolution, chaired by the Central Bank of Nigeria (CBN).

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ANNEX 1

- Response codes : Yes =1 ; No = 0, In progress = 2 ; In study =3 ; No response or response not understood = ' '
- Priority scale codes for needs definition : 11, 12, 13 , 14 et 15
- AACB Sub-regions codes : 1 = North ; 2 = West ; 3 = Central ; 4 = East et 5 = Southern

1. Development of Fintech

Jurisdictional responses

Question N°1.1	Has your Central Bank developed a formal definition of 'Fintech', 'innovation' or related terms? If yes, kindly provide the definition in the space provided for comments.
Question N°1.2	Does your Central Bank have a Fintech Unit or similar structure with a dedicated focus on Fintech or innovation? If yes, provide its mandate and focus areas in the space provided for comments.
Question N°1.3	Has your Central Bank developed a formal policy response, e.g. policy statement or position paper, on the development of Fintech innovation? If so, what is the Central Bank's position e.g. supportive, neutral or restrictive?
Question N°1.4	Has your Central Bank updated any existing regulatory frameworks or developed any new frameworks as a result of Fintech innovation?
Question N°1.5	If you answered YES to question 1.4, what is the approach?
Question N°1.6	Has your central bank developed a formal Fintech strategy? If yes, what are its main objectives? And what are its most prominent features?
Question N°1.7	Has your central bank defined and/or considered Fintech related risks? Like operational risks, outsourcing risks, liquidity risks etc.
Question N°1.8	Has your central bank issued recently Fintech services regulations?
Question N°1.9	Does your central bank has any initiatives to invest in Fintech?
Question N°1.10	Do you think that your central bank current regulatory framework is enough to encourage Fintech? If yes, please mention items in favour of Fintech/ If No, provide your suggestions.
Question N°1.11	Does your central bank has a clear AML procedures/regulations regarding Fintech services?
Question N°1.12	Does your central bank has a clear policy for Fintech customers protection?

Framework for assessing Fintech developments

Question N°1.13	Has the Central Bank conducted exercises to determine the scope and scale of the Fintech landscape in its jurisdiction? If 'yes', please expand – what did the Central Bank do, what were the challenges, is it a repeatable exercise, etc.
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Collaboration structures

Question N°1.14	Does your Central Bank cooperate with other local regulatory authorities, or other national structures focussed on Fintech innovation, for instance by sharing information on the development of Fintech?
Question N°1.15	Does your Central Bank cooperate or participate in any global forums with a focus on collaborating on Fintech developments?
Question N°1.16	Does your central bank adopt open policy to collaborate with any of other regional regulators? If yes, what should be the scope of collaboration?

Innovation facilitation

Question N°1.17	Has the Central Bank implemented innovation facilitators such as regulatory sandboxes, accelerators and innovation hubs? If 'yes', please specify which structures and a high-level overview of the objectives and operations of the respective structures.
Question N°1.18	If your Central Bank established innovation facilitation structures, has there been any insights gained which you can share e.g. did the Central Bank have to change any legislation?
Question N°1.19	Does your Central bank initiate any programs of funding Fintech innovations, if yes, please mention?
Question N°1.20	Has your central bank identified and or prioritized its focused Fintech innovative trends? like e-KYC, blockchain, biometrics etc.

Specific initiatives

Mobile money

Question N°1.21	Has your Central Bank developed a specific regulatory framework for the settlement of migrant remittances via mobile money?
Question N°1.22	Has your Central Bank developed a specific regulatory framework for bank credit and savings via mobile money?
Question N°1.23	Has your Central Bank developed a specific regulatory framework for insurance and certification services via mobile money?
Question N°1.24	Has your Central Bank developed a specific regulatory framework for investment management services via mobile money?
Question N°1.25	Do existing regulations take into account interoperability relationships between banks and mobile service providers?
Question N°1.26	Does your Central Bank have a mechanism to prevent money creation by issuers of mobile money?
Question N°1.27	Has your Central Bank put in place regulations to monitor the information system of the issuer of mobile money?

Specific initiatives

Other

Question N°1.28	Does your Central Bank organize awareness campaigns to ensure that citizens understand new technologies?
Question N°1.29	Has your Central Bank taken any specific initiatives to improve the rate of access to financial services through the use of Fintech?
Question N°1.30	Has the central bank considered how technology and data may be leveraged for supervisory and regulatory purposes (i.e. Regtech/Suptech)?
Question N°1.31	Has the Central Bank issued any policies or positions on open banking and application programming interfaces?
Question N°1.32	Has the Central Bank engaged in any initiatives surrounding digital identity?

2. Cryptocurrencies

Question N°2.1	Has your Central Bank detected the use of cryptocurrencies within the national economy?
Question N°2.2	Does your Central Bank favor the establishment of regulations on the use of cryptocurrencies for transactions within the national economy?
Question N°2.3	Is your Central Bank in favor of banning crypto-currencies for transactions within the national economy?
Question N°2.4	Has your Central Bank considered issuing cryptocurrencies?
Question N°2.5	Has your Central Bank taken initiatives for a good understanding of cryptocurrencies (creation of a cryptocurrency Unit)?
Question N°2.6	Has your Central Bank taken specific initiatives to understand the block chains technology?
Question N°2.7	Has your Central Bank taken specific initiatives to understand the artificial intelligence, including machine learning?
Question N°2.8	Has your Central Bank taken specific initiatives to understand Big Data analysis techniques?
Question N°2.9	Has your Central Bank taken specific initiatives to understand information security innovation, such as biometrics technology?
Question N°2.10	Indicate any other action taken by your Central Bank with regard to Fintech or cryptocurrencies.
Question N°2.11	Has your central Bank considered issuing central bank digital currency (CBDC) as an alternative to Cryptocurrency?
Question N°2.12	Does your Central Bank think that cryptocurrencies have currently a significant impact on your country's monetary and financial stability?
Question N°2.13	Has your central bank issued any recommendations regarding Cryptocurrencies?
Question N°2.14	Has your Central Bank taken practical actions to use the blockchain technology ?
Question N°2.15	Does your central bank collaborate or participate in any regional or global forum with a focus on Cryptocurrencies and or blockchain technology?

3. Cyber security

3.1 Ensuring Cyber security within your jurisdiction

3.1.1 Function, Framework and Internal Focus

Question N°3.1	Is there a regulation relating to cyber security in your Central Bank?
Question N°3.2	Are there procedures for implementing cyber security standards?
Question N°3.3	Has your Central Bank infrastructure been at least once the target of a cyber attack?
Question N°3.4	Does your Central Bank have a legal framework against money laundering and the fight against the financing of terrorism?
Question N°3.5	Have cyber attacks on commercial banks been detected in your country? What measures have been taken?
Question N°3.6	Does your Central Bank have a specific legal framework against cybercrime?
Question N°3.7	Does your Central Bank have a cyber security risk analysis system?
Question N°3.8	Does your Central Bank have a system for the protection of customers?
Question N°3.9	Does your Central Bank have a local, regional and international collaboration framework with cyber risk regulators and stakeholders?
Question N°3.10	Does your Central Bank have a regulatory and supervisory framework based on the prevention of cyber risks?
Question N°3.11	Does your Central Bank have a customer awareness framework on cybercrime?
Question N°3.12	Has your Central Bank or Supervisory Authority put in place a regulatory framework to implement cyber insurance?
Question N°3.13	Does your Central Bank or Supervisory Authority perform stress tests to see the impact of a possible attack on systemic risk?

3.1.2 Identifying the needs of African Central Banks

Question N°3.14	Does your Central Bank have adequate skills and capacities to detect and combat cyber attacks?
Question N°3.15	Has your Central Bank identified policies or guidelines which absence within the Institution would be a source of vulnerability?
Question N°3.16	Does your Central Bank have a framework for updating software security, allowing it to limit its vulnerability?
Question N°3.17	Has your Central Bank set up an intervention capacity (cyber security group involving the relevant departments)?

3.1.3 Definition of priorities

Question N°3.18	Shortage of skills and IT resources
Question N°3.19	Lack of awareness and training of staff
Question N°3.20	Lack of standardized policies, guidelines and laws
Question N°3.21	Updates to computer security
Question N°3.22	Absence of segregation of duties
Question N°3.23	Insufficient information and intelligence sharing
Question N°3.24	Collaboration with third-party service providers

3.2 Readiness for Cyber security collaboration

3.2.1 Prevent

Question N°3.25	Are you ready to benchmark your financial sector regulation relating to cyber security in your Central Bank against the rest of Africa?
Question N°3.26	Do you have structures that collaborate across African central bank structures regarding cyber elements in ensuring financial stability oversight?
Question N°3.27	Is your Central Bank ready to coordinate Africa-wide Financial sector wide cyber resilience risk assessments?
Question N°3.28	Does your Central Bank conduct/ coordinate or drive industry cyber readiness testing (CBEST, TIBER etc.) that could be standardised across Africa?
Question N°3.29	Can your Central Bank collaborate on with other African Central banks to facilitate cyber certification and best practice assessments on the financial industry?

3.2.2 Detect

Question N°3.30	Does your Central Bank coordinate cyber threat intelligence capability in your sector to be able to collaborate at a continental level?
Question N°3.31	Does your Central Bank have access to financial sector incident and threat intelligence to enable sharing at a continental level?
Question N°3.32	Does your Central Bank share any threat intelligence or incidents with other Central Banks?
Question N°3.33	Is your Central Bank willing to be part of a national, continental and international financial sector-sharing platform?
Question N°3.34	Does your Central Bank conduct threat intelligence analysis for consolidation and collaboration?
Question N°3.35	Does your Central Bank disseminate threat intelligence on a sector / national sharing platform?
Question N°3.36	Is there mutual sharing from the sector and national level Financial and Monetary Institutions (FMIs) with your Central Bank for integrated financial sector awareness?
Question N°3.37	Does your Central Bank envisage specific security measures for the exchange of information with commercial banks?
Question N°3.38	Does your Central Bank use multiple technologies or a single provider for all of its IT security features?
Question N°3.39	What are the measures or arrangements implemented by your Central Bank against the information system security standard of the supervised institutions?
Question N°3.40	Is there mutual sharing from the sector and national level Financial and Monetary Institutions (FMIs) with your Central Bank for integrated financial sector awareness?

3.2.3 Respond and Recover

Question N°3.41	Does your Central Bank make use of an in-house (SOC/NOC) capability for R2 that could integrate into a continental structure?
Question N°3.42	Does your Central Bank direct the R2 of sector and/or national Financial Industry cyber security incidents that could be integrated at a continental level?
Question N°3.43	Does your Central Bank conduct Red/Blue teaming exercises to test R2 that could lead to continental wide tests?
Question N°3.44	Could your Central Bank provide or share emergency support and skills during a cyber security incident on sector and national level?
Question N°3.45	Does your Central Bank have well-defined procedures in the event of an incident (data loss, system failure) or cyber attack?

ANNEX 2 : RESPONSES OF CENTRAL BANKS (CODES ANNEX1)

Sub-regions	Central banks	Q. N°1.1	Q. N°1.2	Q. N°1.3	Q. N°1.4	Q. N°1.5
1	Banque d'Algérie					
1	Central Bank of Egypt	0	2	2	2	-
1	Central Bank of Libya	2	1	2	1	-
1	Banque Centrale de Mauritanie	0	2	1	1	-
1	Central Bank of Sudan	2	0	0	0	-
1	Banque Centrale de Tunisie	2	1	1	1	-
1	Bank Al-Maghrib	0	0	2	2	-
2	Banque Centrale des Etats de l'Afrique de l'Ouest	2	0	0	2	-
2	Banco de Cabo Verde					
2	Central Bank of The Gambia	0	0	0	1	-
2	Bank of Ghana	1	1	1	1	-
2	Banque Centrale de la République de Guinée					
2	Central Bank of Liberia	0	0	0	2	-
2	Central Bank of Nigeria	0	1	1	1	-
2	Bank of Sierra Leone	1	1	1	1	-
3	Banque des Etats de l'Afrique Centrale	0	0	0	2	-
3	Banque Centrale du Congo	2	0	0	0	-
3	Banque Centrale de São Tome e Principe	0	0	0	0	-
4	Banque de la République du Burundi					
4	Banque Centrale des Comores					
4	Central Bank of Kenya	0	1	0	1	-
4	Bank of Mauritius	2	2	2	1	-
4	Banque Nationale du Rwanda	0	0	2	1	-
4	Bank of Uganda	2	1	1	1	-
4	Bank of Tanzania					
4	Banque Centrale de Djibouti	0	0	0	0	-
4	National Bank of Ethiopia					
4	Central Bank of Seychelles	2	0	2	0	-
4	Central Bank of Somalia					
5	Banco Nacional de Angola	0	0	0	1	-
5	Bank of Botswana	0	0	0	1	-
5	Central Bank of Lesotho	2	0	0	0	-
5	Banky Foiben'i Madagasikara	1	0	0	1	-
5	Reserve Bank of Malawi	0	0	0	1	-
5	Banco de Moçambique	2	2	2	2	-
5	Bank of Namibia	0	1	0	1	-
5	South African Reserve Bank	0	1	0	1	-
5	Central Bank of Eswatini					
5	Bank of Zambia	0	2	2	2	2
5	Reserve Bank of Zimbabwe	2	2	2	2	-

Distribution of central banks	Q. N°1.1	Q. N°1.2	Q. N°1.3	Q. N°1.4	Q. N°1.5
Number of BCs which answered "NO" to the question	17	16	16	6	0
Number of BCs which answered "YES" to the question	3	9	6	17	0
Number of BCs which answered "IN PROGRESS" or "IN STUDY"	11	6	9	8	1
No responses	0	0	0	0	30
Total respondents	31	31	31	31	31
Number of answers to the question	31	31	31	31	1

ANNEX 2 : RESPONSES OF CENTRAL BANKS (CODES ANNEX1)

Sub-regions	Central banks	Q. N°1.6	Q. N°1.7	Q. N°1.8	Q. N°1.9	Q. N°1.10
1	Banque d'Algérie					
1	Central Bank of Egypt	2	2	2	1	0
1	Central Bank of Libya	1	2	1	1	1
1	Banque Centrale de Mauritanie	0	0	2	0	1
1	Central Bank of Sudan	2	0	0	2	0
1	Banque Centrale de Tunisie	2	2	0	0	1
1	Bank Al-Maghrib	2	2	2	0	0
2	Banque Centrale des Etats de l'Afrique de l'Ouest	0	1	0	0	2
2	Banco de Cabo Verde					
2	Central Bank of The Gambia	0	0	1	-	0
2	Bank of Ghana	0	1	1	0	1
2	Banque Centrale de la République de Guinée					
2	Central Bank of Liberia	2	2	0	2	2
2	Central Bank of Nigeria	1	1	1	2	1
2	Bank of Sierra Leone	0	0	1	-	-
3	Banque des Etats de l'Afrique Centrale	0	0	0	0	0
3	Banque Centrale du Congo	2	1	2	1	0
3	Banque Centrale de São Tome e Principe	0	1	0	0	0
4	Banque de la République du Burundi					
4	Banque Centrale des Comores					
4	Central Bank of Kenya	1	1	0	1	1
4	Bank of Mauritius	2	2	0	2	2
4	Banque Nationale du Rwanda	2	2	1	-	0
4	Bank of Uganda	0	2	0	0	0
4	Bank of Tanzania					
4	Banque Centrale de Djibouti	0	0	0	0	0
4	National Bank of Ethiopia					
4	Central Bank of Seychelles	2	2	0	1	2
4	Central Bank of Somalia					
5	Banco Nacional de Angola	0	0	1	1	0
5	Bank of Botswana	0	1	0	0	2
5	Central Bank of Lesotho	0	0	0	0	0
5	Banky Foiben'i Madagasikara	0	1	1	0	1
5	Reserve Bank of Malawi	0	1	0	0	1
5	Banco de Moçambique	2	2	2	1	1
5	Bank of Namibia	0	1	0	0	0
5	South African Reserve Bank	0	1	1	0	1
5	Central Bank of Eswatini					
5	Bank of Zambia	2	1	1	2	0
5	Reserve Bank of Zimbabwe	0	0	0	0	1

Distribution of central banks	Q. N°1.6	Q. N°1.7	Q. N°1.8	Q. N°1.9	Q. N°1.10
Number of BCs which answered "NO" to the question	17	9	16	16	14
Number of BCs which answered "YES" to the question	3	12	10	7	11
Number of BCs which answered "IN PROGRESS" or "IN STUDY"	11	10	5	5	5
No responses	0	0	0	3	1
Total respondents	31	31	31	31	31
Number of answers to the question	31	31	31	28	30

ANNEX 2 : RESPONSES OF CENTRAL BANKS (CODES ANNEX1)

Sub-regions	Central banks	Q. N°1.11	Q. N°1.12	Q. N°1.13	Q. N°1.14	Q. N°1.15
1	Banque d'Algérie					
1	Central Bank of Egypt	2	2	2	1	1
1	Central Bank of Libya	1	1	0	1	1
1	Banque Centrale de Mauritanie	-	0	2	1	1
1	Central Bank of Sudan	2	2	0	1	1
1	Banque Centrale de Tunisie	2	2	2	1	1
1	Bank Al-Maghrib	2	1	0	0	1
2	Banque Centrale des Etats de l'Afrique de l'Ouest	0	0	2	0	1
2	Banco de Cabo Verde					
2	Central Bank of The Gambia	0	0	0	0	1
2	Bank of Ghana	1	2	1	1	1
2	Banque Centrale de la République de Guinée					
2	Central Bank of Liberia	2	2	0	0	1
2	Central Bank of Nigeria	2	1	2	1	1
2	Bank of Sierra Leone	0	2	1	-	1
3	Banque des Etats de l'Afrique Centrale	0	0	0	1	1
3	Banque Centrale du Congo	1	2	2	2	1
3	Banque Centrale de São Tome e Principe	0	0	0	0	1
4	Banque de la République du Burundi					
4	Banque Centrale des Comores					
4	Central Bank of Kenya	1	1	0	1	1
4	Bank of Mauritius	1	1	0	1	1
4	Banque Nationale du Rwanda	1	2	2	1	0
4	Bank of Uganda	1	0	0	0	1
4	Bank of Tanzania					
4	Banque Centrale de Djibouti	0	0	0	0	0
4	National Bank of Ethiopia					
4	Central Bank of Seychelles	0	0	0	1	1
4	Central Bank of Somalia					
5	Banco Nacional de Angola	1	0	0	1	1
5	Bank of Botswana	1	0	0	1	1
5	Central Bank of Lesotho	0	0	0	1	2
5	Banky Foiben'i Madagasikara	0	1	0	1	1
5	Reserve Bank of Malawi	1	0	0	1	1
5	Banco de Moçambique	2	2	2	1	1
5	Bank of Namibia	0	-	0	1	1
5	South African Reserve Bank	1	1	1	1	1
5	Central Bank of Eswatini					
5	Bank of Zambia	1	1	0	0	1
5	Reserve Bank of Zimbabwe	0	0	0	1	1

Distribution of central banks	Q. N°1.11	Q. N°1.12	Q. N°1.13	Q. N°1.14	Q. N°1.15
Number of BCs which answered "NO" to the question	11	13	20	8	2
Number of BCs which answered "YES" to the question	12	8	3	21	28
Number of BCs which answered "IN PROGRESS" or "IN STUDY"	7	9	8	1	1
No responses	1	1	0	1	0
Total respondents	31	31	31	31	31
Number of answers to the question	30	30	31	30	31

ANNEX 2 : RESPONSES OF CENTRAL BANKS (CODES ANNEX1)

Sub-regions	Central banks	Q. N°1.16	Q. N°1.17	Q. N°1.18	Q. N°1.19	Q. N°1.20
1	Banque d'Algérie					
1	Central Bank of Egypt	1	2	2	2	2
1	Central Bank of Libya	0	0	0	0	0
1	Banque Centrale de Mauritanie	2	0	1	1	2
1	Central Bank of Sudan	0	0	2	0	0
1	Banque Centrale de Tunisie	1	2	2	0	2
1	Bank Al-Maghrib	1	2	0	0	2
2	Banque Centrale des Etats de l'Afrique de l'Ouest	1	2	0	0	0
2	Banco de Cabo Verde					
2	Central Bank of The Gambia	1	0	0	1	0
2	Bank of Ghana	1	0	0	0	0
2	Banque Centrale de la République de Guinée					
2	Central Bank of Liberia	0	0	0	0	0
2	Central Bank of Nigeria	1	2	0	1	1
2	Bank of Sierra Leone	1	1	1	0	1
3	Banque des Etats de l'Afrique Centrale	1	0	0	0	0
3	Banque Centrale du Congo	1	2	2	2	2
3	Banque Centrale de São Tome e Principe	1	0	0	0	0
4	Banque de la République du Burundi					
4	Banque Centrale des Comores					
4	Central Bank of Kenya	1	0	0	0	1
4	Bank of Mauritius	2	2	2	0	2
4	Banque Nationale du Rwanda	0	2	1	1	0
4	Bank of Uganda	1	1	1	0	2
4	Bank of Tanzania					
4	Banque Centrale de Djibouti	0	0	2	0	0
4	National Bank of Ethiopia					
4	Central Bank of Seychelles	1	0	0	1	0
4	Central Bank of Somalia					
5	Banco Nacional de Angola	1	2	0	0	0
5	Bank of Botswana	1	0	0	0	0
5	Central Bank of Lesotho	0	0	0	0	0
5	Banky Foiben'i Madagasikara	2	0	0	0	0
5	Reserve Bank of Malawi	1	0	0	0	2
5	Banco de Moçambique	1	1	2	0	0
5	Bank of Namibia	1	0	0	0	0
5	South African Reserve Bank	1	2	2	0	1
5	Central Bank of Eswatini					
5	Bank of Zambia	1	1	1	0	2
5	Reserve Bank of Zimbabwe	1	0	0	0	0

Distribution of central banks	Q. N°1.16	Q. N°1.17	Q. N°1.18	Q. N°1.19	Q. N°1.20
Number of BCs which answered "NO" to the question	6	17	18	24	18
Number of BCs which answered "YES" to the question	22	4	5	5	4
Number of BCs which answered "IN PROGRESS" or "IN STUDY"	3	10	8	2	9
No responses	0	0	0	0	0
Total respondents	31	31	31	31	31
Number of answers to the question	31	31	31	31	31

ANNEX 2 : RESPONSES OF CENTRAL BANKS (CODES ANNEX1)

Sub-regions	Central banks	Q. N°1.21	Q. N°1.22	Q. N°1.23	Q. N°1.24	Q. N°1.25
1	Banque d'Algérie					
1	Central Bank of Egypt	0	2	1	0	1
1	Central Bank of Libya	0	0	0	0	1
1	Banque Centrale de Mauritanie	0	0	0	0	0
1	Central Bank of Sudan	2	2	2	2	1
1	Banque Centrale de Tunisie	2	0	0	0	2
1	Bank Al-Maghrib	0	0	0	0	1
2	Banque Centrale des Etats de l'Afrique de l'Ouest	0	0	0	0	2
2	Banco de Cabo Verde					
2	Central Bank of The Gambia	0	0	0	0	1
2	Bank of Ghana	1	1	1	1	1
2	Banque Centrale de la République de Guinée					
2	Central Bank of Liberia	0	2	0	0	1
2	Central Bank of Nigeria	1	0	0	0	1
2	Bank of Sierra Leone	0	0	2	0	0
3	Banque des Etats de l'Afrique Centrale	0	0	0	0	1
3	Banque Centrale du Congo	0	2	0	0	1
3	Banque Centrale de São Tome e Principe	0	0	0	0	1
4	Banque de la République du Burundi					
4	Banque Centrale des Comores					
4	Central Bank of Kenya	1	1	0	0	1
4	Bank of Mauritius	0	0	0	0	1
4	Banque Nationale du Rwanda	1	1	1	0	1
4	Bank of Uganda	0	0	0	2	2
4	Bank of Tanzania					
4	Banque Centrale de Djibouti	1	1	0	1	0
4	National Bank of Ethiopia					
4	Central Bank of Seychelles	2	2	0	0	2
4	Central Bank of Somalia					
5	Banco Nacional de Angola	0	0	0	0	1
5	Bank of Botswana	2	0	0	0	0
5	Central Bank of Lesotho	0	0	0	0	1
5	Banky Foiben'i Madagasikara	2	1	2	0	1
5	Reserve Bank of Malawi	0	0	0	0	1
5	Banco de Moçambique	0	0	0	0	1
5	Bank of Namibia	1	-	0	0	1
5	South African Reserve Bank	0	0	0	0	1
5	Central Bank of Eswatini					
5	Bank of Zambia	-	-	-	-	-
5	Reserve Bank of Zimbabwe	1	0	0	0	1

Distribution of central banks	Q. N°1.21	Q. N°1.22	Q. N°1.23	Q. N°1.24	Q. N°1.25
Number of BCs which answered "NO" to the question	18	19	24	26	4
Number of BCs which answered "YES" to the question	7	5	3	2	22
Number of BCs which answered "IN PROGRESS" or "IN STUDY"	5	5	3	2	4
No responses	1	2	1	1	1
Total respondents	31	31	31	31	31
Number of answers to the question	30	29	30	30	30

ANNEX 2 : RESPONSES OF CENTRAL BANKS (CODES ANNEX1)

Sub-regions	Central banks	Q. N°1.26	Q. N°1.27	Q. N°1.28	Q. N°1.29	Q. N°1.30
1	Banque d'Algérie					
1	Central Bank of Egypt	1	1	1	2	2
1	Central Bank of Libya	1	1	2	1	1
1	Banque Centrale de Mauritanie	0	0	2	0	0
1	Central Bank of Sudan	1	1	1	1	1
1	Banque Centrale de Tunisie	1	1	2	2	2
1	Bank Al-Maghrib	0	0	0	1	1
2	Banque Centrale des Etats de l'Afrique de l'Ouest	1	1	2	1	2
2	Banco de Cabo Verde					
2	Central Bank of The Gambia	1	2	0	1	1
2	Bank of Ghana	1	1	2	1	1
2	Banque Centrale de la République de Guinée					
2	Central Bank of Liberia	0	0	1	1	1
2	Central Bank of Nigeria	1	1	1	1	1
2	Bank of Sierra Leone	0	0	0	1	1
3	Banque des Etats de l'Afrique Centrale	1	1	0	0	0
3	Banque Centrale du Congo	1	1	2	2	1
3	Banque Centrale de São Tome e Principe	0	0	0	0	0
4	Banque de la République du Burundi					
4	Banque Centrale des Comores					
4	Central Bank of Kenya	1	1	1	1	1
4	Bank of Mauritius	1	1	0	2	1
4	Banque Nationale du Rwanda	1	1	1	1	1
4	Bank of Uganda	1	1	1	1	0
4	Bank of Tanzania					
4	Banque Centrale de Djibouti	1	1	1	0	0
4	National Bank of Ethiopia					
4	Central Bank of Seychelles	2	2	2	2	2
4	Central Bank of Somalia					
5	Banco Nacional de Angola	0	1	0	1	2
5	Bank of Botswana	1	1	0	2	2
5	Central Bank of Lesotho	1	1	1	1	0
5	Banky Foiben'i Madagasikara	1	1	0	1	1
5	Reserve Bank of Malawi	1	0	1	1	0
5	Banco de Moçambique	1	1	1	1	1
5	Bank of Namibia	-	1	0	1	1
5	South African Reserve Bank	1	1	0	0	1
5	Central Bank of Eswatini					
5	Bank of Zambia	-	-	-	-	-
5	Reserve Bank of Zimbabwe	1	1	0	1	1

Distribution of central banks	Q. N°1.26	Q. N°1.27	Q. N°1.28	Q. N°1.29	Q. N°1.30
Number of BCs which answered "NO" to the question	6	6	12	5	7
Number of BCs which answered "YES" to the question	22	22	11	19	17
Number of BCs which answered "IN PROGRESS" or "IN STUDY"	1	2	7	6	6
No responses	2	1	1	1	1
Total respondents	31	31	31	31	31
Number of answers to the question	29	30	30	30	30

ANNEX 2 : RESPONSES OF CENTRAL BANKS (CODES ANNEX1)

Sub-regions	Central banks	Q. N°1.31	Q. N°1.32	Q. N°2.1	Q. N°2.2	Q. N°2.3
1	Banque d'Algérie					
1	Central Bank of Egypt	2	1	1	0	1
1	Central Bank of Libya	0	1	0	0	3
1	Banque Centrale de Mauritanie	0	0	-	3	0
1	Central Bank of Sudan	0	0	0	0	-
1	Banque Centrale de Tunisie	0	0	1	3	3
1	Bank Al-Maghrib	2	1	1	3	3
2	Banque Centrale des Etats de l'Afrique de l'Ouest	0	2	2	0	1
2	Banco de Cabo Verde					
2	Central Bank of The Gambia	0	0	0	0	-
2	Bank of Ghana	0	1	1	3	3
2	Banque Centrale de la République de Guinée					
2	Central Bank of Liberia	2	2	0	3	3
2	Central Bank of Nigeria	0	1	1	0	3
2	Bank of Sierra Leone	1	1	0	3	3
3	Banque des Etats de l'Afrique Centrale	0	0	3	3	3
3	Banque Centrale du Congo	1	1	3	3	3
3	Banque Centrale de São Tome e Principe	0	0	0	3	3
4	Banque de la République du Burundi					
4	Banque Centrale des Comores					
4	Central Bank of Kenya	0	2	1	3	3
4	Bank of Mauritius	0	2	0	3	3
4	Banque Nationale du Rwanda	2	2	3	3	3
4	Bank of Uganda	0	2	1	0	0
4	Bank of Tanzania					
4	Banque Centrale de Djibouti	0	0	0	1	0
4	National Bank of Ethiopia					
4	Central Bank of Seychelles	0	2	1	3	3
4	Central Bank of Somalia					
5	Banco Nacional de Angola	2	0	0	3	3
5	Bank of Botswana	0	0	1	0	3
5	Central Bank of Lesotho	0	2	1	2	0
5	Banky Foiben'i Madagasikara	0	0	1	3	3
5	Reserve Bank of Malawi	-	1	0	3	3
5	Banco de Moçambique	0	2	1	0	3
5	Bank of Namibia	0	0	1	0	1
5	South African Reserve Bank	0	0	1	3	3
5	Central Bank of Eswatini					
5	Bank of Zambia	-	-	1	0	3
5	Reserve Bank of Zimbabwe	0	0	1	3	3

Distribution of central banks	Q. N°1.31	Q. N°1.32	Q. N°2.1	Q. N°2.2	Q. N°2.3
Number of BCs which answered "NO" to the question	22	13	10	11	4
Number of BCs which answered "YES" to the question	2	8	16	1	3
Number of BCs which answered "IN PROGRESS" or "IN STUDY"	5	9	4	19	22
No responses	2	1	1	0	2
Total respondents	31	31	31	31	31
Number of answers to the question	29	30	30	31	29

ANNEX 2 : RESPONSES OF CENTRAL BANKS (CODES ANNEX1)

Sub-regions	Central banks	Q. N°2.4	Q. N°2.5	Q. N°2.6	Q. N°2.7	Q. N°2.8
1	Banque d'Algérie					
1	Central Bank of Egypt	0	1	2	0	2
1	Central Bank of Libya	0	0	0	0	0
1	Banque Centrale de Mauritanie	3	0	0	0	0
1	Central Bank of Sudan	0	3	-	0	1
1	Banque Centrale de Tunisie	0	1	1	0	0
1	Bank Al-Maghrib	3	1	1	1	1
2	Banque Centrale des Etats de l'Afrique de l'Ouest	0	1	1	1	1
2	Banco de Cabo Verde					
2	Central Bank of The Gambia	0	0	0	0	0
2	Bank of Ghana	0	3	2	2	2
2	Banque Centrale de la République de Guinée					
2	Central Bank of Liberia	3	0	2	0	0
2	Central Bank of Nigeria	0	0	1	0	1
2	Bank of Sierra Leone	0	0	0	0	2
3	Banque des Etats de l'Afrique Centrale	3	1	1	0	0
3	Banque Centrale du Congo	3	1	2	0	0
3	Banque Centrale de São Tome e Principe	0	0	0	0	0
4	Banque de la République du Burundi					
4	Banque Centrale des Comores					
4	Central Bank of Kenya	0	1	1	1	1
4	Bank of Mauritius	2	3	2	0	0
4	Banque Nationale du Rwanda	3	3	2	2	2
4	Bank of Uganda	0	3	2	0	1
4	Bank of Tanzania					
4	Banque Centrale de Djibouti	0	0	0	0	0
4	National Bank of Ethiopia					
4	Central Bank of Seychelles	0	3	2	2	2
4	Central Bank of Somalia					
5	Banco Nacional de Angola	0	1	1	1	2
5	Bank of Botswana	0	3	2	2	2
5	Central Bank of Lesotho	0	3	2	2	2
5	Banky Foiben'i Madagasikara	0	3	0	1	0
5	Reserve Bank of Malawi	0	1	1	0	0
5	Banco de Moçambique	0	1	2	0	2
5	Bank of Namibia	0	1	1	2	1
5	South African Reserve Bank	3	1	1	1	1
5	Central Bank of Eswatini					
5	Bank of Zambia	0	3	1	0	1
5	Reserve Bank of Zimbabwe	0	1	1	1	0

Distribution of central banks	Q. N°2.4	Q. N°2.5	Q. N°2.6	Q. N°2.7	Q. N°2.8
Number of BCs which answered "NO" to the question	23	8	7	18	13
Number of BCs which answered "YES" to the question	0	13	12	7	9
Number of BCs which answered "IN PROGRESS" or "IN STUDY"	8	10	11	6	9
No responses	0	0	1	0	0
Total respondents	31	31	31	31	31
Number of answers to the question	31	31	30	31	31

ANNEX 2 : RESPONSES OF CENTRAL BANKS (CODES ANNEX1)

Sub-regions	Central banks	Q. N°2.9	Q. N°2.10	Q. N°2.11	Q. N°2.12	Q. N°2.13
1	Banque d'Algérie					
1	Central Bank of Egypt	2	-	3	0	1
1	Central Bank of Libya	0	-	0	0	0
1	Banque Centrale de Mauritanie	0	0	2	3	0
1	Central Bank of Sudan	2	-	0	0	0
1	Banque Centrale de Tunisie	0	1	3	3	0
1	Bank Al-Maghrib	3	3	3	0	0
2	Banque Centrale des Etats de l'Afrique de l'Ouest	2	2	0	0	2
2	Banco de Cabo Verde					
2	Central Bank of The Gambia	1	0	0	0	0
2	Bank of Ghana	1	2	0	0	1
2	Banque Centrale de la République de Guinée					
2	Central Bank of Liberia	0	0	0	0	0
2	Central Bank of Nigeria	1	-	0	0	1
2	Bank of Sierra Leone	2	-	2	0	0
3	Banque des Etats de l'Afrique Centrale	1	0	0	3	3
3	Banque Centrale du Congo	1	3	3	3	3
3	Banque Centrale de São Tome e Principe	0	0	0	0	0
4	Banque de la République du Burundi					
4	Banque Centrale des Comores					
4	Central Bank of Kenya	1	-	0	0	1
4	Bank of Mauritius	0	-	0	0	1
4	Banque Nationale du Rwanda	2	-	2	2	-
4	Bank of Uganda	0	-	0	0	1
4	Bank of Tanzania					
4	Banque Centrale de Djibouti	0	0	0	0	0
4	National Bank of Ethiopia					
4	Central Bank of Seychelles	2	-	2	0	2
4	Central Bank of Somalia					
5	Banco Nacional de Angola	2	-	0	2	2
5	Bank of Botswana	1	-	0	0	1
5	Central Bank of Lesotho	2	-	0	0	1
5	Banky Foiben'i Madagasikara	0	3	0	0	0
5	Reserve Bank of Malawi	1	-	0	0	0
5	Banco de Moçambique	2	-	0	0	1
5	Bank of Namibia	1	-	1	0	1
5	South African Reserve Bank	1	2	0	1	1
5	Central Bank of Eswatini					
5	Bank of Zambia	1	-	-	-	-
5	Reserve Bank of Zimbabwe	-	0	0	0	1

Distribution of central banks	Q. N°2.9	Q. N°2.10	Q. N°2.11	Q. N°2.12	Q. N°2.13
Number of BCs which answered "NO" to the question	9	7	21	23	12
Number of BCs which answered "YES" to the question	11	1	1	1	12
Number of BCs which answered "IN PROGRESS" or "IN STUDY"	10	6	8	6	5
No responses	1	17	1	1	2
Total respondents	31	31	31	31	31
Number of answers to the question	30	14	30	30	29

ANNEX 2 : RESPONSES OF CENTRAL BANKS (CODES ANNEX1)

Sub-regions	Central banks	Q. N°2.14	Q. N°2.15	Q. N°3.1	Q. N°3.2	Q. N°3.3
1	Banque d'Algérie					
1	Central Bank of Egypt	2	1	2	2	0
1	Central Bank of Libya	0	0	2	2	1
1	Banque Centrale de Mauritanie	0	1	1	2	0
1	Central Bank of Sudan	0	1	1	1	0
1	Banque Centrale de Tunisie	1	0	0	1	1
1	Bank Al-Maghrib	1	0	1	1	1
2	Banque Centrale des Etats de l'Afrique de l'Ouest	0	0	1	1	0
2	Banco de Cabo Verde					
2	Central Bank of The Gambia	1	0	0	1	1
2	Bank of Ghana	2	1	1	1	1
2	Banque Centrale de la République de Guinée					
2	Central Bank of Liberia	0	0	2	1	1
2	Central Bank of Nigeria	2	1	1	1	0
2	Bank of Sierra Leone	2	0	0	0	1
3	Banque des Etats de l'Afrique Centrale	3	0	1	2	0
3	Banque Centrale du Congo	0	1	1	2	1
3	Banque Centrale de São Tome e Principe	0	1	0	0	0
4	Banque de la République du Burundi					
4	Banque Centrale des Comores					
4	Central Bank of Kenya	2	1	1	0	1
4	Bank of Mauritius	2	0	2	2	0
4	Banque Nationale du Rwanda	0	0	1	1	0
4	Bank of Uganda	0	-	1	1	1
4	Bank of Tanzania					
4	Banque Centrale de Djibouti	0	0	1	0	0
4	National Bank of Ethiopia					
4	Central Bank of Seychelles	2	1	2	2	1
4	Central Bank of Somalia					
5	Banco Nacional de Angola	0	1	1	1	1
5	Bank of Botswana	0	1	1	0	0
5	Central Bank of Lesotho	0	0	2	1	1
5	Banky Foiben'i Madagasikara	0	0	1	2	0
5	Reserve Bank of Malawi	0	1	0	1	1
5	Banco de Moçambique	2	1	2	1	0
5	Bank of Namibia	0	1	1	2	1
5	South African Reserve Bank	1	1	1	1	1
5	Central Bank of Eswatini					
5	Bank of Zambia	-	-	0	1	1
5	Reserve Bank of Zimbabwe	0	1	0	1	1

Distribution of central banks	Q. N°2.14	Q. N°2.15	Q. N°3.1	Q. N°3.2	Q. N°3.3
Number of BCs which answered "NO" to the question	17	13	7	5	13
Number of BCs which answered "YES" to the question	4	16	17	17	18
Number of BCs which answered "IN PROGRESS" or "IN STUDY"	9	0	7	9	0
No responses	1	2	0	0	0
Total respondents	31	31	31	31	31
Number of answers to the question	30	29	31	31	31

ANNEX 2 : RESPONSES OF CENTRAL BANKS (CODES ANNEX1)

Sub-regions	Central banks	Q. N°3.4	Q. N°3.5	Q. N°3.6	Q. N°3.7	Q. N°3.8
1	Banque d'Algérie					
1	Central Bank of Egypt	1	1	1	2	1
1	Central Bank of Libya	1	2	0	2	2
1	Banque Centrale de Mauritanie	1	0	0	2	1
1	Central Bank of Sudan	1	-	2	2	0
1	Banque Centrale de Tunisie	1	0	0	0	1
1	Bank Al-Maghrib	1	1	1	1	1
2	Banque Centrale des Etats de l'Afrique de l'Ouest	1	1	0	1	-
2	Banco de Cabo Verde					
2	Central Bank of The Gambia	0	0	2	-	0
2	Bank of Ghana	1	0	1	1	1
2	Banque Centrale de la République de Guinée					
2	Central Bank of Liberia	1	0	2	2	1
2	Central Bank of Nigeria	1	1	1	2	1
2	Bank of Sierra Leone	1	-	1	0	1
3	Banque des Etats de l'Afrique Centrale	1	1	0	2	2
3	Banque Centrale du Congo	1	-	1	1	1
3	Banque Centrale de São Tome e Principe	1	0	0	0	0
4	Banque de la République du Burundi					
4	Banque Centrale des Comores					
4	Central Bank of Kenya	1	1	1	0	1
4	Bank of Mauritius	1	1	2	2	1
4	Banque Nationale du Rwanda	1	-	1	1	1
4	Bank of Uganda	1	1	1	1	1
4	Bank of Tanzania					
4	Banque Centrale de Djibouti	1	0	0	0	1
4	National Bank of Ethiopia					
4	Central Bank of Seychelles	0	1	2	1	1
4	Central Bank of Somalia					
5	Banco Nacional de Angola	1	1	0	0	1
5	Bank of Botswana	1	1	1	2	1
5	Central Bank of Lesotho	1	1	2	1	0
5	Banky Foiben'i Madagasikara	1	-	0	2	1
5	Reserve Bank of Malawi	1	0	1	2	1
5	Banco de Moçambique	1	1	2	2	1
5	Bank of Namibia	1	2	0	2	1
5	South African Reserve Bank	1	1	2	1	1
5	Central Bank of Eswatini					
5	Bank of Zambia	1	1	0	1	1
5	Reserve Bank of Zimbabwe	1	1	2	1	1

Distribution of central banks	Q. N°3.4	Q. N°3.5	Q. N°3.6	Q. N°3.7	Q. N°3.8
Number of BCs which answered "NO" to the question	2	8	11	6	4
Number of BCs which answered "YES" to the question	29	16	11	11	24
Number of BCs which answered "IN PROGRESS" or "IN STUDY"	0	2	9	13	2
No responses	0	5	0	1	1
Total respondents	31	31	31	31	31
Number of answers to the question	31	26	31	30	30

ANNEX 2 : RESPONSES OF CENTRAL BANKS (CODES ANNEX1)

Sub-regions	Central banks	Q. N°3.9	Q. N°3.10	Q. N°3.11	Q. N°3.12	Q. N°3.13
1	Banque d'Algérie					
1	Central Bank of Egypt	2	2	2	2	0
1	Central Bank of Libya	0	2	2	2	0
1	Banque Centrale de Mauritanie	2	1	2	0	0
1	Central Bank of Sudan	1	0	2	2	2
1	Banque Centrale de Tunisie	1	0	0	0	-
1	Bank Al-Maghrib	1	1	0	0	2
2	Banque Centrale des Etats de l'Afrique de l'Ouest	0	0	0	0	0
2	Banco de Cabo Verde					
2	Central Bank of The Gambia	0	0	0	0	0
2	Bank of Ghana	1	1	1	2	0
2	Banque Centrale de la République de Guinée					
2	Central Bank of Liberia	0	0	0	0	0
2	Central Bank of Nigeria	1	1	1	0	0
2	Bank of Sierra Leone	0	0	0	0	1
3	Banque des Etats de l'Afrique Centrale	0	0	0	0	0
3	Banque Centrale du Congo	1	2	2	0	2
3	Banque Centrale de São Tome e Principe	0	0	0	0	0
4	Banque de la République du Burundi					
4	Banque Centrale des Comores					
4	Central Bank of Kenya	2	1	0	0	1
4	Bank of Mauritius	0	2	2	0	0
4	Banque Nationale du Rwanda	1	1	2	0	1
4	Bank of Uganda	1	0	1	0	0
4	Bank of Tanzania					
4	Banque Centrale de Djibouti	1	0	0	0	0
4	National Bank of Ethiopia					
4	Central Bank of Seychelles	0	0	0	0	1
4	Central Bank of Somalia					
5	Banco Nacional de Angola	0	2	0	0	0
5	Bank of Botswana	1	1	1	0	2
5	Central Bank of Lesotho	1	2	1	0	1
5	Banky Foiben'i Madagasikara	1	2	2	2	0
5	Reserve Bank of Malawi	1	0	1	0	1
5	Banco de Moçambique	0	2	0	0	0
5	Bank of Namibia	2	1	0	0	1
5	South African Reserve Bank	2	1	0	0	0
5	Central Bank of Eswatini					
5	Bank of Zambia	1	0	2	-	-
5	Reserve Bank of Zimbabwe	0	1	1	0	2

Distribution of central banks	Q. N°3.9	Q. N°3.10	Q. N°3.11	Q. N°3.12	Q. N°3.13
Number of BCs which answered "NO" to the question	12	13	15	25	17
Number of BCs which answered "YES" to the question	14	10	7	0	7
Number of BCs which answered "IN PROGRESS" or "IN STUDY"	5	8	9	5	5
No responses	0	0	0	1	2
Total respondents	31	31	31	31	31
Number of answers to the question	31	31	31	30	29

ANNEX 2 : RESPONSES OF CENTRAL BANKS (CODES ANNEX1)

Sub-regions	Central banks	Q. N°3.14	Q. N°3.15	Q. N°3.16	Q. N°3.17	Q. N°3.18*
1	Banque d'Algérie					
1	Central Bank of Egypt	1	2	1	2	13
1	Central Bank of Libya	2	1	1	2	14
1	Banque Centrale de Mauritanie	0	1	0	2	14
1	Central Bank of Sudan	2	2	1	1	15
1	Banque Centrale de Tunisie	2	1	1	2	13
1	Bank Al-Maghrib	2	2	1	2	14
2	Banque Centrale des Etats de l'Afrique de l'Ouest	2	1	1	2	15
2	Banco de Cabo Verde					
2	Central Bank of The Gambia	0	1	0	0	11
2	Bank of Ghana	2	1	1	1	12
2	Banque Centrale de la République de Guinée					
2	Central Bank of Liberia	2	0	2	2	-
2	Central Bank of Nigeria	2	1	1	1	12
2	Bank of Sierra Leone	0	2	1	0	14
3	Banque des Etats de l'Afrique Centrale	1	1	1	2	12
3	Banque Centrale du Congo	1	2	1	1	12
3	Banque Centrale de São Tome e Principe	0	0	1	0	13
4	Banque de la République du Burundi					
4	Banque Centrale des Comores					
4	Central Bank of Kenya	1	1	1	0	12
4	Bank of Mauritius	2	2	2	2	13
4	Banque Nationale du Rwanda	2	1	1	1	14
4	Bank of Uganda	2	2	1	1	13
4	Bank of Tanzania					
4	Banque Centrale de Djibouti	0	1	-	0	14
4	National Bank of Ethiopia					
4	Central Bank of Seychelles	2	1	2	1	13
4	Central Bank of Somalia					
5	Banco Nacional de Angola	0	1	0	0	14
5	Bank of Botswana	2	1	2	2	13
5	Central Bank of Lesotho	2	1	1	1	14
5	Banky Foiben'i Madagasikara	2	1	1	2	13
5	Reserve Bank of Malawi	0	1	1	0	13
5	Banco de Moçambique	0	1	0	0	11
5	Bank of Namibia	-	1	1	2	14
5	South African Reserve Bank	1	1	1	1	12
5	Central Bank of Eswatini					
5	Bank of Zambia	1	1	2	0	13
5	Reserve Bank of Zimbabwe	2	0	1	0	13

Priorities

Distribution of central banks	Q. N°3.14	Q. N°3.15	Q. N°3.16	Q. N°3.17	Q. N°3.18*
Number of BCs which answered "NO" to the question	8	3	4	10	2
Number of BCs which answered "YES" to the question	6	21	21	9	6
Number of BCs which answered "IN PROGRESS" or "IN STUDY"	16	7	5	12	11
No responses	1	0	1	0	9
Total respondents	31	31	31	31	2
Number of answers to the question	30	31	30	31	

ANNEX 2 : RESPONSES OF CENTRAL BANKS (CODES ANNEX1)

Sub-regions	Central banks	Q. N°3.19*	Q. N°3.20*	Q. N°3.21*	Q. N°3.22*	Q. N°3.23*
1	Banque d'Algérie					
1	Central Bank of Egypt	13	13	11	12	13
1	Central Bank of Libya	15	15	15	15	15
1	Banque Centrale de Mauritanie	13	15	13	13	13
1	Central Bank of Sudan	14	14	13	11	14
1	Banque Centrale de Tunisie	12	13	14	13	12
1	Bank Al-Maghrib	12	11	12	11	11
2	Banque Centrale des Etats de l'Afrique de l'Ouest	14	12	12	13	14
2	Banco de Cabo Verde					
2	Central Bank of The Gambia	11	11	12	14	11
2	Bank of Ghana	13	13	14	12	12
2	Banque Centrale de la République de Guinée					
2	Central Bank of Liberia	-	-	-	-	-
2	Central Bank of Nigeria	11	11	11	11	12
2	Bank of Sierra Leone	14	14	11	14	14
3	Banque des Etats de l'Afrique Centrale	14	14	13	13	14
3	Banque Centrale du Congo	13	14	11	11	11
3	Banque Centrale de São Tome e Principe	13	14	11	12	13
4	Banque de la République du Burundi					
4	Banque Centrale des Comores					
4	Central Bank of Kenya	11	11	11	11	12
4	Bank of Mauritius	12	14	15	15	11
4	Banque Nationale du Rwanda	13	12	13	12	13
4	Bank of Uganda	13	12	12	12	14
4	Bank of Tanzania					
4	Banque Centrale de Djibouti	13	12	12	-	14
4	National Bank of Ethiopia					
4	Central Bank of Seychelles	12	13	11	11	13
4	Central Bank of Somalia					
5	Banco Nacional de Angola	14	13	11	13	12
5	Bank of Botswana	12	13	11	11	12
5	Central Bank of Lesotho	14	13	15	14	15
5	Banky Foiben'i Madagasikara	14	13	13	11	13
5	Reserve Bank of Malawi	13	13	11	11	13
5	Banco de Moçambique	11	13	14	11	15
5	Bank of Namibia	13	11	12	12	15
5	South African Reserve Bank	13	13	12	12	13
5	Central Bank of Eswatini					
5	Bank of Zambia	13	12	14	14	15
5	Reserve Bank of Zimbabwe	13	13	12	11	13
		Priorities	Priorities	Priorities	Priorities	Priorities
	Distribution of central banks	Q. N°3.19*	Q. N°3.20*	Q. N°3.21*	Q. N°3.22*	Q. N°3.23*
	Number of BCs which answered "NO" to the question	4	5	10	11	4
	Number of BCs which answered "YES" to the question	5	5	8	7	6
	Number of BCs which answered "IN PROGRESS" or "IN STUDY"	13	12	5	5	9
	No responses	7	6	4	4	6
	Total respondents	1	2	3	2	5

Number of answers to the question

Answers to questions Q.318 to Q.324 are the codes assigned to the priority levels (from 11 to 15). The gray columns indicate the number of banks affected by each priority level.

ANNEX 2 : RESPONSES OF CENTRAL BANKS (CODES ANNEX1)

Sub-regions	Central banks	Q. N°3.24*	Q. N°3.25	Q. N°3.26	Q. N°3.27	Q. N°3.28
1	Banque d'Algérie					
1	Central Bank of Egypt	13	1	2	1	0
1	Central Bank of Libya	13	2	0	2	0
1	Banque Centrale de Mauritanie	15	1	1	1	0
1	Central Bank of Sudan	14	1	0	1	0
1	Banque Centrale de Tunisie	13	1	1	1	-
1	Bank Al-Maghrib	13	1	1	1	0
2	Banque Centrale des Etats de l'Afrique de l'Ouest	14	1	0	1	0
2	Banco de Cabo Verde					
2	Central Bank of The Gambia	14	0	0	1	0
2	Bank of Ghana	12	1	0	1	1
2	Banque Centrale de la République de Guinée					
2	Central Bank of Liberia	-	0	0	0	0
2	Central Bank of Nigeria	11	1	0	1	0
2	Bank of Sierra Leone	14	0	0	0	0
3	Banque des Etats de l'Afrique Centrale	14	1	0	1	0
3	Banque Centrale du Congo	11	1	1	1	0
3	Banque Centrale de São Tome e Principe	11	1	0	0	0
4	Banque de la République du Burundi					
4	Banque Centrale des Comores					
4	Central Bank of Kenya	13	1	0	1	0
4	Bank of Mauritius	11	1	2	2	2
4	Banque Nationale du Rwanda	14	1	2	1	2
4	Bank of Uganda	12	1	1	0	0
4	Bank of Tanzania					
4	Banque Centrale de Djibouti	14	1	0	1	0
4	National Bank of Ethiopia					
4	Central Bank of Seychelles	12	1	0	1	0
4	Central Bank of Somalia					
5	Banco Nacional de Angola	14	0	0	0	0
5	Bank of Botswana	12	2	1	0	0
5	Central Bank of Lesotho	15	1	0	0	0
5	Banky Foiben'i Madagasikara	13	1	2	1	0
5	Reserve Bank of Malawi	12	1	0	0	0
5	Banco de Moçambique	14	0	0	0	0
5	Bank of Namibia	11	1	1	1	0
5	South African Reserve Bank	13	1	2	1	2
5	Central Bank of Eswatini					
5	Bank of Zambia	12	2	1	0	0
5	Reserve Bank of Zimbabwe	11	0	0	0	0

Priorities

Distribution of central banks	Q. N°3.24*	Q. N°3.25	Q. N°3.26	Q. N°3.27	Q. N°3.28
Number of BCs which answered "NO" to the question	6	6	18	11	26
Number of BCs which answered "YES" to the question	6	22	8	18	1
Number of BCs which answered "IN PROGRESS" or "IN STUDY"	7	3	5	2	3
No responses	9	0	0	0	1
Total respondents	2	31	31	31	31

Number of answers to the question

31 31 31 30

ANNEX 2 : RESPONSES OF CENTRAL BANKS (CODES ANNEX1)

Sub-regions	Central banks	Q. N°3.29	Q. N°3.30	Q. N°3.31	Q. N°3.32	Q. N°3.33
1	Banque d'Algérie					
1	Central Bank of Egypt	1	1	2	2	1
1	Central Bank of Libya	1	1	0	2	1
1	Banque Centrale de Mauritanie	1	1	1	1	1
1	Central Bank of Sudan	1	3	2	0	2
1	Banque Centrale de Tunisie	1	-	-	-	-
1	Bank Al-Maghrib	1	0	1	0	1
2	Banque Centrale des Etats de l'Afrique de l'Ouest	1	0	1	0	1
2	Banco de Cabo Verde					
2	Central Bank of The Gambia	1	0	0	0	1
2	Bank of Ghana	1	2	2	0	1
2	Banque Centrale de la République de Guinée					
2	Central Bank of Liberia	0	0	0	2	1
2	Central Bank of Nigeria	1	2	2	0	1
2	Bank of Sierra Leone	-	0	0	0	1
3	Banque des Etats de l'Afrique Centrale	1	0	0	0	1
3	Banque Centrale du Congo	1	0	1	2	1
3	Banque Centrale de São Tome e Principe	1	0	0	2	1
4	Banque de la République du Burundi					
4	Banque Centrale des Comores					
4	Central Bank of Kenya	1	2	2	0	1
4	Bank of Mauritius	1	2	0	0	1
4	Banque Nationale du Rwanda	1	2	2	0	1
4	Bank of Uganda	0	0	0	0	1
4	Bank of Tanzania					
4	Banque Centrale de Djibouti	1	1	0	0	1
4	National Bank of Ethiopia					
4	Central Bank of Seychelles	1	1	0	0	1
4	Central Bank of Somalia					
5	Banco Nacional de Angola	1	0	0	0	1
5	Bank of Botswana	1	2	2	0	2
5	Central Bank of Lesotho	1	2	0	0	1
5	Banky Foiben'i Madagasikara	1	0	1	1	1
5	Reserve Bank of Malawi	0	1	0	0	1
5	Banco de Moçambique	0	0	0	0	1
5	Bank of Namibia	0	0	0	0	2
5	South African Reserve Bank	0	2	1	1	1
5	Central Bank of Eswatini					
5	Bank of Zambia	1	0	0	0	1
5	Reserve Bank of Zimbabwe	1	0	0	0	1

Distribution of central banks	Q. N°3.29	Q. N°3.30	Q. N°3.31	Q. N°3.32	Q. N°3.33
Number of BCs which answered "NO" to the question	6	15	17	22	0
Number of BCs which answered "YES" to the question	24	6	6	3	27
Number of BCs which answered "IN PROGRESS" or "IN STUDY"	0	9	7	5	3
No responses	1	1	1	1	1
Total respondents	31	31	31	31	31
Number of answers to the question	30	30	30	30	30

ANNEX 2 : RESPONSES OF CENTRAL BANKS (CODES ANNEX1)

Sub-regions	Central banks	Q. N°3.34	Q. N°3.35	Q. N°3.36	Q. N°3.37	Q. N°3.38
1	Banque d'Algérie					
1	Central Bank of Egypt	2	2	1	1	1
1	Central Bank of Libya	2	0	2	0	1
1	Banque Centrale de Mauritanie	2	0	1	1	1
1	Central Bank of Sudan	2	0	2	2	2
1	Banque Centrale de Tunisie	-	0	-	1	1
1	Bank Al-Maghrib	1	1	1	1	1
2	Banque Centrale des Etats de l'Afrique de l'Ouest	2	0	1	1	1
2	Banco de Cabo Verde					
2	Central Bank of The Gambia	0	0	0	1	1
2	Bank of Ghana	2	0	2	1	0
2	Banque Centrale de la République de Guinée					
2	Central Bank of Liberia	0	0	0	1	1
2	Central Bank of Nigeria	2	2	2	1	1
2	Bank of Sierra Leone	1	0	0	0	-
3	Banque des Etats de l'Afrique Centrale	0	0	2	2	0
3	Banque Centrale du Congo	0	0	1	1	0
3	Banque Centrale de São Tome e Principe	0	0	0	0	1
4	Banque de la République du Burundi					
4	Banque Centrale des Comores					
4	Central Bank of Kenya	0	0	1	1	0
4	Bank of Mauritius	0	0	0	1	0
4	Banque Nationale du Rwanda	2	2	2	1	1
4	Bank of Uganda	0	0	0	2	1
4	Bank of Tanzania					
4	Banque Centrale de Djibouti	0	0	1	1	1
4	National Bank of Ethiopia					
4	Central Bank of Seychelles	1	0	0	1	1
4	Central Bank of Somalia					
5	Banco Nacional de Angola	0	0	0	1	1
5	Bank of Botswana	2	1	1	1	2
5	Central Bank of Lesotho	0	0	0	1	0
5	Banky Foiben'i Madagasikara	1	0	0	1	0
5	Reserve Bank of Malawi	0	0	0	1	1
5	Banco de Moçambique	0	0	0	1	1
5	Bank of Namibia	0	2	0	1	1
5	South African Reserve Bank	1	2	2	2	1
5	Central Bank of Eswatini					
5	Bank of Zambia	0	0	0	-	-
5	Reserve Bank of Zimbabwe	0	0	0	1	1

Distribution of central banks	Q. N°3.34	Q. N°3.35	Q. N°3.36	Q. N°3.37	Q. N°3.38
Number of BCs which answered "NO" to the question	16	24	15	3	7
Number of BCs which answered "YES" to the question	5	2	8	23	20
Number of BCs which answered "IN PROGRESS" or "IN STUDY"	9	5	7	4	2
No responses	1	0	1	1	2
Total respondents	31	31	31	31	31
Number of answers to the question	30	31	30	30	29

ANNEX 2 : RESPONSES OF CENTRAL BANKS (CODES ANNEX1)

Sub-regions	Central banks	Q. N°3.39	Q. N°3.40	Q. N°3.41	Q. N°3.42	Q. N°3.43
1	Banque d'Algérie					
1	Central Bank of Egypt	1	2	2	2	0
1	Central Bank of Libya	0	0	2	2	2
1	Banque Centrale de Mauritanie	-	1	0	0	0
1	Central Bank of Sudan	2	2	-	-	-
1	Banque Centrale de Tunisie	-	-	0	0	0
1	Bank Al-Maghrib	1	-	1	1	2
2	Banque Centrale des Etats de l'Afrique de l'Ouest	-	1	0	0	0
2	Banco de Cabo Verde					
2	Central Bank of The Gambia	0	0	0	0	0
2	Bank of Ghana	1	2	1	2	0
2	Banque Centrale de la République de Guinée					
2	Central Bank of Liberia	0	0	2	0	0
2	Central Bank of Nigeria	1	2	1	2	0
2	Bank of Sierra Leone	-	0	0	0	0
3	Banque des Etats de l'Afrique Centrale	-	1	2	0	0
3	Banque Centrale du Congo	0	1	0	0	0
3	Banque Centrale de São Tome e Principe	2	0	0	0	0
4	Banque de la République du Burundi					
4	Banque Centrale des Comores					
4	Central Bank of Kenya	1	1	2	0	0
4	Bank of Mauritius	1	0	2	0	2
4	Banque Nationale du Rwanda	-	2	2	0	0
4	Bank of Uganda	2	0	0	0	0
4	Bank of Tanzania					
4	Banque Centrale de Djibouti	-	2	0	0	0
4	National Bank of Ethiopia					
4	Central Bank of Seychelles	2	0	0	0	0
4	Central Bank of Somalia					
5	Banco Nacional de Angola	-	0	0	0	0
5	Bank of Botswana	2	1	0	0	0
5	Central Bank of Lesotho	-	0	1	2	0
5	Banky Foiben'i Madagasikara	2	1	2	0	2
5	Reserve Bank of Malawi	-	0	2	0	2
5	Banco de Moçambique	-	0	0	0	0
5	Bank of Namibia	-	0	2	2	2
5	South African Reserve Bank	-	2	1	2	2
5	Central Bank of Eswatini					
5	Bank of Zambia	-	-	0	0	0
5	Reserve Bank of Zimbabwe	-	1	2	0	0

Distribution of central banks	Q. N°3.39	Q. N°3.40	Q. N°3.41	Q. N°3.42	Q. N°3.43
Number of BCs which answered "NO" to the question	4	13	14	22	23
Number of BCs which answered "YES" to the question	6	8	5	1	0
Number of BCs which answered "IN PROGRESS" or "IN STUDY"	6	7	11	7	7
No responses	15	3	1	1	1
Total respondents	31	31	31	31	31
Number of answers to the question	16	28	30	30	30

ANNEX 2 : RESPONSES OF CENTRAL BANKS (CODES ANNEX1)

Sub-regions	Central banks	Q. N°3.44	Q. N°3.45
1	Banque d'Algérie		
1	Central Bank of Egypt	1	2
1	Central Bank of Libya	2	2
1	Banque Centrale de Mauritanie	2	2
1	Central Bank of Sudan	-	1
1	Banque Centrale de Tunisie	1	1
1	Bank Al-Maghrib	2	1
2	Banque Centrale des Etats de l'Afrique de l'Ouest	1	1
2	Banco de Cabo Verde		
2	Central Bank of The Gambia	0	0
2	Bank of Ghana	2	-
2	Banque Centrale de la République de Guinée		
2	Central Bank of Liberia	2	0
2	Central Bank of Nigeria	1	1
2	Bank of Sierra Leone	0	0
3	Banque des Etats de l'Afrique Centrale	2	2
3	Banque Centrale du Congo	1	2
3	Banque Centrale de São Tome e Principe	1	0
4	Banque de la République du Burundi		
4	Banque Centrale des Comores		
4	Central Bank of Kenya	1	2
4	Bank of Mauritius	2	2
4	Banque Nationale du Rwanda	1	1
4	Bank of Uganda	1	2
4	Bank of Tanzania		
4	Banque Centrale de Djibouti	0	0
4	National Bank of Ethiopia		
4	Central Bank of Seychelles	1	2
4	Central Bank of Somalia		
5	Banco Nacional de Angola	1	1
5	Bank of Botswana	2	1
5	Central Bank of Lesotho	1	1
5	Banky Foiben'I Madagasikara	1	0
5	Reserve Bank of Malawi	1	-
5	Banco de Moçambique	0	0
5	Bank of Namibia	2	2
5	South African Reserve Bank	2	1
5	Central Bank of Eswatini		
5	Bank of Zambia	0	-
5	Reserve Bank of Zimbabwe	0	1

Distribution of central banks	Q. N°3.44	Q. N°3.45
Number of BCs which answered "NO" to the question	6	7
Number of BCs which answered "YES" to the question	14	11
Number of BCs which answered "IN PROGRESS" or "IN STUDY"	10	10
No responses	1	3
Total respondents	31	31
Number of answers to the question	30	28

ANNEX 3 : COMMENTS OF CENTRAL BANKS		Question N°1.1 : Has your Central Bank developed a formal definition of 'Fintech', 'innovation' or related terms? If yes, kindly provide the definition in the space provided for comments.
1	Banque d'Algérie	
1	Central Bank of Egypt	The CBE has opted to use the Financial Stability Board's (FSB) working definition for FinTech as "Technologically enabled financial innovation that could result in new business models, applications, processes, or products with an associated material effect on financial markets and institutions and the provision of financial services". This broad definition is considered useful by the Basel Committee of Banking Supervision (BCBS) as well especially in the light of the current fluidity of FinTech developments.
1	Central Bank of Libya	The use of technology to provide reliable and efficient electronic financial services
1	Banque Centrale de Mauritanie	No official definition published. But our "Fintech" understanding is: they are all innovative financial service providers using information and communication technologies. "Innovation": new idea or creation that brings improvement or quality.
1	Bank of Sudan	It will be included in proposed payment systems law
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	We rely on the definition given by the FSB (Financial Stability Board) which defines the Fintechs as: "technologically-equipped financial innovation that could result in new business models, applications, processes, or products with a material effect on the financial markets and institutions, and the provision of financial services".
2	BCEAO	There is no formal definition of the term enshrined in a BCEAO regulation. However, there is an operational definition used in the activities of the Central Bank, which is as follows: the use of new technologies to rethink financial services.
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	a) The Bank of Ghana (BOG) has amended and consolidated the Payment Systems Act, 2003 (Act 662) and electronic money issuers Guidelines into Payment Systems and Services Bill, 2018 which is before Parliament for consideration. b) In the Bill, Permissible activities of PSP have been expanded to include emerging innovations, and financial services being provided by FinTech firms c) Financial Technology firms are institutions that aggregate, process and switch financial transactions with the view to increasing access to finance.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	Although 'Fintech' and 'Innovation' were not formally defined, Fintech is broadly considered as Financial Technology. There is a focus on FinTechs participating in the Nigerian Payment Ecosystem.
2	Bank of Sierra Leone	The Bank of Sierra Leone Regulatory Sandbox Program Framework defines FinTech as: any business that aims at providing financial services by making use of software and modern technology
3	BEAC	By Decision N ° 082 / GR / 2018 of October 30, 2018, a working group was set up to conduct a reflection on the Fintech, crypto-currencies and blockchain technology
3	Banque Centrale du Congo	The BCC is assisted by the firm FsdAfrica to promote FINTECH in DR Congo. However, capacity building actions are needed to better understand the contours of a regulatory framework conducive to innovation.
3	Banque Centrale de São Tomé e Príncipe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	There are no formal definitions of 'Fintech', 'innovation' or related items in CBK. However in practice, we adopt the definition offered by the Financial Stability Board, which is also used by the Basel Committee on Banking Supervision, as "technologically enabled financial innovation that could result in new business models, applications, processes, or products with an associated material effect on financial markets and institutions and the provision of financial services"
4	Bank of Mauritius	The Bank of Mauritius has not developed any formal definition of 'Fintech', 'innovation' or related terms. The Bank of Mauritius has established a committee to examine issues pertaining to fintech and other innovative technologies.
4	Banque Nationale du Rwanda	There are no specific definitions of such concepts. However, the regulation N° 05/2018 OF 27/03/2018 governing Payment Services Providers defined what is an innovative product under the sandbox arrangement as follows: Article 27: Innovative new products or services In the event that a person intends to provide an innovative product or service within payment services but this does not clearly correspond to one of the services or products currently regulated, or represents a hybrid product, the person may apply for a sandbox to the Central Bank.
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	If there is to be a definition developed by the Central Bank, it will have to conform to the international definition.
5	Central Bank of Lesotho	Innovation has been formally defined as follows:
5	Banque Centrale de Madagascar	According to Law No. 2017-026 of 8 February 2018 on Microfinance digital financial services (Article 3): "all microfinance services provided by microfinance institutions or their distribution agents through digital distribution channels" According to the Law No. 2016-056 of February 2, 2017 on Electronic Money and Money Institutions electronic (electronic money institutions) electronic money (Article 3): "(...) monetary value, as a substitute for fiduciary money stored on an electronic money medium as defined in Article 6 of this Law. It is issued by an electronic money institution against the delivery of cash by users for the purposes of carrying out the transactions referred to in Article 8 of this Law. Electronic money is accepted as a means of payment by a natural or legal person other than the issuing institution. Electronic money represents a claim on the issuing institution. It has a liberating power and an electronic money unit is equivalent to an Ariary. " electronic money institution (Article 11): "Is defined as electronic money institution any legal person authorized by the CSBF to perform electronic money transactions (...)"
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	The South African Reserve Bank (SARB) has not formally developed a definition of fintech, but ascribes to the Financial Stability Board definition of fintech, i.e. that fintech is "technologically enabled financial innovation that could result in new business models, applications, processes, or products with an associated material effect on financial markets and institutions and the provision of financial services".
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The reserve bank is in the progress of developing Fintech framework that will among other things capture the definitions, legislative framework and regulatory approach

1	Banque d'Algérie	
1	Central Bank of Egypt	Currently CBE is developing (in cooperation with international FinTech consultant) its own FinTech strategy, where FinTech organizational structure and its mandates are of the basic requirements. And for now there is temporarily a hybrid group from payment systems and business technology sector to focus on the area of FinTech and innovations.
1	Central Bank of Libya	Department of Payments and Settlements It is main mandate is the supervision and promotion of electronic payments
1	Banque Centrale de Mauritanie	The Central Bank took the direction to support the development of the Fintech: a Fintech advisor has been appointed at the level of the Governor's office, assisted by a working group, to monitor and monitor the evolution of financial innovations, collaborate with other stakeholders in the national ecosystem and regional and international bodies, prepare the regulatory and supervisory framework with relevant departments within the Bank.
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-Structure at the BCT dedicated to Fintech: Fintech Committee attached directly to the Governor with a Coordinator, a coordinator's assistant and business correspondents from the Bank's Departments. - Objectives of the Fintech Committee: External: Establish close collaborative relationships with the Fintech Ecosystem for digitizing financial services, possibly making adjustments to the existing regulatory framework and promoting financial inclusion. Internal: Digitalising the services of the BCT -Projects in progress: Setting up a Lab and launching a Sandbox.
1	Bank Al-Maghrib	In 2018, Bank Al-Maghrib launched an assistance mission to the World Bank to set up an approach to support and regulate the finchs. The purpose of this assistance mission is to evaluate the regulatory initiatives recently adopted by central banks to support FinTechs. In addition, Bank Al-Maghrib is accompanied by a firm to define its future digital strategy that will determine, among other things, its guidelines in this area.
2	BCEAO	However, the Financial Stability (DSF) and Financial Inclusion (DIF) Departments deal regularly with issues related to fintech. Indeed, the DSF's responsibilities include the regulation of non-bank financial activities and institutions (Article 35 of the Governor's Decision No. 006-01-2018). As for the DIF, it has a service dedicated to the development of digital financial services (Article 34 of the Governor's Decision No. 006-01-2018).
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	Currently, Fintech activities and innovation are supervised by the Payment Systems department of BoG.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	The Central Bank of Nigeria created a Department called Payments System Management Department on 1st of November 2018 with the responsibility for licensing, regulation, supervision and monitoring of payment service providers and FinTechs in Nigeria.
2	Bank of Sierra Leone	There is a Financial Inclusion Secretariat in the Office of the Governor. There is also a Sandbox Team and Sandbox Committee, whose membership is drawn from different line Departments
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	CBK does not have a Fintech unit. However, there is an inter-departmental team referred to as 'FIIT' (Financial Innovation and Inclusion Team) that focuses on Fintech and related banking sector innovations. FIIT is comprised of staff members drawn from different departments whose focus is to review emerging technologies and contribute towards policy decisions in relation to the innovations. The team does this in the course of their other duties within their respective departments.
4	Bank of Mauritius	The Bank has setup a working group on Fintech and Blockchain to focus on the innovation for the banking sector.
4	Banque Nationale du Rwanda	There is no any specific Unit in charge of FinTech. Fintech products are analysed across different department basing on the nature of the product (insurance, lending, payment, et).
4	Bank of Uganda	A FINANCIAL INCLUSION DIVISION UNDER THE NATIONAL PAYMENT SYSTEME DEPARTEMENT HANDLES FINANCIAL INNOVATIONS
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	The Financial Inclusion and Market conduct division, amongst other responsibilities, is driving the process to devise and implement a Fintech Strategy for the Country. The establishment of similar dedicated structures will thus be considered as part of the diagnostic exercise which will be done on Fintech.
4	Central Bank of Somalia	
5	Central Banco de Angola	The bank does not have a Fintech Unit or similar structure, however within the Payment System department of (DSP), there is an area responsible for the Payment system development which analyzes development issues that include Fintech.
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	The Bank has a Digital Innovations Working Group that is tasked with researching and making recommendations pertaining to digital financial innovations. The DIWG has a specific terms of reference and consist of various department representatives in the Bank. The Bank annually approves the key focus working area and for 2019 the focus is on DLT and Cloud computing with a strong focus on cybersecurity too.
5	Reserve Bank of South Africa	The SARB established a Fintech Programme in August 2017 with three full time staff members with the goal of the team being to consider the policy and regulatory impacts of fintech. The programme has three focus areas with the first being the policy and regulatory implications of fintech where the team is currently reconsidering the SARB's 2014 position on crypto-assets. The second focus area is collecting data on the fintech industry in South Africa (SA) in order to inform any policy and regulatory positions and the team is currently engaging with crypto-asset exchanges in SA. The third focus area is surrounding innovation facilitation and collaboration with three initiatives forming part of this focus area in 2018, namely Project Khokha where the SARB trialled the use of distributed ledger technology (DLT) for inter-bank payments, consider the appropriateness of innovation facilitators (a collective term for and innovation hub, regulatory sandbox and innovation acclerator) for the SARB, and participating in the inaugural industry workshop with the Intergovernmental Fintech Working Group (IFWG). The IFWG is a body of co-regulators which includes the National Treasury (NT), market conduct regulator Financial Sector Conduct Authority (FSCA), the Financial Intelligence Centre (FIC) and the SARB.
5	Central Bank of Eswatini	
5	Bank of Zambia	The Bank is in the process of establishing a Fintech Unit within the Payment Systems Division. That said the Bank has established an internal Fintech Working Group to begin the co-ordination of Fintech related issues in the Bank

5	Reserve Bank of Zimbabwe	The central bank does not have a Fintech Unit, but an interdepartmental Fintech working group which has been put in place to research on emerging technologies, their applicability and proffer and come up with recommendations on a Fintech Strategy
Sous-région	Banque Centrale	Question N°1.3 Has your Central Bank developed a formal policy response, e.g. policy statement or position paper, on the development of Fintech innovation? If so, what is the Central Bank's position e.g. supportive, neutral or restrictive?
1	Banque d'Algérie	
1	Central Bank of Egypt	CBE's main challenge is to protect the safety and soundness of the financial system while supporting the spreading of useful innovations in the FinTech sector. And currently CBE is working on the position paper of the results of the fintech strategy
1	Central Bank of Libya	CBL is supportive
1	Banque Centrale de Mauritanie	The Central Bank has taken a favorable position for the development of financial innovation while ensuring financial stability and the protection of consumers, even if this has not yet been materialized by an official writing in the form of instruction or Directive, but it is something that will have to be done soon. This favorable position was made public by a statement made by the governor in a dinner-debate to which representatives of the ecosystem players concerned (banks, telecom operators, universities, entrepreneurs, etc.) were invited.
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	The BCT has set itself a favorable position in principle on the development of innovation in FinTech through the creation of the Fintech Committee to interact with the FinTech Ecosystem and the publication of a circular relating to the encouragement of companies with the start-up label, which label is awarded following compliance with criteria including technological innovation.
1	Bank Al-Maghrib	Ongoing development of the Bank's digital strategy to cover its interactions with the ecosystem, including FinTechs.
2	BCEAO	However, the problem is addressed in official documents such as the Regional Strategy for Financial Inclusion which deals with: the creation of an environment conducive to the exploitation of new technologies, especially financial services via mobile telephony; promoting financial innovations that support the financial inclusion of excluded populations.
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	The Bank of Ghana has amended and consolidated the Payment Systems Act, 2003 (Act 662) and electronic money issuers Guidelines into Payment Systems and Services Bill, 2018 which is before Parliament for consideration. The Electronic Money Issuers (EMI) Guidelines (2015) and the Payment Systems Strategy (under review) support the FinTech innovations to regulate FinTech. The Payment Systems Strategy of the Bank has also adopted the IMF Bali FinTech 12 principles.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	In 2007, the Central Bank of Nigeria (CBN) issued a Payment System Vision 2020 (re-issued in 2013) highlighting opportunities for innovation in the Payment System. Thus, the stance of the CBN is supportive of innovation.
2	Bank of Sierra Leone	There is the national Financial Inclusion Strategy (2017 – 2020) which has digital financial Services as one of its thematic areas. There is also the BSL Regulatory Sandbox Guidelines published on the Bank of Sierra Leone website.
3	BEAC	Although an official strategic response has not yet been developed, the benefits and opportunities of financial innovation are undeniably recognized. BEAC can only be part of the dynamic to put in place appropriate policies that would promote the emergence of financial innovations adapted to the sub-region.
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tomé e Príncipe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	The Central Bank has been supportive of innovations in the financial sector by creating an enabling regulatory environment and supporting effective partnerships with the innovators.
4	Bank of Mauritius	The Bank of Mauritius has not issued any policy statement or position paper on the subject matter. The Bank of Mauritius is, however, very supportive of fintech innovation. In fact, in January 2018, the Governor of the Bank of Mauritius formed part of Fintech and Innovation-driven Financial Services Regulatory Committee which was constituted to, among others, - (i) to assess the current regulatory set up with respect to Fintech and Innovation-driven Financial Services Regulations in Mauritius and make recommendations on the need to introduce new sets of regulations for Fintech and Innovation; (ii) to identify priority areas within the regulatory space of Fintech activities; and (iii) to advise on the drafting of regulations and guidelines by segment of activities, and how, Mauritius needs to adapt itself for the benefit of its financial sector. In the light of the Report of the Regulatory Committee, a National Regulatory Sandbox License (RSL) Committee has been set up, comprising representatives of the Bank of Mauritius, Financial Services Commission, Economic Development Board and the Financial Intelligence Unit, to consider all issues relating to the issue of Sandbox licensing for Fintech activities and provide guidance to stakeholders on the functioning of the RSL framework. These guidelines will cover the investment and development of blockchain technologies and cryptocurrencies as digital assets.
4	Banque Nationale du Rwanda	Despite the absence of a formal policy the NBR has been very supportive in the development of FinTech innovation through a sandbox regulatory framework for payment service and a relaxed regulatory framework for non-deposit taking financial institutions. However, a comprehensive strategic framework for FinTech is under development.
4	Bank of Uganda	CABINET IN 2017 APPROVED THE NATIONAL PAYMENT SYSTEMS POLICY WHICH INCLUDES FINTECH INNOVATION. SUBSEQUENTLY A DRAFT NATIONAL PAYMENT SYSTEMS BILL, 2018 IS BEING FINALISED AND IT INCLUDES THE FINTECH INNOVATIONS
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	The CBS is supportive of the development of Fintech innovation in Seychelles. However, the National Fintech Strategy, to be developed under the assistance of the World Bank, will serve as the formal policy response to the development of Fintech in Seychelles.
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	Although a formal policy statement has not been developed, the Central Bank is very much supportive of the Fintech innovation.

5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	Existence of a national strategy of financial inclusion encouraging Financial Institutions to design innovative products, to develop mobile money services.
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	Banco de Moçambique is Supportive of Innovations
5	Bank of Namibia	-
5	Reserve Bank of South Africa	A formal policy response has not been developed, but the SARB is supportive of responsible innovation which may result and in a safer and more inclusive financial system to better serve the citizens of SA.
5	Central Bank of Eswatini	
5	Bank of Zambia	The Bank has recognised the role of Fintechs in economic development by including it in its National Payment Systems Vision and Strategy 2018-2022. The Bank has taken a supportive stance on fintechs although at the same time being cognisant of the risks that come with fintechs and the need to properly manage such risks
5	Reserve Bank of Zimbabwe	The Fintech Working Group developed a position paper which is under consideration by the Bank senior management
	Sous-région	Banque Centrale
		Question N°1.4 Has your Central Bank updated any existing regulatory frameworks or developed any new frameworks as a result of Fintech innovation?
1	Banque d'Algérie	
1	Central Bank of Egypt	CBE is currently working on EKYC new rules to ease the process of the on boarding of consumers
1	Central Bank of Libya	CBL issued a number of circulars to regulate e-payments
1	Banque Centrale de Mauritanie	A new banking law has been promulgated in recent months, with a section dedicated to the national payment system, including electronic money and payment institutions, and this should encourage the emergence of new players providing innovative financial services.
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	Publication of a circular governing the practical arrangements for the operation of payment institutions (31/12/2019). Publication of a circular on foreign currency accounts that can be opened by start-ups (30/01/2019).
1	Bank Al-Maghrib	The new banking law n° 103-12 supervises FinTechs specialized in the field of payments. That law introduced the concept of payment institution. The payment institution status entered into force in June 2016 after the publication of the circulars on the procedures for the exercise of these institutions and payment services. In 2018, more than a dozen payment institutions have been approved, whose operationalization is planned towards the end of 2018. In addition, the setting up of a regulatory framework following an innovation in the field of fintech is part of the reflections for the preparation of the next strategic plan of Bank AL-Maghrib (2019-2023).
2	BCEAO	Laws regulating banking and MFIs are currently being revised and include technology-based innovations.
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	Mobile money services regulation
2	Bank of Ghana	a) There is payment system and services bill before Parliament recognizing innovation and emergence of FinTech b) Payment systems strategy (under review) takes into consideration FinTech innovations
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	The Central Bank of Liberia has drafted a regulation concerning the Licensing and Operations for Electronic Payments Services, and aligned Draft guidelines on Electronic Payments channels
2	Central Bank of Nigeria	For instance, Guidelines for Licensing And Regulation of Payment Service Banks, Guidelines on Operations of Electronic Payment Channels, Regulatory Framework for Mobile Money Services etc.
2	Bank of Sierra Leone	The Bank is currently reviewing the 'Other Financial Services' Act 2011. E-Money Guidelines, Agent Banking Guidelines are being developed, with the help of the Office of Technical Assistance (OTA) of the U.S. Treasury. The BSL Regulatory Sandbox guidelines is also being reviewed
3	BEAC	The existing texts set out the obligations of credit and microfinance institutions with regard to the security of their information systems as well as the conditions of approval, exercise and control of the activity of institutions issuing electronic money. An overhaul of the legal, regulatory and supervisory framework is under study.
3	Banque Centrale du Congo	In 2011, the BCC enacted Instruction No. 24 on the issue of electronic money and electronic money institutions. Also, Law No. 18/019 of 09 July 2018 on payment and securities settlement systems deals with financial innovations. However, it is envisaged to expand the existing regulatory framework for coverage of different types of FinTech.
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	Yes, the National Payment Systems Act and Regulations were largely informed and developed as a result of financial technology development in mobile financial services. CBK issued a Guidance Note on Cybersecurity in 2017. This was in response to the increased exposure to cyber risks as a result of the banks leveraging on FinTech innovations and products.
4	Bank of Mauritius	Partly yes. A Guideline on Mobile Banking and Mobile Payment Systems was issued in May 2015. Further, the Guideline on Outsourcing by Financial Institutions was last revised in March 2018 and now includes a section on Cloud-based services. Other guidelines which are currently being prepared/revised include the guidelines on outsourcing, cloud services and Information Technology Risk management.
4	Banque Nationale du Rwanda	The regulation governing payment services providers has been amended to include the sandbox facility for innovative products. A new regulation governing non-deposit taking financial institutions has been established.
4	Bank of Uganda	DRAFT NATIONAL PAYMENTS SYSTEMS BILL, 2018 IS BEING FINALIZED
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	CBS is currently developing a national Fintech strategy in consultation with the relevant stakeholders. Subject to the output and recommendations of the finalised strategy, relevant laws will be made and frameworks set up respectively, as necessary.
4	Central Bank of Somalia	
5	Central Banco de Angola	The Central Bank does not have a particular regulation concerning Fintech innovation. However, all matter related with this subject falls within the regulation Notice 07/17 of Provision of Payment Services.
5	Bank of Botswana	The Electronic Payment Services Regulations (EPSR) have been formulated to accommodate Fintechs in terms of their entry into the payments space, and for the Central Bank to monitor their operations through the oversight function. However, the Regulations have not been implemented, but they are at an advanced stage.
5	Central Bank of Lesotho	
5	Banque Centrale de Madagascar	2016: Development of the law to regulate the mobile money (law on the electronic money) 2017: Revision of the Microfinance Law to integrate the notion of digital financial services 2018: Draft revision of the banking law in progress
5	Reserve Bank of Malawi	E-money regulations have been drafted and have been sent to Government for Gazetting
5	Banco de Moçambique	Both, Updates and new regulatory frameworks are in process of approval by the Cabinet of Ministers and Board of Directors

5	Bank of Namibia	Exemptions given from some clauses in the Payments law to provide authorization to providers other than those stipulated in the law. This is as a result of more application based and other non-conventional payments providers doing payment intermediation. Furthermore consideration is currently in progress to better regulate App-based payment services that do payment intermediation. The Bank's approach to developing such framework is to work with the payment service providers to better understand the innovation and what the potential risk is that it might pose to the National Payment System, once a thorough understanding is fostered, appropriate policy research is conducted which culminates in the required regulatory tool.
5	Reserve Bank of South Africa	Also refer to the crypto-asset section of the questionnaire, but the SARB issued a position paper on 'virtual currencies' in 2014 and is current busy reconsidering that position along with other South African regulators taking into account similar initiatives in Africa and abroad. The SARB has further started an initiative to establish an Innovation Hub, which is expected to include a Regulatory Guidance Unit as well as a Regulatory Sandbox, to enable a more agile regulatory framework. Further examples include payments where new non-bank players, namely System Operators and Third Party Payer Providers, were proactively recognised from as early as 2005 with those meeting threshold requirements being registered according to a 2006 directive and being subject to a light-touch regulatory approach. This approach is appropriate for the risk related to these providers, and the requirements are significantly lower than those for clearing and settlement banks or central payments clearing houses. The SARB is also in a process of reviewing the National Payment System (NPS) Act, and it is envisaged that with the revised regulatory reforms and structures, non-banks will have greater access and representation at the payment system management body. With regards to cross-border remittances, due to high remittance costs to and from SA, the SARB expanded the existing Authorised Dealer with Limited Authority (ADLA) framework in 2013 to include Independent Money Transfer Operators catering for unbanked and migrant workers in SA.
5	Central Bank of Eswatini	
5	Bank of Zambia	Yes, in 2018, the Bank issued e-money directives (the National Payment Systems directives on electronic money issuance, 2018) and is the process of amending its National Payment Acts 2007 to incorporate new developments such as Fintechs
5	Reserve Bank of Zimbabwe	The existing regulatory framework provide for innovations. For example the National Payments Systems Act, which is currently under review, provides for the regulation of mobile money.
Sous-région	Banque Centrale	Question N°1.5 If you answered YES to question 1.4, what is the approach?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	It is a collaborative work with international organizations and also the study of the best practice of other countries
1	Banque Centrale de Mauritanie	A new banking law has been promulgated in recent months, with a section dedicated to the national payment system, including electronic money and payment institutions, and this should encourage the emergence of new players providing innovative financial services.
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	Participatory approach with all stakeholders: The circular on foreign currency accounts that can be opened by start-ups was developed by the BCT and discussed later with all stakeholders.
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	A hybride was developed for banks led and GSM led model by making reference to international best practice
2	Bank of Ghana	a) The Bank of Ghana has amended the existing Payment Systems Act 2003, (Act 662) and reviewed existing Guidelines on Electronic Money and merged them into a piece of legislation called Payment Systems and Services Bill, 2018 to cover FinTech. b) Engaged the FinTech Association, FinTech chamber to identify their needs and challenges to help evolve policy to address them. c) Prepared Payment Systems Strategy (2019-2024) which identifies FinTech as a vehicle for financial inclusion.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	The Bank develops frameworks, issues guidelines and circulars after consultations with industry stakeholders.
2	Bank of Sierra Leone	The Bank of Sierra Leone is developing Regulatory Guidelines. The Bank of Sierra Leone Act has been reviewed
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	Issuance of a Guidance Note on Cybersecurity for commercial banks in 2017 Conducting penetration testing and Information Communication Technology (ICT) vulnerability assessment of banks.
4	Bank of Mauritius	A Guideline on Mobile Banking and Mobile Payment Systems was issued in May 2015. Further, the Guideline on Outsourcing by Financial Institutions was last revised in March 2018 and now includes a section on Cloud-based services. Other guidelines which are currently being prepared/revised include the guidelines on outsourcing, cloud services and Information Technology Risk management. A National Payment Systems Act has been passed recently which will provide further impetus to the fintech innovation in the payment systems realm. In addition, the Investment Promotion Act was amended in 2016 with the inclusion of a new Part IVB entitled 'Regulatory Sandbox Licence' (RSL) which enables any person who intends to conduct a business activity for which there are no, or no adequate, provisions under any enactment, to apply for a Regulatory Sandbox Licence (RSL). The RSL are issued by the Board of Investment, which has been integrated into the Economic Development Board (EDB). The EDB has also issued http://www.investmauritius.com/schemes/rsl.aspx on Regulatory Sandbox Licence, which include information related to the submission procedure, such as, required documents, license request evaluation and project monitoring. The views of the Bank of Mauritius are sought by the EDB where the nature of the project so requires.
4	Banque Nationale du Rwanda	A regulatory sandbox for payment services with clear eligibility criteria and relaxed requirement for non-deposit taking financial institutions
4	Bank of Uganda	THE DRAFT NATIONAL PAYMENTS SYSTEMS BILL, 2018 HAS PROVIDED FOR REGULATORS SANDBOXES TO PROMOTE INNOVATION FINANCIAL PRODUCT
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	
4	Central Bank of Somalia	
5	Central Banco de Angola	The regulation establish how the Payment System Provider (PSP) should act according to the regulatory framework.
5	Bank of Botswana	The Fintechs or Money or Value Transfer Services (MVTs) will be issued with a Licence that allows them to provide electronic payment services, and will play in the same field as any entity providing electronic payment services. The MVTs will be regulated for compliance with best standards for AML/CFT
5	Central Bank of Lesotho	-

5	Banque Centrale de Madagascar	Adoption of the Law No. 2016-056 on Electronic Money and Electronic Money Establishments to supervise the activities of issue and management of electronic money and integrate them into the banking and financial landscape Adoption of the Microfinance Law including Digital Financial Services and Digital Distribution Channels Existence of the revised banking bill including provisions on cyber security or rules allowing credit institutions to prevent, manage and mitigate IT risks in the banking system given FINTECH.
5	Reserve Bank of Malawi	New E-Money regulations developed rather than updating existing regulatory framework
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	New fintech innovations must be analysed to determine whether it may be accommodated within the existing regulatory regime. Their inclusion and requirements must be linked to their respective activities and related risks. Regulation should aim to achieve level playing fields by ensuring appropriate regulatory treatment of similar activities, irrespective of the entity providing such activities. Where financial activities do not fit neatly within the existing regulatory frameworks the framework should be updated or, where necessary, new frameworks created.
5	Central Bank of Eswatini	
5	Bank of Zambia	The Bank's approach is that of being alive to what is going on in the market place and ensuring that its regulations and the regulatory framework is up to date and incorporates developments taking place including developments in fintech technology. Approaches in doing so include consultations with players in the market, consultations with experts and from observations or findings emanating from the Bank's supervisory role.
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°1.6 Has your central bank developed a formal Fintech strategy? If yes, what are its main objectives? And what are its most prominent features?
1	Banque d'Algérie	
1	Central Bank of Egypt	CBE is developing a strategic FinTech plan for the next 3 years to enhance the technological financial services sector while managing CBE Innovation Fund effectively and efficiently with the following objectives: Assess current FinTech ecosystem issues and potential, while analysing FinTech trends and innovations. Learn from leading FinTech clusters worldwide and understand implications for Egypt. Define the requirements for the ecosystem in terms of infrastructure, regulation, and supervisory framework. Create a compelling FinTech value proposition based on global trends, and local considerations. Identify benefits and contributions for key stakeholders for FinTech ecosystem. Set strategy and directions for innovation fund set-up. Develop future roadmap and go-forward recommendations including the directions to establish the Innovation fund
1	Central Bank of Libya	The main objective is the transfer to e-economy completion of the platform for e-payment promotion of awareness of e-payment development of regulatory framework for e-payment
1	Banque Centrale de Mauritanie	The central bank has not yet formalized its strategy Fintech, but already we can quote you some lines: -Objectives: The development of the Fintech targets objectives: financial inclusion, limitation of cash that costs expensive in terms of printing costs and fiduciary management and slows down the flow of transactions, improving the quality of customer services, creating opportunities for customers. investment, improvement of the business climate, etc. -Levers of the strategy: * regulatory leverage: encourage innovation by creating a favorable regulatory framework. * leverage Financing: set up a financing mechanism for innovation in collaboration with local banks + foreign donors. * Human capital lever: training and awareness program on financial technologies (Block Chain, DLT, AI, etc. * Collaborative leverage: at the national level: with stakeholders in the ecosystem (ministries, universities, incubators, etc.), internationally, with central banks and international organizations. * Leverage Accompanying Measures: Financial Education Strategy - Consumer Protection Framework - Cybersecurity Policy - Means of Payment Monitoring - .. etc.
1	Bank of Sudan	There is a strategy for payments systems so it could be incorporated there
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	Bank AL-Maghrib has included in its strategic plan 2019-2023, the implementation of an approach to support, regulation and monitoring FinTechs.
2	BCEAO	-
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	When the Bill is passed into Law the Bank may issue a formal fintech strategy
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	The Payment System Vision (PSV) 2020 strategy document addresses potential roles of FinTechs in the payment system. Specifically, the PSV 2020 document highlights 8 verticals for innovative financial services namely Smart Cities, Government Flows, Agriculture, Transports, Hotels & Entertainment, Direct Debits & Bills Payment, Health and Education.
2	Bank of Sierra Leone	THE BANK HAS NOT DEVELOPED ANY FINTECH STRATEGY
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	CBK's Strategy for 2018-2021 has significant innovation underpinnings, including a strategy for use of innovative technologies in the Bank Supervision Department's (BSD) strategy. BSD's strategy includes implementation of regulatory technology (RegTech) and supervisory technology (SupTech). Financial inclusion and innovation initiatives are anchored in the financial pillar of Kenya's economic development blueprint, Vision 2030. The National Payment Services (NPS) strategy for CBK is currently being developed.
4	Bank of Mauritius	The Bank has setup a working group on Fintech and Blockchain to focus on the innovation for the banking sector. A formal Fintech strategy for the Banking sector has however not been designed yet. Further, as stated at 1.3 above, a National Regulatory Sandbox License (RSL) Committee has been set up, comprising representatives of the Bank of Mauritius, Financial Services Commission, Economic Development Board and the Financial Intelligence Unit, to consider all issues relating to the issue of Sandbox licensing for Fintech activities and provide guidance to stakeholders on the functioning of the RSL framework.
4	Banque Nationale du Rwanda	Some strategic aspects related to fintech are covered in the The Strategy for payment system (2018-2024)but a plan to come with a comprehensive strategy for fintechs is ongoing.
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	

4	Central Bank of Seychelles	The CBS will be working with the world Bank on the development of a strategy for Fintech for Seychelles by 2019. The main objectives are: Enhancing financial inclusion Increasing competition in the market Expanding the local payment systems through the use of Fintech, and Risk mitigation
4	Central Bank of Somalia	
5	Central Banco de Angola	The Central Bank does not have a formal strategy, however has been listening the Fintechs interested in providing services on Financial Inclusion.
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	Refer to responses in (1.2) and (1.3).
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The strategy shall be formulated once the governance structures (unit) have been finalized
Sous-région	Banque Centrale	Question N°1.7 Has your central bank defined and/or considered Fintech related risks? Like operational risks, outsourcing risks, liquidity risks etc.
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	Not yet formalized, pending a study that should identify the risks and appropriate measures to address these risks.
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	In Morocco, the financial market is experiencing a strong dynamic associated with the evolution of new information and communication technologies. In this context, Bank Al-Maghrib has begun work to manage the risks related to the evolution of these technological innovations. An internal working group at the Bank focused on this theme, namely the emergence of new technological concepts and in particular the evolution of emerging risks related thereto. A dedicated box for this purpose has been published in the Financial Stability Report. Bank Al-Maghrib has also already circulated a circular framing the activity of payment institutions. This text makes it possible to regulate and supervise FinTechs operating in payment services, the main field of intervention of these technological innovations. The Bank, alongside other financial regulators, works to integrate emerging risks related to technological innovations. In the mapping of systemic risks to financial stability. These innovations concern, for example, the activities of "Crowdfunding", the development of "Crypto-assets", the use of DLT technologies and its various applications, the emergence of new digital means of payment as well as the development of Digital Business Models in the banking, insurance and capital markets sectors. The new associated risks are, by way of illustration, the use of new IT platforms for illicit and criminal purposes (money laundering and terrorist financing, ransom demands, ...), the protection of consumers and investors, and cybercrime.
2	BCEAO	The risks borne by FinTech have been defined in several internal documents prepared by the Central Bank.
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	The objective is to promote FinTech as a vehicle for financial inclusion.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	The main risks currently identified are mainly related to e-money activity. These include: risks related to money laundering and terrorist financing; risks related to the inadequacies of credit institutions' information systems; risks related to the traceability of flows; legal risks, in particular the contracts between the various actors not fixing all the bases of the technical and commercial partnerships exercised.
3	Banque Centrale du Congo	Guidelines 17 on prudential rules for internal control and compliance as well as 22 on risk management generally define the risks associated with FinTech.
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	The Risk Management Guidelines, 2013 and Prudential Guidelines 2013 have defined specific FinTech related risks, including risks related to outsourcing and third party arrangements, operational risks, liquidity risks, governance, information security, project risks and business continuity management.
4	Bank of Mauritius	The IT risk Management guideline drafted by the Bank is providing guidelines to mitigate risk related to IT and cyber space. The central bank has considered the Fintech risks with respect to outsourcing and operational risks. The risks to outsourcing is considered in the Guideline on Outsourcing by Financial Institutions. The Bank is currently working on a Guideline on Information Technology Risk Management which would cover the operational risks in such innovations.
4	Banque Nationale du Rwanda	Yes considered in different regulation to cover various risk based on the type of products.
4	Bank of Uganda	RISK MANAGEMENT GUIDELINES FOR PAYMENT SYSTEMS ARE BEING DEVELOPPED IN LINE WITH THE PRINCIPLES OF FINANCIAL MARKET INFRASTRUCTURE
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	The Central Bank of Seychelles drafted a policy paper on Fintech which identifies risks that should be addressed in the strategy. This includes risks origin from: Digital Financial Consumer Protection Financial Education and awareness Financial instability Cyber security Data protection AML/CFT Increased supervisory cost and lower effectiveness of supervision However, the above and additional risks will further be considered during the formulation of the strategy along with their definition.
4	Central Bank of Somalia	

5	Central Banco de Angola	The central bank does not have an official document or regulation on Fintechs related risks, however cyber-attack issues are a topic of interest to the Central Bank .
5	Bank of Botswana	The Central Bank consider Fintech related risks when granting approval for relevant products to be launched by banks and other Payment Services Providers (PSPs). In particular, banks and PSPs are required to demonstrate that they have control measures to mitigate risks associated with Fintech based products/services.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	The main risks related to mobile money activities were dealt with in the framework of the drafting of the law n ° 2016-056 on the Electronic Money and the E-Money Establishments Decree No. 2017-851 implementing Law No. 2016-056 on the Electronic Money and Electronic Money Establishments provides in Article 5 the obligations of electronic money institutions to ensure that their technological infrastructures meet the standards. required by the profession especially in computer security
5	Reserve Bank of Malawi	They are considered as part of new products and monitored as either outsourced or part of offering. Ofs an area of improvement
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	Also refer to the responses in (1.4) and (1.5). The SARB does consider emerging risks both as part of its fintech initiatives, but also as part of its existing regulatory framework, e.g. the Prudential Authority, updated its guidance to the banking on outsourcing as well as cloud computing and the offshoring of data as a result of the monitoring of emerging risks.
5	Central Bank of Eswatini	
5	Bank of Zambia	Yes. Through our membership to the National Financial Inclusion working group on Data/Fintechs
5	Reserve Bank of Zimbabwe	The Bank is aware of the Fintech related risks. The current legal and regulatory frameworks including Anti Money Laundering, National Payment Systems and Banking Legislation compel the financial institutions to conduct risk assessments relating to innovative products and services
Sous-région	Banque Centrale	Question N°1.8 Has your central bank issued recently Fintech services regulations?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	- electronic check clearing - card management - mobile payments - AML/CFT
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	The drafting of a bill on collaborative financing "Crowdfunding"
2	BCEAO	-
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	Guidelines developed for mobile money service regulation 2011. Two operators were issued licenses in 2012
2	Bank of Ghana	drafted a new law, Payment Systems and Service Bill 2018 to address the needs of Fintechs. Evolved a new Payment Systems Strategy (2019-2024) which has included the IMF Bali FinTech Principles.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	We have regulations covering aspects of FinTechs services.
2	Bank of Sierra Leone	The Bank has developed and is implementing the sandbox regulations.
3	BEAC	The working group set up will have to think about the opportunity to define and formalize a regulation on FinTech services and to make appropriate proposals to BEAC's decision-making bodies.
3	Banque Centrale du Congo	There is a need for assistance in developing adequate and comprehensive regulation to support payment innovation.
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	None
4	Bank of Mauritius	The Bank of Mauritius has not issued any Fintech services regulations.
4	Banque Nationale du Rwanda	The NBR has adopted an activity based regulatory approach thus there is no any particular regulation related to Fintech. However, there are covered under different regulation such payment service provider regulation, e-money regulation, microinsurance regulation, regulation governing non-deposit taking financial institutions, etc. .
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	CBS is currently developing a national Fintech strategy in consultation with the relevant stakeholders. Subject to the output and recommendations of the finalised strategy, relevant laws will be made and frameworks set up respectively, as necessary.
4	Central Bank of Somalia	
5	Central Banco de Angola	The recently issued regulation related on Fintech services is the notice 07/17 concerning provision of payment service.
5	Bank of Botswana	The EPSR have not been implemented, but as indicated at 1.4, they are at an advanced stage.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	December 2016: adoption of the law on electronic money and electronic money institutions February 2017: adoption of the decree implementing the law and instructions on the approval of electronic money institutions and the global account of electronic money institutions - April 2018: adoption of instructions on the exercise of electronic money activities by ECs, distribution agents and the governance and control of electronic money institutions
5	Reserve Bank of Malawi	Although E-money regulation will be issued soon
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	Refer to responses in (1.4) and (1.7).
5	Central Bank of Eswatini	
5	Bank of Zambia	Yes, through its representation at the Alliance for Financial Inclusion (AFI) working group and the Committee of Central Bank Governors (CCBG)
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°1.9 Does your central bank has any initiatives to invest in Fintech?
1	Banque d'Algérie	
1	Central Bank of Egypt	CBE is considering the initiative of innovation FinTech Fund to bolster and finance innovative ideas in the Egyptian market with capital worth EGP 1 billion.
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	There is an ongoing reflection on this, around a financing and guarantee mechanism.
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-

1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	The Central Bank supports FinTech through various initiatives. For instance, the Shared Agency Network Expansion Fund (SANEF) Initiative is an initiative of banks to provide single-digit interest credit facility to FinTech companies (such as Mobile Money Operators and Super-Agents).
2	Bank of Sierra Leone	The bank in collaboration with UNCDF and FSD Africa organised the first fintech challenge in order to identify fintechs that would promote financial inclusion in 2017/18 The second fintech challenge will be launched in January, 2019 The Bank is also a member of the Sierra Leone Fintech Association
3	BEAC	-
3	Banque Centrale du Congo	As part of the assistance of the Fsd Africa firm to promote the FinTech and the Sand Box tool to frame the innovations.
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	CBK's strategy for 2018-2021 includes the following initiatives which invest in FinTech:- Utilization of SupTech for supervisory data collection. Deployment of cloud hosted services. Deployment of an enterprise-wide data warehouse (EDW).
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	Not in short run. However, the BNR is monitoring the technology development in certain area and see how they can benefit to Rwandans.
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	Capacity building is one of the investments. Others will be further determined through the strategy.
4	Central Bank of Somalia	-
5	Central Banco de Angola	At the moment the Central Bank is working on an Innovation Laboratory to develop Fintechs.
5	Bank of Botswana	Not in the Short to Medium Term.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	Nevertheless, as part of the strategy for the development of payment systems, BFM encourages the development of innovative means of payment and provides for: - studies on the feasibility and use of next-generation payment methods and systems involving, inevitably, the Fintech; - the definition of incentives to encourage investment in infrastructure for the acceptance of modern means of payment. There is also the acquisition of Bank Supervision Application (BSA) banking supervision software to: collect, control and operate automatically the financial information transmitted periodically by electronic money institutions (operational with BFM) - manage banking supervision activities (regulation, approval, inspection of establishments).
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	The SARB would not invest in fintech firms similar to some jurisdictions which actively promote fintech innovation in their countries, however where suptech would improve regulatory practices the SARB would adopt fintech innovation internally which helps it more effectively execute on its mandate.
5	Central Bank of Eswatini	-
5	Bank of Zambia	This is in relation to regulatory sandbox only
5	Reserve Bank of Zimbabwe	The finalization of the governance processes will inform the investment strategy.
Sous-région	Banque Centrale	Question N°1.10 Do you think that your central bank current regulatory framework is enough to encourage Fin-tech? If yes, please mention items in favour of Fintech/ If No, provide your suggestions.
1	Banque d'Algérie	-
1	Central Bank of Egypt	There are many FinTech areas need first to be well understood then regulated, so establishing regulatory sandbox can be very useful in this context, as it gives the applicant provider the chance to start working, and at the same time enhance the regulator's understanding of the new FinTech modules to be able to regulate efficiently.
1	Central Bank of Libya	The current regulatory framework encourages Fintech but not enough yet to cover all aspects
1	Banque Centrale de Mauritanie	The regulatory framework has just been revised and has made a significant improvement for the development of means of payment. But it can be further improved as and when, including devices dedicated to fintech (Sandbox regulatory framework, provisions for access to innovation support funding, framework of monitoring and supervision of fintech, protection framework consumers and financial education)
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	Admittedly, the status of payment institutions makes it possible to cover FinTechs specializing in payments. However, amendments to existing regulations remain necessary to cover other aspects related to FinTech innovation (Crowdfunding, ...). This is planned as part of the expertise mission for the elaboration of the digital strategy of Bank Al-Maghrib which is in progress.
2	BCEAO	Reflections are underway to develop a secure regulatory framework conducive to the development of FinTech activities. In this regard, work is underway to put in place a regulatory framework for crowdfunding.
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	No existing framework. The Bank needs to and hopefully will develop appropriate framework
2	Bank of Ghana	FinTechs are allowed to partner banks to deliver digital financial services.
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	Our regulations in the payment system supports FinTech in the following ways: Clear entry requirements for FinTech companies Integration into the shared payment infrastructure (Central Switch) Tiered KYC regulations and exemptions to encourage financial inclusion Prohibition of unfair practices by dominant participants Non-exclusivity provisions etc.
2	Bank of Sierra Leone	The other financial services Act, 2001 is being reviewed. Guidelines for agent banking and e-money are currently being developed.
3	BEAC	The institutional and regulatory framework needs to be reviewed in order to promote innovative, efficient and secure payment solutions, but also to adapt supervisory methods to the changing configuration of the market and its players.

3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	CBK's current regulatory framework is technology neutral/agnostic. It therefore does not hinder FinTech innovations. Financial Institutions partnering with Fintech companies therefore submit developed products to CBK for approval. This is handled on a case by case basis due to the diversity in technological innovations. The Central Bank of Kenya takes a "Test and Learn approach" to innovations, walking with the innovators to identify underlying risks and ensuring they are addressed. The current regulatory framework is not prescriptive or prohibitive. It thus encourages innovation. CBK has adopted Proactive Approach to innovation, for instance, Cybersecurity being among the complex and rapidly evolving issues that banks contend with leading to the issuance of the Guidance Note on Cybersecurity in August 2017.
4	Bank of Mauritius	Please refer to our comments to 1.5 above.
4	Banque Nationale du Rwanda	Yes, the current regulatory framework is risk based and activity based to ensure proportionality and future proof requirement. Besides that a sandbox approach and relaxed requirement have been adopted.
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	This response is based on CBS' regulatory and supervisory ambit (The Financial Services Authority is the regulator of the non-bank financial industry e.g. insurance sector and capital markets), which to date, has seen proposals from Fintech applicants that are mostly captured under the current legal framework. Also, please refer to response provided to question 1.4.
4	Central Bank of Somalia	
5	Central Banco de Angola	As mentioned previously, The Central Bank does not have a specific regulatory framework on Fintechs. Therefore the Central Bank should have a regulatory framework with focus only on Fintechs, with less barriers to incentivate providers to launch Fintechs within the financial market.
5	Bank of Botswana	Only until the EPSR get implemented, encouragement of Fintech remains constrained. This notwithstanding, the Central Bank continues to assess Fintechs against existing laws and grant a "no objection" response where there is no foreseen violation of the law by applying Fintech entities.
5	Central Bank of Lesotho	The framework should provide space for regulated testing of fintechs
5	Banque Centrale de Madagascar	- Law No. 2016-056 on Electronic Money and Electronic Money Establishments - Decree No. 2017-851 implementing Law No. 2016-056 of 2 February 2017 on Electronic Money and Electronic Money Establishments - The instructions : No. 003/2018-CSBF on the Governance and Control of Electronic Money Institutions No. 002/2018-CSBF relating to electronic money distribution agents No 001/2018-CSBF on the exercise of electronic money activities by EC No. 002/2017-CSBF on the Approval of Electronic Money Institutions The texts currently being adopted (the Law on the National Payment System, texts on remittances, etc.) include provisions aimed at creating an environment conducive to innovation and the development of FinTech.
5	Reserve Bank of Malawi	Any market player can apply digital financial services
5	Banco de Moçambique	Banco de Moçambique allows banks and PSP to create new electronic payment products and services
5	Bank of Namibia	The current regulations of the Central Bank although not particularly stifling fintech, it also does not overtly encourage Fintech. However the central bank has a catalyst role to play and in especially payment systems there is scope to further leverage on the catalyst role to encourage Fintech in the payments ecosystem to promote competition and cost effective provision of payment services.
5	Reserve Bank of South Africa	The primary mandate of the SARB is price and financial stability. In addition the SARB is technology neutral and does not have competition, or other similar policy objectives, as part of its mandate. With reference to the response in question (1.3) the SARB is supportive of responsible innovation for the benefit of SA and should therefore ensure that there is an enabling and agile framework in place that does not hinder such innovation. The regulatory framework in place for payment systems does allow fintech firms to offer services within the payments value chain including direct clearing where approved by the regulator. For banking services, the framework has accommodated digital-only banks. The framework may possibly be expanded to accommodate fintech 'payment banks', over time, but this work has not been initiated yet.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The current regulations provides for innovations and new products subject to fulfillment of sound risk management processes and regulatory approvals. The regulatory framework will be further enhanced to ensure that it fosters innovative practices
	Sous-région	Banque Centrale
		Question N°1.11 Does your central bank has a clear AML procedures/regulations regarding Fintech services?
1	Banque d'Algérie	
1	Central Bank of Egypt	But The Egyptian Money laundering and Terrorist Financing Combating Unit (EMLCU) has issued "customer due diligence procedures for mobile payments" in 2016.
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	CBOS Circular no.(8/2014) include an article regulate the new services and technologies which states that : a) the development of new products and new business practices including new delivery mechanisms for services; b) The use of new or developing technologies for both new and pre-existing products.
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	The payment institutions component is already covered. Nevertheless, certain provisions of the AML regulations deal with certain banking activities based on new technologies (electronic money, remote account opening, etc.). Work is underway to define the rules to be put in place to comply with the KYC provisions in a digital context.
2	BCEAO	The texts do not explicitly mention FinTech but take into account the use of new technologies in the exercise of a financial activity.
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	But the Bank has AML/CFT regulations not on Fintech
2	Bank of Ghana	The Bank of Ghana has issued AML/CFT guidelines for financial services in Ghana.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	The current AML/CFT regulation is being updated to cover vulnerabilities that may result from emerging FinTech activities. Licensed FinTechs are required to comply with the current AML/CFT regulations.
2	Bank of Sierra Leone	AML/CFT issues are addressed in the Sandbox regulations.
3	BEAC	BEAC is aware of the issue of AML and the FT / FT risks related to FinTech services were part of the content of the sensitization seminar that it organized from 1st to 2nd November 2018 in Yaounde.
3	Banque Centrale du Congo	The existence of instructions 15 and 15 bis in relation to the fight against money laundering and the financing of terrorism. There is also Law 04/2002 on the fight against money laundering and the financing of terrorism.
3	Banque Centrale de São Tome e Principe	-

4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	CBK has a risk-based anti-money laundering/combating the financing of terrorism (AML/CFT) approach. CBK issued a Guidance Note on Conducting Money Laundering/ Terrorism Financing Risk Assessment in March 2018. The Guidance note is designed to assist financial institutions conduct a money laundering/ terrorism finance risk assessment and applies to all products and services provided by commercial banks, including FinTech enabled services.
4	Bank of Mauritius	A new subsection 53A entitled "New products, business practices, delivery mechanisms and technologies" has been added to the Banking Act 2004 in 2018. Financial institutions and every holders of a licence are now required, in relation to the development of new products and new business practices, including new delivery mechanisms, and the use of new or developing technologies for both new and pre-existing products – (a) undertake a risk assessment prior to the launch or use of such products, business practices and technologies; (b) identify and assess the money laundering and terrorism financing risks that may arise in relation to the launch or use of such products, business practices and technologies; and (c) take appropriate measures to manage and mitigate the risks identified.
4	Banque Nationale du Rwanda	The law, regulations and directives on AML are general and are applicable to financial product and institutions..
4	Bank of Uganda	THE CENTRAL BANK ISSUED MODILE MONEY GUIDELINES, 2013 THAT INCLUDE MEASURES TO COUNTER AML AND FINANCING OF TERRORISM
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	In Seychelles, the Financial Intelligence Unit is the AML/CFT supervisor and is responsible for administering the Anti-Money Laundering Act, 2006. Of note, as per section 34(b) of the Financial Institutions Act, 2004, (FIA) it shall be the duty of every financial institution being a bank or bureau de change to ensure that adequate measures to prevent money laundering and terrorist financing are adopted and implemented according to the law. In addition, in line with section 15(1) of the National Payment System Act, 2014, payment service providers and operators of a payment, clearing or settlement system shall meet the requirements and comply with the Anti-Money Laundering Act, 2006 and the Prevention of Terrorism Act, 2004. The Fintech strategy will determine other entities as well as relevant laws and frameworks to be made or amended as necessary.
4	Central Bank of Somalia	
5	Central Banco de Angola	The current AML Law states all procedures that should be taken in order to regulate Fintech services.
5	Bank of Botswana	The Central Bank has adopted the Financial Intelligence Agency (FIA) Legislation as the primary statute for AML/CFT Oversight. Any financial technology services are covered by the FIA Act and Regulations.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	The anti-money laundering (AML) procedures / regulations do not specifically concern FinTech services, but provide for financial services in general (AML / CFT Instruction applicable to financial institutions). credit, the law on electronic money, the law on microfinance, the bill on the National System of Payment ...)
5	Reserve Bank of Malawi	Yes, under the financial services act (2017) for AML but not directly on Fintech
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	Also refer to the response in (1.5). South Africa does have clear anti-money laundering (AML) procedures and regulations. From a fintech innovation perspective the SARB's approach in analysing such developments is to determine where it may fit within the existing regulatory framework following an activity based approach and seeking a level playing field. Where activities do not neatly fit within existing frameworks the regulatory frameworks may have to be updated or new ones developed.
5	Central Bank of Eswatini	
5	Bank of Zambia	This is covered in the 2018 e-money directives
5	Reserve Bank of Zimbabwe	
Sous-région	Banque Centrale	Question N°1.12 Does your central bank has a clear policy for Fintech customers protection?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	Needs to be improved to meet international standard
1	Banque Centrale de Mauritanie	Client in general, but the Fintech client is not yet subject to specific protection.
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	The protection of consumers of banking services provided by the central bank covers all services and in particular digital banking services.
2	BCEAO	-
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	AML customer protection regulations cover all institutions including Fintechs in the payment systems
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	The Bank issued a Consumer Protection Framework. For instance, specific caveats had been issued to the public on virtual currencies.
2	Bank of Sierra Leone	Not yet. But the Bank has established the consumer protection Unit, and developing the consumer protection guidelines
3	BEAC	It is worth noting, however, the ongoing work of the Banking Commission of Central Africa (COBAC) on the enactment of a Community Regulation on the protection of consumers of electronic banking services.
3	Banque Centrale du Congo	The draft directive on the protection of consumers of financial services will cover this type of consumer.
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	Customers' in the banking sector are protected through: - Republic of Kenya Constitution, 2010. Consumer Protection Act, 2012. Competition Act, 2010 which aims at protecting consumers from unfair and misleading market conduct. Financial Sector Laws such as Banking Act and Microfinance Act, and Banking Prudential Guidelines on Consumer Protection The Guideline on Consumer Protection protects customers of bank products and services that are deployed using FinTech.
4	Bank of Mauritius	The same protection as any other customer will be afforded to them.
4	Banque Nationale du Rwanda	Consumer protection aspects are covered in various pieces of regulation. However, a comprehensive consumer protection law has been drafted and is in legal proceedings.
4	Bank of Uganda	-
4	Bank of Tanzania	

4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	The Central Bank of Seychelles is in the process of developing a Financial Consumer Protection Act. Section 23 of the FCPA makes provisions for financial products and services by means of distance communication or the undertaking of distance contracts. (Distance provision of products or services means to cover electronic payment services)
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	The Central Bank does not have a customer protection specific to Fintech. However, as a matter of policy banks are required to disclose charges relating to any product they introduce in the market. The Disclosure of Bank Charges Notice No 41 of 2001 stipulates a minimum of 21 days public notice prior to launch.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	Adoption of the law on electronic money including provisions on consumer protection - Existence of draft instructions on consumer protection aspects transparency of information and management of claims related to payment transactions.
5	Reserve Bank of Malawi	However the E-money regulation has a clause for consumer protection
5	Banco de Moçambique	-
5	Bank of Namibia	There are regulations that deal with general Information and Data Security but not something that specifically only speaks to Fintech customers. Furthermore there are electronic money regulations that speak to customer protection requirements that should be adhered to when e-money issuers conduct business
5	Reserve Bank of South Africa	South Africa follows a twin-peaks approach with the Financial Sector Conduct Authority (FSCA) having primary responsibility for consumer protection. The SARB works with the FSCA in regulating financial services in SA and in supporting the protection of consumers.
5	Central Bank of Eswatini	
5	Bank of Zambia	This is covered in the 2018 e-money directives
5	Reserve Bank of Zimbabwe	There is no Fintech specific consumer protection. However, existing financial consumer protection frameworks that have been issued by several financial sector regulators, including RBZ, cover certain aspects related to fintech products.
	Sous-région Banque Centrale	Question N°1.13 Has the Central Bank conducted exercises to determine the scope and scale of the Fintech landscape in its jurisdiction? If 'yes', please expand – what did the Central Bank do, what were the challenges, is it a repeatable exercise, etc.
1	Banque d'Algérie	
1	Central Bank of Egypt	By the end of developing the CBE's FinTech strategy CBE will have: Conduct an assessment of the current ecosystem: Business environment/access to markets Government/regulatory support Access to Fund/ Capital Perform a high level assessment of each potential market segment Target segmentation Revenue model Resulting potential Identify the market appetite for FinTech related products/services, examples are: Payments Remittances Lending Value add retail services
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	Not yet, pending the study announced previously.
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	Work has begun on a census of FinTech's activities in the Union.
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	The Bank of Ghana has undertaken a study to identify the number, needs and challenges of FinTechs. The Bank also engaged the Fintech association, FinTech Chamber.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	NO. However, the BSL, in collaboration with World Bank, has conducted a Geospatial mapping survey which shows the distribution of financial services providers across the country, including point-of-sale (POS), ATMs, agent networks, etc. The BSL in collaboration with UNCDF/MM4P conducted an Annual Provider survey in 2018. Key challenges identified in the surveys were: <ul style="list-style-type: none"> • Low Product usage/awareness • Limited agent network • Limited data on digital financial services • Low literacy rate of population • Limited mobile network coverage • Limited uptake of digital financial services by commercial banks • Lack of interoperability among financial service providers • Regulatory challenges, including restrictions on international remittances and credit by mobile money, absence of proportionate KYC, inadequate guidelines
3	BEAC	Studies are envisaged within the framework of the missions of the recently established Working Group.
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	CBK targets to conduct such exercises in the first quarter of 2019.
4	Bank of Mauritius	No such exercise was carried out by the Bank.
4	Banque Nationale du Rwanda	In the preparation of a Fintech strategy, a stocktake of the current initiative is being carried out.
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	This assessment will be done as part of the work on drafting a Fintech strategy.
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-

5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	One of the focus areas for the Fintech Programme is collecting data on the fintech landscape in SA. One of the first initiatives is to collect data on the crypto-asset landscape in SA. Some of the challenges have been that these exchanges currently fall outside our regulatory remit. The exchanges were therefore not obliged to respond, but, for instance, through the use of non-disclosure agreements we were able to collect requisite data. Some of the other challenges were surrounding identifying the required data, and obtaining the data in an easily accessible and consistent format from the exchanges. In addition the NT has recently started an exercise to perform a landscaping exercise for the fintech industry in SA. This exercise is to contribute to the developing of a national fintech policy. Such a policy should make the role of the SARB in terms of question (1.10) clearer.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°1.14 Does your Central Bank cooperate with other local regulatory authorities, or other national structures focussed on Fintech innovation, for instance by sharing information on the development of Fintech?
1	Banque d'Algérie	
1	Central Bank of Egypt	CBE has signed a MOU with the Monetary Authority of Singapore MAS in 2018
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	There is contact with the telecom regulator over mobile financial services.
1	Bank of Sudan	We already have a coordination with telco regulator in the mobile payment and we are thinking of extending this coordination to include fin-tech issues as well
1	Banque Centrale de Tunisie	Cooperation with central banks of Arab countries under the aegis of the Arab Monetary Fund.
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	The Bank of Ghana has signed MoU with NCA to supervise the operation of mobile money business. The BOG has also engaged the Ghana Chamber of Technology and National Communication Authority (NCA) to review the Payment Systems Strategy and Guidelines on Electronic Payment Channels.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	The Bank of Sierra Leone is a member of the Alliance for Financial Inclusion (AFI). It is also working in collaboration with UNCDF, Financial Sector Deepening Africa and the World Bank on promoting Fintech activities. The Bank of Sierra Leone and key stakeholders established the Digital Financial Services Working Group. The group is made up of institutions such as the Bank of Sierra Leone, National Telecommunications Company (NATCOM), Association of Commercial Banks, Ministry of Finance, Fintech Companies, National Revenue Authority (NRA), National Commission for Social Action (NACSA), Sierra Leone Association of Microfinance Institutions, Apex Bank, Sierra Leone Insurance Commission (SLICOM), Financial Intelligence Unit (FIU). The Bank of Sierra Leone is working to sign MOUs with other regulators in the sector (FIU, SLICOM, NATCOM). The Bank of Sierra Leone is also a member of the Sierra Leone Fintech Association.
3	BEAC	BEAC already collaborates with the Central African Banking Commission (COBAC), the Action Group against Money Laundering in Central Africa (GABAC) and the National Financial Investigation Agencies (ANIF) on issues related to e-money activities and other means of payment. Strengthening the coordination and interaction between these regulatory bodies at the sub-regional level is essential for Fintech supervision.
3	Banque Centrale du Congo	With the project of setting up a regulatory (inter-institutional) Sand Box. It is also envisaged to implement a framework of collaboration with the Telecom Regulatory Authority to share information on payment solutions operating on telecommunication networks.
3	Banque Centrale de São Tomé e Príncipe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	At national level, CBK is one of the stakeholders that sit in the National Kenya Computer Incident Response Team Coordination Center. The main roles of this Center are: - Offering advisories on Cybersecurity matters and coordinating cyber incident response in collaboration with relevant players locally, regionally and internationally; Acting as the national point of contact for information security matters; Gathering and disseminating technical information on computer security incidents; Carrying out research and analysis on computer security; and Capacity building in information security and creating and maintaining awareness on cybersecurity related activities. CBK is also a member of the financial sector regulators Forum which comprises of other regulators in the financial sector, whose mandate is to address issues of mutual interest on Kenya's financial system development and stability as well as facilitating regular information sharing.
4	Bank of Mauritius	Yes, please refer to our comment to 1.5 above. In addition, the Bank of Mauritius collaborate with (i) the Financial Services Commission of Mauritius, which is the integrated supervisor for the non-bank financial services sector and the global business sector, (ii) the Economic Development Board in considering applications for RSL, (iii) the Ministry of Technology, Communication and Innovation, amongst others. In October 2018, The National Innovation Framework (2018-2030) was launched. This is the culmination of a highly consultative process involving both public and private sectors. It also adopted an evidence-based approach using actual data pertaining to different innovation indicators and was formulated based on international best practices. The formulation of the National Innovation Framework (NIF) was conducted by the Ministry of Technology, Communication and Innovation jointly with the Mauritius Research Council, in consultation with various stakeholders. The NIF culminates into 5 major strategic directions as defined in the action plan for 2018-2030: Building capacity for promoting innovation, Promoting regional and international collaborative mechanisms, Setting up the innovation infrastructure, Developing innovation incentives, Setting up the institutional and governance framework to facilitate & monitor Innovation. The NIF will be monitored on a regular basis in order to identify gaps in the system. This constant monitoring is embedded in the Framework as the Mauritian Innovation Scoreboard. On a National Level, the Framework is well set to sustain Long-Term Growth, to create an Innovation Culture and to address the Grand Challenges faced by Mauritius.
4	Banque Nationale du Rwanda	The BNR has signed MOUs with the technology regulator (Rwanda Utilities Regulatory Authority "RURA") and the Capital Market Authority (CMA).

4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	The Central Bank has been liaising with local regulatory authorities and national structures such as the Financial Services Authority, Seychelles Investment Board, Seychelles Chamber of Commerce and Industry, Ministry of Finance, Trade, Investment and Economic Planning, Department of Information and Communication Technology, Department of Industry and Entrepreneurship Development and other national structures focussed on Fintech innovation. This was performed as part of the stakeholder consultation.
4	Central Bank of Somalia	
5	Central Banco de Angola	The central Bank collaborates with INACOM (Angolan Institute of Communications) and Ministry of Telecommunications.
5	Bank of Botswana	The Central Bank cooperates and collaborates with the Financial Intelligence Agency (FIA), especially when it comes to AML/CFT issues.
5	Central Bank of Lesotho	The Central Bank of Lesotho is collaborating with other Central Banks within SADC region by sharing information on the development of FINTECH, and how best to regulate them.
5	Banque Centrale de Madagascar	The Banking and Financial Supervision Commission maintains cooperation with the ARTEC (Regulatory Authority for Communication Technologies). As part of the strategy for the development of payment systems, it is planned to put in place an effective cooperation framework between the different regulatory authorities. Reflections have already been initiated with a view to setting up a collaborative platform between BFM and the ARTEC (Regulatory Authority for Communication Technologies).
5	Reserve Bank of Malawi	Reserve Bank is a major regulator but does share information through a memorandum of understanding with Malawi communications regulatory authority, financial intelligence authority, law enforces
5	Banco de Moçambique	-
5	Bank of Namibia	The Central Bank has a Memorandum of Understanding with the Communications Authority to ensure that there is appropriate sharing of information on matters of mutual interest, including digital financial services innovations.
5	Reserve Bank of South Africa	The SARB is a founding member of the Intergovernmental Fintech Working Group (IFWG) along with the Financial Intelligence Centre, FSCA and NT. The IFWG is a collaboration platform for South African regulators on fintech. The IFWG held its inaugural workshop during April 2018, which focused on private crypto-assets; financial inclusion; innovation facilitation; and regulatory and policy responses. The IFWG also has work streams on innovation facilitators as crypto-asset regulatory alignment.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The Reserve Bank has executed Memorandum of Understanding (MOUs) with fellow regulatory authorities (such Capital Markets, Deposit Insurance, Pension & Insurance and Telecommunications Regulators) on wide ranging issues including the Fintech issues. A case in point is the cooperation and information sharing with Telecoms Regulator on mobile money services.
Sous-région	Banque Centrale	Question N°1.15 Does your Central Bank cooperate or participate in any global forums with a focus on collaborating on Fintech developments?
1	Banque d'Algérie	
1	Central Bank of Egypt	Arab Monetary Fund (AMF)
1	Central Bank of Libya	The Arab Monetary Fund
1	Banque Centrale de Mauritanie	The Central Bank collaborates with organizations such as the Alliance for Financial Inclusion (AFI) and the Arab Monetary Fund (AMF).
1	Bank of Sudan	Yes, we are members in AFI, AMF
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	The BCEAO regularly takes part in meetings on the subject. She is also a member of the Alliance for Financial Inclusion (AFI) which is a platform for collaboration between regulators dealing in particular with the issue of FinTech development.
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	CBG is member of Alliance for Financial Inclusion (AFI)
2	Bank of Ghana	The Bank of Ghana is a member of Alliance for Financial Inclusion (AFI) which promotes fintech activities to achieve financial inclusion. The BOG also cooperates with the IMF through participation in financing programmes geared towards promotion of FinTechs.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	1 Alliance for Financial Inclusion, 2 Association of African Central Banks, 3 International Telecommunication Union
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	Yes. The Bank of Sierra Leone participates in the Global Policy Forum and Annual General meeting for AFI
3	BEAC	For example, BEAC participated in the IMF's Roundtable on Financial Technologies, April 9-10, 2018 in Washington.
3	Banque Centrale du Congo	In particular with the accompaniment of the World Bank, AFRITAC, SADC and COMESA.
3	Banque Centrale de São Tome e Príncipe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	The Central Bank of Kenya (CBK) participates in international workshops on Fintech. CBK also partners with the Monetary Authority of Singapore (MAS) and Alliance for Financial Inclusion on Fintech.
4	Bank of Mauritius	The Bank is a member of OMFIF, which is an independent think tank for central banking, economic policy and public investment. OMFIF lays a lot of emphasis on the development of Fintech in financial institutions.
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	THE CENTRAL BANK IS A MEMBER OF THE ALLIANCE FOR FINANCIAL INCLUSION
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	Regional workshop on cyber security organized by METAC in Jordan from 23 to 26 October 2018, in which two BCD superiors participated
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	
4	Central Bank of Somalia	
5	Central Banco de Angola	The central Bank often participates on Fintechs Forums promoted by SADC and other entities in which experiences are shared
5	Bank of Botswana	Relevant staff members attend workshops and courses on Fintech developments. The Bank also participate in to the Southern African Development Committee - Committee of Central Bank Governors (SADC CCBG) forums where there has been a decision to establish regional Fintech workgroups for purposes of monitoring Fintech developments.
5	Central Bank of Lesotho	In its annual General Meeting held in September 2018, Alliance for Financial Inclusion (AFI) endorsed the https://www.afi-global.org/publications/2851/Sochi-Accord-FinTech-for-Financial-Inclusion "It "blank. The Sochi Accord provides a framework for AFI members to leverage innovative new technology-based financial services, or FinTech, to advance financial inclusion for the world's 1.7 billion unbanked
5	Banque Centrale de Madagascar	Participation in the working group with AFI (Alliance for Financial Inclusion).
5	Reserve Bank of Malawi	Through Alliance for Financial Inclusion (AFI), AFRITAC, workshops and trainings

5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	The SARB actively participates at the Bank of International Settlements (BIS) as well as the Financial Stability Board (FSB) on fintech initiatives. The SARB is further currently considering joining the Global Financial Innovation Network (GFIN).
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The Bank participates in global forums through various platforms and initiatives IMF, World Bank, Alliance for Financial Inclusion (AFI), SADCC, COMMESSA and bilateral discussions with other Central Banks/ Regulators where fintech issues are part of the agenda items that are discussed.
Sous-région	Banque Centrale	Question N°1.16 Does your central bank adopt open policy to collaborate with any of other regional regulators? If yes, what should be the scope of collaboration?
1	Banque d'Algérie	-
1	Central Bank of Egypt	-Referral mechanism -Potential joint innovation projects -Information sharing
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	Collaboration can take many forms: -Exchange of experiences -implementation of common projects (pilot projects in the field of innovation) -Share information on the risks related to technological innovation. - etc ..
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	As part of the Maghreb Central Banks Board of Governors, we are planning a collaboration with the Maghreb Central Banks to take advantage of the opportunities offered by the Fintech and to guard against the risks inherent in a goal of digitalization of financial services and dedication of inclusion. in the region.
1	Bank Al-Maghrib	Benchmark, exchange of experiences and expertise with several regulators, including the IMF.
2	BCEAO	Collaboration includes sharing of experience, participation in thematic working groups and development of a framework document.
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	We collaborate with CBN in area of joint examination of Nigerian subsidiaries in the Gambia College of Supervisors WAMZ is a forum for information sharing
2	Bank of Ghana	Through training programmes and peer learning
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	Scope should include information sharing and supervision.
2	Bank of Sierra Leone	The Bank conducts joint examination on commercial banks with personnel from the Central Bank of Nigeria.
3	BEAC	Collaboration can take the form of exchanging information, sharing experiences in forums and study missions
3	Banque Centrale du Congo	In the framework of cooperation with international organizations. Case of banking supervision: Collaboration in particular with the central banks of Nigeria and Gabon for exchange of experiences. Case of payment systems: collaboration with SADC (SIRRES) and COMESA (REPSS).
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	International best practices for securing Fintech innovations. Best approaches for understanding business models, risks and their mitigants. Scope of collaboration is set out in the memorandum of understanding (MoU) between the regulators e.g. regionally Kenya has entered into an MOU with the Central Banks of the East African community, South Africa Reserve Bank, Central Bank of Nigeria, Technical Cooperation with Central Bank of Southern Sudan, Reserve Bank of Malawi, Reserve Bank of Zimbabwe, Bank of Zambia and Bank of Mauritius.
4	Bank of Mauritius	The Bank is a member of several regional blocs such as SADC and COMESA and participates actively in regional initiatives and workshops on Fintech.
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	THE CENTRAL BANK COLLABORATES WITH OTHER CENTRAL BANKS IN THE REGION. THE SCOPE OF THE COLLABORATION SHOULD BE HARMONIZATION
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	The Central Bank of Seychelles adopts open policy to collaborate with other regional regulators. In line with same the CBS and the Financial Services Authority undertook a fact finding mission to Hong Kong to learn from the experience of the jurisdiction given that it is one of the leading jurisdiction in this field.
4	Central Bank of Somalia	-
5	Central Banco de Angola	The Central Bank often collaborates with SADC regarding payment system issues.
5	Bank of Botswana	The Bank of Botswana maintains an open policy to collaborate with other regional central banks through the committee of Central Bank Governors (CCBG). As a member of the various subcommittees of the CCBG, the Bank is privileged to discuss and adopt recommendations that address pertinent issues on Fintech developments taking place in the region.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	Planned in the Draft Law on the National Payment System and the Framework Document on the Surveillance Policy of Payment Systems and Means.
5	Reserve Bank of Malawi	Within and outside SADC, through mainly meetings and trainings
5	Banco de Moçambique	In Regulation field
5	Bank of Namibia	Focus and scope should be on leveraging resources, sharing of knowledge and developing good practice notes
5	Reserve Bank of South Africa	The SARB is open to collaboration and would consider such engagements on a case-by-case basis.
5	Central Bank of Eswatini	-
5	Bank of Zambia	Through Financial Education Awareness Campaigns conducted by the Central Bank
5	Reserve Bank of Zimbabwe	The scope of collaborations includes: study tours, site visits, exchange programs and information sharing. The collaborations are key in promoting learning and cross border assessment of vulnerabilities.
Sous-région	Banque Centrale	Question N°1.17 Has the Central Bank implemented innovation facilitators such as regulatory sandboxes, accelerators and innovation hubs? If 'yes', please specify which structures and a high-level overview of the objectives and operations of the respective structures.
1	Banque d'Algérie	-
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	The Bank will soon launch a financial innovation challenge to select 3 projects that will benefit from financing and support by the bank.
1	Bank of Sudan	-

1	Banque Centrale de Tunisie	Sandbox: Supervised experimentation of innovative solutions offered by FinTech with objective and transparent eligibility criteria, evaluation mechanisms, consumer protection mechanisms and Sandbox output scenarios. A Laboratory: to develop and test solutions based on themes proposed by the BCT to digitize its services.
1	Bank Al-Maghrib	The establishment of innovation facilitators such as regulatory sandboxes, accelerators and innovation poles is being studied as part of the digital transformation of Bank Al-Maghrib.
2	BCEAO	Discussions have been initiated for the possible establishment of a financial innovation laboratory or Regulatory Sandbox in the Union.
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	The Bank has established the regulatory sandbox , which is gone live.
3	BEAC	-
3	Banque Centrale du Congo	The project to implement a regulatory sandbox is underway.
3	Banque Centrale de São Tomé e Príncipe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	Early adopter of regulatory sandboxes through "test and learn" approach used for regulatory review of M-Pesa in 2006/7, a Mobile Financial Service (MFS). Kenya's MFS ecosystem has since grown from a money-transfer platform to payment system and currently to the provision of banking and other integrated financial services such as insurance, utility payments, pension, investments and other financial and non-financial services.
4	Bank of Mauritius	Please refer to our comment to 1.5 above. The Bank of Mauritius has not implemented any such innovation facilitators, but rather contribute therein. The National Regulatory Sandbox Licence (NRSL) Committee will assess all fintech related RSL application, and assign the supervisory function to either the BOM or the FSC. The objective of the NRSL Committee is to: Operate as an independent committee to coordinate the processing of all RSL applications made to the EDB with respect to Financial Technologies (Fintech); Be the focal point of assessing: All fintech related applications requiring an RSL; All newly announced fintech applications as announced in the National Budget 2018/2019 Consider fintech related RSL applications received at the level of the EDB in view of preventing financial regulatory arbitrage; Recommend to the EDB whether to approve/decline the RSL application; and Assign the supervisory function for the holder of the fintech RSL to either the BOM or the FSC depending on the nature of the proposed fintech activity.
4	Banque Nationale du Rwanda	As said above, the BNR has adopted a sandbox approach for payment service. The Government of Rwanda has also established an innovation funds and is planning to come up with new initiatives aiming at promoting FinTech.
4	Bank of Uganda	THE MOBILE MONEY GUIDELINE 2013 PROVIDE FOR FINANCIAL INNOVATIONS THROUGH ISSUANCE OF NO OBJECTIONS LETTERS AND THE DRAFT NATIONAL SYSTEMS BILL 2018 HAS A PROVISION FOR REGULATORY SANDBOXES
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	
5	Central Banco de Angola	At the moment the Central Bank is in the process of conducting a deep analysis about implementing an Innovation LAB which include Sandboxes, Accelerators and Innovation Hubs.
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	Learning process Adjustment of products and service Live testing
5	Bank of Namibia	-
5	Reserve Bank of South Africa	The SARB has a draft framework for innovation facilitators in the SARB and is actively engaging with the IFWG on the operating model for such structures. In addition the SARB is currently busy with the procurement process to find a service provider to help us implement innovation structures. A brief overview of how the draft framework defines these structures follows. The Innovation Hub is the central point of contact for all matters related to fintech innovation, both for how it impacts on the SARB and for how it affects the elements of the financial services industry that it is responsible for. The Innovation Hub, through its Regulatory Guidance Unit, is to provide informal guidance to both regulated and unregulated firms in order to help them navigate the regulatory framework. The Regulatory Sandbox is a regulatory environment created specifically to enable the live testing of new products or services in a controlled setting. The sandbox is created through the extension of regulatory relief to the industry. The sandbox may also be used to test a regulatory approach or a framework for an as-yet-unregulated product or service. The Innovation Accelerator is the space for working on and learning about innovative financial services products, services and ideas through collaboration and testing proof-of-concept use cases or research projects with others, including other central banks, the financial services industry, and individual firms. The aim is to accelerate the adoption of innovative solutions by the central bank and industry. The Policy Lab has not been defined yet, but will consider the impact of innovation on the existing legislative and regulatory framework. Will bring different thinking and tools to bear on policy challenges.
5	Central Bank of Eswatini	
5	Bank of Zambia	Yes. The Bank issued e-money directives which encourage use of fintech to help improve access to financial services. Further, the Bank is in the process of implementing the National Financial Switch and has also made a Maya commitment to the Sochi Accord on Fintech under the Alliance for Financial Inclusion
5	Reserve Bank of Zimbabwe	The Reserve Bank is yet to formally adopt innovation facilitators. While the current legal and regulatory framework exhibits certain aspects of sandboxing, the Fintech Framework under development will clearly outline the innovation tools that the Bank will employ.
	Sous-région	
	Banque Centrale	
		Question N°1.18 If your Central Bank established innovation facilitation structures, has there been any insights gained which you can share e.g. did the Central Bank have to change any legislation?
1	Banque d'Algérie	

1	Central Bank of Egypt	Currently CBE is modifying Law 88 of the year 2003 (the Law of the Central Bank, the Banking Sector and Money), to support digital transformation economy and less cash society.
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	No formal structure yet, but: - a fintech advisor has been appointed - a working group has been set up pending its formalization.
1	Bank of Sudan	We are in the process of developing our national payment systems Law, which will include a legislative framework for Fin-tech
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	The Bank of Sierra Leone is reviewing existing legislations to developing guidelines to create the enabling environment for Fintech promotion.
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	-
4	Bank of Mauritius	Please refer to our comment to 1.5 above.
4	Banque Nationale du Rwanda	The sandbox framework is at the nascent stage.
4	Bank of Uganda	THE CENTRAL BANK ISSUED NO OBJECTION LETTERS TO PROMOTE FINANCIAL INNOVATIONS EFFECTIVE 2009
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	At present, BFM does not have support structures dedicated to innovation. However, BFM is deploying several initiatives to promote innovation, particularly as part of the strategy for the development of payment systems. Indeed, the strategy provides for actions relating to the support of innovative means and payment systems and, as a result, promotes collaboration with the FinTechs.
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	The SARB is starting its journey of implementing these structures. One of the challenges that we foresee is surrounding determining what we may allow into our Regulatory Sandbox and whether that might require any legislative changes.
5	Central Bank of Eswatini	-
5	Bank of Zambia	Although no much progress has been made yet as regards regtech and supotech
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°1.19 Does your Central bank initiate any programs of funding Fintech innovations, if yes, please mention?
1	Banque d'Algérie	-
1	Central Bank of Egypt	CBE is considering the initiative of innovation FinTech Fund to bolster and finance innovative ideas in the Egyptian market with capital worth EGP 1 billion.
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	In the next few days, the Bank will launch a first financial innovation challenge that will result in the selection of 3 projects that will benefit from significant funding and support from the central bank. It is also a question of creating a guarantee fund for the financing of financial startups
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	The Central Bank supports the FinTechs through Shared Agency Network Expansion Facility (SANEF), an initiative of banks to provide single-digit interest credit facility to some FinTechs (Mobile Money Operators and Super-Agents).
2	Bank of Sierra Leone	The Bank is working with the Sierra Leone fintech Association
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	-
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	See above on the innovation funds established by the Government
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	In support of enhancing the capacity, the CBS offered a scholarship award for postgraduate studies in field of Financial Technologies.
4	Central Bank of Somalia	0
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-

5	Banque Centrale de Madagascar	The Central Bank is involved in the Financial Inclusion Project (2018-2022) financed by the World Bank as part of the digitization of MFIs subject to its control through the Banking and Financial Supervision Commission.
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	Also refer to the response to (1.9).
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°1.20 Has your central bank identified and or prioritized its focused Fintech innovative trends? like e-KYC, blockchain, biometrics etc.
1	Banque d'Algérie	
1	Central Bank of Egypt	By the end of developing its FinTech strategy, CBE will be able to prioritize prioritized its focused Fintech innovative trends – according to the assessment of the Egyptian FinTech market and ecosystem. However, currently CBE has formed the e-KYC task force group to study the possibility of providing e-KYC for the banking sector using the blockchain technology.
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	Technologies of interest (not exhaustive): -Blockchain and DLT -e-kyc -Bometrie -Mobile payment (NFC technology, ussd..etc). - etc .. But in a general way, the technologies that bring added value in the fields: financial inclusion, cash limitation, banking supervision, improvement of the customer experience.
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	A study on e-KYC is being developed by the Bank. In addition, the Blockchain and the crypto-assets (mining, trading platform, ICO, ...) were the subject of a study by a working group of the Bank covering the functional, technical and regulatory aspects. related thereto. Recommendations on this subject are being developed. In addition, prioritization work, based on benchmark studies and ecosystem expectations, was conducted and identified the following trends: Cloud computing KYC Blockchain and crypto-active Electronic signature
2	BCEAO	-
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	E-KYC Biometric identification
3	BEAC	This is one of the tasks of the recently established Working Group.
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	CBK is in the process of exploring the potential use cases of emerging technologies including blockchain, artificial intelligence among others.
4	Bank of Mauritius	The prioritized Fintech innovative trends are e-KYC and blockchain.
4	Banque Nationale du Rwanda	All innovative products are regulated regardless the technology to be used.
4	Bank of Uganda	A COMMITTEE HAS BEEN SET UP TO STUDY THE BLOCKCHAIN TECHNOLOGY
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	The feasibility study of implementing e-KYC through integrating with national identity registry database is underway. The aim is to facilitate an efficient means of verification of customer details by the financial institutions.
5	Banque Centrale de Madagascar	To date, no specific priority has been identified. Nevertheless, BFM is already reflecting on these innovative trends such as biometrics, DLT technology, blockchain, ...
5	Reserve Bank of Malawi	Working on e-KYC in conjunction with Banks and National Registration Bureau
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	The Fintech Programme went through a strategic planning exercise at its establishment to determine focus areas for the programme. There are currently further initiatives underway surrounding gathering data on the use of crypto-assets in SA as well as a landscaping exercise of the fintech industry in SA. In addition we gather info on what is happening in the industry through engagements with individual fintech firms as well as through industry engagements, such as the IFWG workshop.
5	Central Bank of Eswatini	
5	Bank of Zambia	We are members of the steering commitment for the implementation of the Biometric cards in Zambia. This project is being spearheaded by the Ministry of Home Affairs and is still ongoing. Further, through the G20 Argentina Presidency, the G20 has offered to support some of the initiatives on the digital on-boarding
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°1.21 Has your Central Bank developed a specific regulatory framework for the settlement of migrant remittances via mobile money?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-

1	Bank Al-Maghrib	-
2	BCEAO	However, these issues are taken into account in several texts including Regulation No. 09/2010 / CM / UEMOA of October 1, 2010 and Instruction No. 008-05-2015 governing the activities of issuers of electronic money in the WAMU.
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	Currently regulatory framework permits termination of inward remittances on mobile wallet.
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	The revision of the regulatory framework relating to Mobile Money is planned for the year 2019 and concerns about the remittances of migrants' funds via Mobile Money as well as its feasibility could be envisaged on this occasion.
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	The Money Remittance Regulations, 2013 cover transmission of money or any representation of monetary value without any payment accounts being created in the name of the payer or the payee. This covers remittances through mobile money.
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	The service provision is governed by the laws and regulations governing payment services including remittances provision
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	CBS is finalising the drafting of its National Payment Systems Electronic Money Regulation (E-money Regulation) which will consider cross-border remittances of e-money.
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	The EPSR will also cover international remittances.
5	Central Bank of Lesotho	However, e-money regulations allows for remittances through mobile money.
5	Banque Centrale de Madagascar	Existence of a draft law on money transfer companies.
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	Current regulatory framework makes provision for regional crossborder remittances through mobile money. This is in line with the regional payments integration protocol
5	Reserve Bank of South Africa	South Africa does not have a specific framework for mobile money, however our ADLA framework was updated to be more conducive to increasing competition for remittances – refer to (1.4).
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The remittances which come through mobile money platforms are covered by existing Exchange Control and Payment Systems Acts.
Sous-région	Banque Centrale	Question N°1.22 Has your Central Bank developed a specific regulatory framework for bank credit and savings via mobile money?
1	Banque d'Algérie	-
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	Electronic money institutions do not have the right to offer credit services.
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	The Electronic Money Issuers Guideline, 2015 and the Payment Systems and Services Bill, 2018 permit savings through use of mobile money.
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	No. The guidelines on mobile money do not allow mobile money operators to grant credit facilities to clients
3	BEAC	These are opportunities to explore in the next regulatory review.
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	As per Section 7 of the Banking Act, 2015, an institution seeking to introduce a new product shall, prior to charging, levying or imposing any rate or charge on the new product, notify the Minister in writing of the rate or charge applicable to the new product. Commercial banks must seek CBK's approval for products and delivery channels prior to rollout of services. Bank credit and savings via mobile money are treated as any other banking products and go through necessary regulatory approval process.
4	Bank of Mauritius	The Bank has not considered savings and credit through mobile money specifically but has considered access to savings and credit through the mobile channel. The Guideline on Mobile Banking and Mobile Payment Systems sets the regulatory framework for the use of mobile money to effect money transfers and exchange of money for goods and services using a mobile communication device.
4	Banque Nationale du Rwanda	To recall the current regulations are activity based therefore don't specifically determine the channels used to provide a particular services. However, credit and saving products are offered by financial institution including banks and micro-finance. These can partner with mobile money provider to use their channels. service
4	Bank of Uganda	OFFERED AS FINANCIAL PRODUCTS BY THE SUPERVISED FINANCIAL INSTITUTIONS
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	Instruction n ° 2017/01 on the conditions and procedures for carrying out the activities of electronic money issuers
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	Proposals have been put forward for credit not to be granted in the E-money Regulation. In addition, proposals have been made for e-money to be issued at par value only. However, provisions are made for permissible micro-loans services in collaboration with banks only.
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	-

5	Central Bank of Lesotho	The credit by mobile network operator (MNO) is only allowed through a partnership with licensed financial institutions that are allowed to provide credit (small loans). However, usage mobile money is already being used as a tool for short term savings by consumers. Specific saving products such as group savings are yet to be developed.
5	Banque Centrale de Madagascar	Law No. 2016-056 on Electronic Money and Electronic Money Establishments allows credit institutions to carry out banking transactions through electronic money (mobile banking).
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	There is no restriction to value adding services through mobile money as long as it is done in partnership with a bank
5	Reserve Bank of South Africa	Refer to response in (1.5).
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	Mobile money credit and savings is covered under the existing regulatory framework including Banking Act and National Payments Act.
Sous-région	Banque Centrale	Question N°1.23 Has your Central Bank developed a specific regulatory framework for insurance and certification services via mobile money?
1	Banque d'Algérie	
1	Central Bank of Egypt	It's not a specific regulations but it's licensing process (limits and controls) for availing insurance services over the mobile money (registration & instalment collection)
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	Insurance and certification services via mobile money are not the responsibility of the BCEAO.
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	The Electronic Money Issuers Guideline, 2015 and the Payment Systems and Services Bill, 2018 permit insurance product using mobile money.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	No. However, the Bank of Sierra Leone has setup a Unit for Deposit Insurance Scheme and drafting of a Deposit Insurance Bill is in progress.
3	BEAC	Mobile life insurance services are regulated by the Interfricain Conference on Insurance Markets (CIMA) which has developed regulations specific to this activity.
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	The insurance sector in Kenya is under the regulatory purview of the Insurance Regulatory Authority (IRA).
4	Bank of Mauritius	Services such as insurance and certification are not under the purview of the Bank.
4	Banque Nationale du Rwanda	The service provision is governed by the laws and regulations governing insurance services provision. A specific regulation on microinsurance has been established
4	Bank of Uganda	OFFERED AS FINANCIAL PRODUCTS BY THE SUPERVISED FINANCIAL INSTITUTIONS
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	No specific proposals have been considered in the E-money Regulation relating to this.
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	The current regulatory framework does not prohibit usage of mobile money for payment of insurance premiums/claims.
5	Banque Centrale de Madagascar	Existence of draft revision of the insurance law including mobile insurance (Insurtech).
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	Refer to response in (1.5).
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	This is covered under existing legislation highlighted above
Sous-région	Banque Centrale	Question N°1.24 Has your Central Bank developed a specific regulatory framework for investment management services via mobile money?
1	Banque d'Algérie	
1	Central Bank of Egypt	
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	The Electronic Money Issuers Guideline, 2015 and the Payment Systems and Services Bill, 2018 permit investment through use of mobile money.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	In Kenya, investment management services are under the regulatory purview of the Capital Markets Authority (CMA).
4	Bank of Mauritius	Services such as investment management services are not under the purview of the Bank.
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	A PROPOSAL FOR INVESTMENT IN GOVERNMENT SECURITIES HAS BEEN MADE

4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	No specific proposals have been considered in the E-money Regulation relating to this.
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	Refer to response in (1.5).
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°1.25 Do existing regulations take into account interoperability relationships between banks and mobile service providers?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	Interoperability is mandatory in Sudan, it is from 2006 started with our National Switch, all our ATMs, POS, Mobile Wallets are interoperable
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	As part of its monitoring and supervision missions, Bank Al-, Maghrib has provided specific regulations for mobile payment. To this end, in November 2018, Bank Al-Maghrib issued a regulatory decision and a circular letter aimed at setting the rules governing domestic mobile payment to be observed by banks and payment institutions, including interoperability rules. mobile payment services.
2	BCEAO	An interoperability project for mobile financial service providers with a regulatory component is being implemented.
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	Mobile money interoperability allows the transfer of funds from mobile money wallet to bank account or bank account to mobile money wallet.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	No. However, the amended Other Financial Services Act provides for interoperability relationships between the banks and Mobile Service Providers.
3	BEAC	-
3	Banque Centrale du Congo	Law No. 18/019 on payment and securities settlement systems lays down the principle of general interoperability of payment services. Instructions are being developed to clarify the rules that underlie interoperability.
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	The NPS Regulations 2014 require that 'A payment service provider shall use systems capable of becoming interoperable with other payment systems in the country and internationally'.
4	Bank of Mauritius	As per the Guideline on Mobile Banking and Mobile Payment Systems, the providers of such services have to secure interoperability of their systems.
4	Banque Nationale du Rwanda	The regulation governing payment services providers requires the interoperability and there is a related policy as well.
4	Bank of Uganda	IT IS PROVIDED FOR IN THE MOBILE MONEY GUIDELINES 2013 AND IN THE DRAFT NATIONAL PAYMENT SYSTEMS BILL 2018
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	Proposals have been put forward in the E-money Regulation for Electronic Money Institutions (ELMIs) to utilise systems that are capable of becoming interoperable with other payment systems in the country and internationally, in order to facilitate full interoperability.
4	Central Bank of Somalia	
5	Central Banco de Angola	Both presidential Decret 77/17 of 20th April and Notice7/7 Provision of Payment Services state that banks and mobile services providers should have interoperability when developing this service.
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	In the national strategy for financial inclusion, the development of an appropriate and interoperable payment ecosystem is a strategic focus.
5	Reserve Bank of Malawi	There is a task force witch conducts cnogenesis, specificall for electronic payments through
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	The SARB supports and promotes interoperability. The National Payment System Department (NPSD) published a position paper on interoperability during January 2011. The vision documents issued by the department have further promoting interoperability since 1995.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The Central Bank has issued guidance to the Financial sector to encourage interoperability
Sous-région	Banque Centrale	Question N°1.26 Does your Central Bank have a mechanism to prevent money creation by issuers of mobile money?
1	Banque d'Algérie	
1	Central Bank of Egypt	Only banks are licensed as an e-money issuers.
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	The E-money for mobile payment system is issued centrally from the central Bank
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-

2	BCEAO	There is no technical device but the regulation provides that the funds representing the counterparty of the electronic money issued must be domiciled without delay, in an account exclusively dedicated for this purpose with one or more banks or DFS. Union (Article 32 of Instruction No. 008-05-2015). In addition, the amounts received must be permanently greater than or equal to the outstanding amount of the electronic money in circulation (Article 33 of Instruction No. 008-05-2015). Compliance with these obligations is ensured through the submission of issuers of electronic currencies to weekly and quarterly reporting requirements and regular checks by the Banking Commission.
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	The regulation demands that all values in e-money must be backed by paper money in banks
2	Bank of Ghana	Issuance of electronic money is bank based. There is integration among banks and subsidiaries of mobile network operators for generation of electronic money.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	The issuers of electronic money are exclusively commercial banks. In addition, there is a mechanism for cantonment of funds. Any issue of electronic money is conditioned by the prior constitution of a deposit of funds of at least equivalent value.
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tomé e Príncipe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	The NPS Regulations 2014 require that mobile money owed to customers is backed at par value with actual fiat currency.
4	Bank of Mauritius	The Guideline on Mobile Banking and Mobile Payment Systems provides that stored value accounts has to be redeemed at par with equivalent conventional money and therefore does not allow money creation. Further, all monetary values relating to mobile payment services have to be reflected in a trust account.
4	Banque Nationale du Rwanda	The regulation N° 08/2016 of 01/12/2016 governing e-money issuers includes requirements to prevent money creation by mobile money issuers. These requirements include close oversight of trust account and e-money system reconciliation reports, onsite inspection, etc
4	Bank of Uganda	PROVIDED FOR IN THE MOBILE MONEY GUIDELINES 2013
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	Proposals have been put forward to allow ELMIs to have bank accounts that hold e-money funds that bear interest, provided that the ELMi has set an efficient and effective system, in the E-money Regulation. This would be subject to the approval of CBS' board.
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	The current regulations require that mobile money service providers should maintain a Trust Account which separates and ring fences the customers' funds from the rest of the mobile money issuer. Mobile Money Operators operate on the basis of existing funds, not new money.
5	Central Bank of Lesotho	Through usage of trust account maintained by a licensed institution.
5	Banque Centrale de Madagascar	Law No. 2016-056 on Electronic Money and Electronic Money Institutions provides in its article 79: "The funds received from the user by the electronic money institution in exchange for electronic money are deposited in a current account, called global account with several territorial banks of the place in the conditions fixed by instruction of the CSBF. The credit institutions referred to in Articles 34 and 36 authorized to carry out electronic money transactions may hold part of the global account and deposit the remainder with one or more territorial banks under the conditions laid down by way of instruction of the CSBF. The establishment of electronic money is required to ensure the maintenance of the balance between the global account and the electronic money in circulation. As such, the electronic money issued daily can not exceed the balance of the global account under penalty of the application of Article 111 of this law. Any electronic money institution or credit institution which has been refused the opening of a global account may refer to the CSBF which designates a depositary bank for this purpose " The circular setting out the monitoring procedures for the Global Account sets out the various measures for monitoring the global account and electronic money and in order to avoid any issuance of electronic money without consideration.
5	Reserve Bank of Malawi	Regulation requires that e-value created by mobile money issuers should be equal to funds trust accounts maintained at commercial banks
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	Mobile money service providers in SA may only provide such service in collaboration with a registered bank and they may only use legal tender i.e. South African rand. The primary reason for this requirement is that the taking of deposits is the business of a bank according to the Banks Act, however this relationship with the regulated banking industry would further ensure that these entities do not create their own 'money'.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	Mobile money services are covered through the National Payment Systems Act and the Banking Act. The model adopted in the country is such that mobile money services are through financial institutions. In addition, the transactions are monitored through real time online facilities and weekly and monthly reports.
Sous-région	Banque Centrale	Question N°1.27 Has your Central Bank put in place regulations to monitor the information system of the issuer of mobile money?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	As a result of the centralised model we have we easily monitor the E-money movement across al the country.
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	Guidelines and instructions are being developed and expected to capture these
2	Bank of Ghana	There is collection of data through web-based portal. The Bank of Ghana also has read only access to the electronic money issuer's transaction platform.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-

3	BEAC	<p>In CEMAC, the security of the information systems of credit and microfinance institutions is governed by:</p> <ul style="list-style-type: none"> - COBAC regulation R-2008/01, which requires credit institutions to draw up a business continuity plan; - Regulation COBAC regulation R-2016/04 on internal control in credit institutions; - Regulation No. 01/02 / CEMAC / UMAC / COBAC / CM on the conditions of exercise and control of the microfinance activity in the CEMAC. <p>These regulations set obligations on these institutions with regard to the quality of accounting and financial information, the integrity and confidentiality of transactions, the retention and availability of information, the security of computer systems, and computer backup procedures.</p> <p>As regards the issue and management of means of payment, they are governed by various Community texts enacted since 2003, namely:</p> <ul style="list-style-type: none"> - Regulation No. 02/03 / CEMAC / UMAC on payment systems, means and incidents; - Regulation No. 01/11 / CEMAC / UMAC on the exercise of the activity of issuing electronic money; - COBAC regulation R-2005/02 on electronic money institutions; - the instruction of the BEAC Governor No. 01 / GR of October 31, 2011 relating to BEAC's supervision of electronic money payment systems; - the instruction of the governor of BEAC No. 02 / GR of 2014 on multi banking. <p>These texts set out in particular the legal regime (creation, circulation, power of discharge, obligations of the parties) of the payment instruments, as well as the conditions of approval, exercise and control of the activity of institutions issuing electronic money.</p>
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	The NPS Regulations, 2014, have a provision for CBK to carry out onsite inspection and request for information from payment service providers. CBK carries out onsite inspection of payment service providers, where adequacy of the system is assessed.
4	Bank of Mauritius	The Guideline on Mobile Banking and Mobile Payment Systems contains provisions with regard to the mobile payment process which contains sections on Customer registration, Activation, Transaction processing, Settlement, Technology and Security, Authentication, Modularity of Technologies, Message Format, Reliability and Security.
4	Banque Nationale du Rwanda	The regulation governing e-money issuers requires monthly reporting but also the directive on electronic data warehouse gives details on the informations they have to report on and the frequency
4	Bank of Uganda	PROVIDED FOR IN THE MOBILE MONEY GUIDELINES 2013
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	Proposal has been put forward in the E-money Regulation for ELMs to submit periodic reports and also independent IT reports to CBS. In addition, proposal has been put forward for CBS to enter and inspect the ELMs at any reasonable time, the premises and the business activities. This has also been covered for under the National Payments Systems Act, 2014
4	Central Bank of Somalia	
5	Central Banco de Angola	Both presidential Decret 77/17 of 20th April and Notice 7/17 Provision of Payment Services state that the Central Bank should have access to all information regarding the issue of mobile money.
5	Bank of Botswana	Authorised mobile money issuers submit statistics to the Central Bank on regular basis for analysis by the Oversight team. A template has been designed for this purpose.
5	Central Bank of Lesotho	The Bank is empowered by the legal and regulatory framework to monitor and carry out on-inspections where necessary.
5	Banque Centrale de Madagascar	Decree No. 2017-851 implementing Law No. 2016-056 on Electronic Money and Electronic Money Establishments provides in article 5: Securing electronic transactions the obligations of electronic money institutions to: to ensure that their technological infrastructure meets the standards required by the particular profession in computer security consider all aspects of the security of the technologies used, the processes and procedures used to ensure confidentiality, integrity and availability, authenticity and non-repudiation subject their infrastructures to an annual external audit by a qualified body, approved by a competent and experienced authority, in order to guarantee in particular the relevance and efficiency of the security system put in place.
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	Refer to (1.26) – The SARB would not necessarily directly monitor the information systems of a mobile money service provider, but the relationship with the banking partner is intended to enforce a measure of control and the SARB could request access where required.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	There is real time monitoring in place and submission of weekly reports.
Sous-région	Banque Centrale	Question N°1.28 Does your Central Bank organize awareness campaigns to ensure that citizens understand new technologies?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	It is done through service providers
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	Yes, and every year we have a budget for the awareness programs for the electronic payments.
1	Banque Centrale de Tunisie	The BCT, through the Observatoire de l'Inclusion Financière, is currently working on setting up a financial education strategy using flyers, television spots, etc. to raise citizens' awareness and encourage them to use financial services based on new technologies.
1	Bank Al-Maghrib	-
2	BCEAO	Initiatives are being prepared, including the week of financial inclusion which is planned for the end of November 2018 when this theme will be discussed.
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	However, mobile money operators freely promote their product
2	Bank of Ghana	The Bank of Ghana has planned celebration of annual Payment week commencing 2019 to educate the public on payment products and services.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	The Bank of Sierra Leone organises Annual National Financial Literacy Campaigns.
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	

4	Banque Centrale Comores	
4	Central Bank of Kenya	Yes. In July 2018, the domestic financial sector regulators and the Ministry of Trade, Industry and Co-operatives issued a Press Release on Fraudulent Financial Services, Products and Applications. This Awareness was carried out through the Daily Newspapers of national wide circulation. The Awareness alerted the public of the emergence of unlicensed and unregulated financial services and products. These services included online pyramid schemes, credit and savings schemes as well as fraudulent mobile loan applications downloadable from mobile app stores, including Google Play Store and Apple Store. CBK also disseminates information on new technologies to the public through the Governor's speeches, CBK website and periodic reports, including the Annual Bank Supervision Report and Annual CBK Report.
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	Every year the Central Bank organizes awareness campaign with stakeholders on payment services and the benefits to promote the adoption and usage.
4	Bank of Uganda	THROUGH RADIO TALKSHOWS AND WORKSHOPS
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	This is a subject CBS will emphasise on upon the implementation of our Fintech strategy and through the National Financial Education campaign and through the e-payments strategy.
4	Central Bank of Somalia	
5	Central Banco de Angola	The Central Bank does not organize awareness campaigns to ensure that citizens understand new technologies, however Payment System department publish information (magazine articles and flyers) related with the payment system of Angola that include new technologies available.
5	Bank of Botswana	-
5	Central Bank of Lesotho	The Bank educates the public on the difference between cryptocurrencies and other schemes aimed at defrauding the public.
5	Banque Centrale de Madagascar	However, BFM collaborates in the implementation of awareness programs on electronic means of payment. Moreover, this component falls within the framework of the Payment Systems Development Strategy in Madagascar.
5	Reserve Bank of Malawi	Through financial literacy programme
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	The SARB has not conducted any awareness campaigns surrounding technology, but has conducted campaigns surrounding citizens being wise with their money and not investing in scams such as the 'Easy come easy go' campaign.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The Central Bank undertakes financial awareness campaign as part of the implementation of its Financial Inclusion Strategy. This initiative complements consumer awareness that is done by financial service providers.
Sous-région	Banque Centrale	Question N°1.29 Has your Central Bank taken any specific initiatives to improve the rate of access to financial services through the use of Fintech?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	Mobile payments Collaboration with Private sector to improve electronic payments
1	Banque Centrale de Mauritanie	The bank is currently working on a project to equip MFIs (microfinance institutions) with a Mobile Money solution.
1	Bank of Sudan	We are in a process of drafting a national financial inclusion strategy, Fin-Tech will be one of the areas that are used to leverage financial inclusion.
1	Banque Centrale de Tunisie	The BCT, through the Observatoire de l'Inclusion Financière, is currently working on setting up a financial education strategy using flyers, television spots, etc. to raise citizens' awareness and encourage them to use financial services based on new technologies.
1	Bank Al-Maghrib	Payment institutions were set up in order to allow the creation of an environment fostering innovation and the creation of a competitive market for payment services and thus the democratization of payment transactions, particularly through mobile financial services, targeting, among others, an unbanked population. The use of these payment services and their adoption by the population should thus lead to the development of electronic payments, the reduction of cash in circulation and foster the development of financial inclusion.
2	BCEAO	Many initiatives are underway to improve the rate of access to financial services. These include the Regional Strategy for Financial Inclusion, regulatory reforms such as free banking services, the establishment of a Credit Information Office and the creation of a support mechanism. for SMEs / SMIs.
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	GamSwitch
2	Bank of Ghana	Through EMI guidelines the Bank has created enabling environment for collaboration between Fintechs and banks to provide affordable financial products and services.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	The development of various regulatory frameworks, which we believe, will guide the on boarding of FinTechs and Innovations
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	1. Promoting Government –to-person (G2P) and Government-to-business (G2B) payments 2. Promoting digital financial services for small holder commercialisation 3. Installation of the National Switch to enhance interoperability 4. The Bank of Sierra Leone is a member of the Sierra Leone Fintech Association 5. Yearly programme on Financia Literacy campaign countrywide 6. Organizing Fintech Challenges and graduating participants into the Bank of Sierra Leone Regulatory Sandbox
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	Early adopter of regulatory sandboxes through "test and learn" approach used for regulatory review of M-Pesa in 2006/7. Leveraging on digital platforms, such as mobile payments and banking, Kenya has greatly expanded access to formal financial services by the Kenyan populace from 26 percent in 2006 to over 75 percent in 2016. Agency banking has also increased access to financial services. CBK has championed the Credit Information Sharing (CIS) mechanism, which has improved access to financial services to those who were previously not on traditional banking systems.
4	Bank of Mauritius	Through the National Payment Switch, the Central Bank is promoting the interoperability among all players in the market.
4	Banque Nationale du Rwanda	Financial services especially payment have been open to non-deposit taking financial institutions which has contributed much to formal access.
4	Bank of Uganda	THIS HAS BEEN DONE THROUGH AWARENESS CAMPAIGNS UNDER FINANCIAL INCLUSION
4	Bank of Tanzania	

4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	This will be considered during the formulation of the strategy.
4	Central Bank of Somalia	-
5	Central Banco de Angola	The Central Bank openly invites all the Fintechs providers to introduce their strategies and implementation plans.
5	Bank of Botswana	The EPSR will open up regulated operations for Fintechs. The Central Bank approves every product/service from the banks and other payment services providers (PSPs). Amongst other factors, financial inclusion aspect of the products are key in the assessment and approval of a product introduction in the market.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	Improving financial inclusion by adopting new laws, namely the e-money law and e-money institutions, and the Microfinance Law - Participation of BFM and CSBF in the development of the national strategy for financial inclusion in Madagascar SNIM 2018-2022
5	Reserve Bank of Malawi	There is a task force which conducts on-going, specifically for electronic payments through
5	Banco de Moçambique	-
5	Bank of Namibia	Generically it is more through mobile/electronic money than specifically through targeted fintech initiatives
5	Reserve Bank of South Africa	Refer to the response in (1.10). Financial inclusion is not the direct mandate of the SARB, however the SARB would consider how it may contribute to responsible initiatives, whether fintech or not, which may lead financial inclusion/deepening. Financial inclusion does receive attention within respective departments within the SARB, for instance, through Vision 2025 for the NPDS. The SARB has further embraced the Payments Aspects of Financial Inclusion framework and the current revision of the NPS Act will reflect recommendations from the framework.
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The Central Bank has implemented a number of initiatives that promote access to financial services through technology. The initiative include the enhancement of the credit infrastructure and approved the introduction of products such as mobile money, QR Codes and NFS technology.
Sous-région	Banque Centrale	Question N°1.30 Has the central bank considered how technology and data may be leveraged for supervisory and regulatory purposes (i.e. Regtech/Suptech)?
1	Banque d'Algérie	-
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	As considered in the draft of the law and subsequent regulations.
1	Banque Centrale de Tunisie	Through the launch of the Sandbox, the BCT will facilitate the implementation of solutions proposed by the Fintech, and consequently increase the rate of access to financial services.
1	Bank Al-Maghrib	As part of the monitoring of payment methods, Bank Al-Maghrib has set up a payment monitoring solution that is now positioned as a regional Benchmark. Reflections are underway to make the Bank benefit from the important contributions of new technologies (use of APIs, Big Data and IA).
2	BCEAO	The BCEAO is in permanent reflection to reinforce the effectiveness of its action thanks to technology.
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	The V-RegCoSS is developed to leverage technology and data to enhance supervision
2	Bank of Ghana	The Bank of Ghana has engaged Bankable Frontier Associations to develop RegTech solutions to enhance supervision.
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	Yes. The Bank of Sierra Leone has installed the v-RegCoSS for online submission of data of banks. The Bank is also working towards the establishment of the Financial Inclusion Data Portal.
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tomé e Príncipe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	The Central Bank of Kenya is currently implementing an Enterprise Data Warehouse coupled with the automation of data collection from supervised financial institutions. This will leverage on SupTech for supervision. A concept paper on automation of data collection from supervised financial institutions is currently under review.
4	Bank of Mauritius	The Bank is currently considering implementation of a centralised KYC repository. An internal working group has been set up to look into the matter.
4	Banque Nationale du Rwanda	Yes. The Central Bank has implemented an electronic data warehouse system and data are collected automatically from all reporting institutions.
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	This will be considered during the formulation of the strategy.
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	BFM, through its strategic plan, highlights the concept of modernity. As such, several reflections will be conducted on how to optimize the technology for supervisory, supervisory and regulatory purposes (procedures and tools for KYC, AML, compliance, data collection and processing, transaction automation, risk management tools, cloud computing ...) Currently, use Bank Supervision Application (BSA) banking supervision software with the Supervisory Authority.
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	The SARB is in the initial stages of considering how we may use fintech for supervisory purposes (suptech). Project Khokha is an example of considering how DLT may provide us with real-time data on interbank payments. Regtech is how regulated entities use fintech to meet regulatory requirements and the SARB does take note of developments in this space.
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The bank has implemented the Bank Supervision system (BSA) to collect returns from the financial institutions.

Sous-région	Banque Centrale	Question N°1.31 Has the Central Bank issued any policies or positions on open banking and application programming interfaces?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	Proof of Concept initiatives are underway for the use of APIs in the field of data exchange and reporting by taxpayers to the Central Bank.
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	Yes. The v-RegCoSS allows the Bank of Sierra Leone to interface with reporting financial institutions
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	-
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	The directive on API is being drafted
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	This will be considered during the formulation of the strategy.
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	Not yet, but the SARB has started to engage with the financial services industry and it has, for instance, been discussed as a topic at SARB conferences/workshops.
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°1.32 Has the Central Bank engaged in any initiatives surrounding digital identity?
1	Banque d'Algérie	
1	Central Bank of Egypt	Both domestically and international engagements.
1	Central Bank of Libya	Electronic national ID
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	Bank Al-Maghrib has implemented interbank systems in which digital identity is provided via a PKI.
2	BCEAO	The identification of users of financial services is one of the priorities of the BCEAO in the context of the improvement of Financial Inclusion and the implementation of the Regional Strategy.
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	The Bank of Ghana is engaging with the National Identification Authority to implement national identification system that meets KYC and CDD requirements.
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	The Bank is currently implementing the tiered KYC approach for Mobile Money. Additionally, Liberia recently launched its digitized National Identification card system
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	Yes. The Bank of Sierra Leone is working with KIVA through its Credit Reference Bureau Unit to digitise Customer Identity. The National Civil Registration Authority (NCRA) is part of this arrangement as they plan to introduce Biometric Identification across the country
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	The Central Bank of Kenya participates in a national task force that is exploring how Kenya can leverage on Distributed Ledger Technology, including its use in digital identity.
4	Bank of Mauritius	The Bank is currently engaged in the establishment of a Central KYC Registry for the financial services sector, which will be hosted by the Bank. It will enable the inter-usability of KYC records across the sector.
4	Banque Nationale du Rwanda	A National Identification system is being exploited by all financial institutions to easy e-KYC and online authentication.
4	Bank of Uganda	THE NATIONAL ID INTERFACE PLATFORM IS BEING CONSIDERED AT THE CENTRAL BANK
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	The Ministry of Finance, Trade, Investment and Economic Planning is considering as part of a diagnosis on Digital Government being undertaken with the assistance of the World Bank.
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	However, this topic is one of those already identified by BFM as requiring further reflection with the Government.
5	Reserve Bank of Malawi	E-KYC
5	Banco de Moçambique	-
5	Bank of Namibia	-

5	Reserve Bank of South Africa	The SARB acknowledges the potential of a national digital identity for increased financial inclusion and is aware of both global and local developments in this space. The SARB is an observer on a South African Financial Blockchain Consortium proof-of-concept surrounding self-sovereign-identity.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°2.1 Has your Central Bank detected the use of cryptocurrencies within the national economy?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	Initiatives have been announced but no activity has been registered so far.
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tomé e Príncipe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	Consumer protection concerns led CBK to issue a public notice in December 2015 warning the public against virtual currencies such as Bitcoin. The notice indicated that Bitcoin is not legal tender and thus no protection exists in the event that a platform that exchanges or holds a virtual currency fails or goes out of business. A banking circular was also issued to all banks by CBK cautioning them against dealing in virtual currencies or transacting with entities that are engaged in virtual currencies.
4	Bank of Mauritius	The Bank does not collect returns to 'detect' the use of cryptocurrencies within the national economy. However, there have been instances whereby reports were obtained on alleged promotion/use of cryptocurrencies.
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	
4	Central Bank of Somalia	
5	Central Banco de Angola	
5	Bank of Botswana	The Central Bank has observed the use of cryptocurrencies and has responded to inquiries in the market regarding the extent to which customers investing in cryptocurrencies could be protected by the Bank. The public has been made aware that those partaking in cryptocurrencies do so at own risk.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	Alert by a local bank about the existence of online crypto currency (PAYPITE).
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	The SARB has engaged with the local crypto-asset community since 2013, including with local crypto trading platforms and have collected preliminary data from these entities.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	A few cryptocurrency exchanges have been operating in Zimbabwe.
Sous-région	Banque Centrale	Question N°2.2 Does your Central Bank favor the establishment of regulations on the use of cryptocurrencies for transactions within the national economy?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	Not yet. But we follow and study the phenomenon, waiting to take a position at the right time
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	Crypto-asset issues and related regulation are being examined by an ad-hoc working group set up within the Bank.
2	BCEAO	A report on the subject has been drawn up and at this stage it does not seem appropriate to implement a regulation in view of the lack of activities in this area in the Union.
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	IN STUDY. The Bank of Ghana is assessing the landscape and collaborating with stakeholders and other international partners on how to leverage cryptocurrencies and its blockchain technology
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	The Bank monitors global developments on cryptocurrencies
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tomé e Príncipe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	Currently, CBK does not favor the establishment of regulations. Cryptocurrencies are based on nascent technology. It is still too early to issue regulations as better understanding of cryptocurrencies is needed. In addition, a global approach needs to be taken given the transnational nature of cryptocurrencies.

4	Bank of Mauritius	<p>The Bank has established a committee to analyse the international trend and understand the implication surrounding the use of cryptocurrencies.</p> <p>In September 2018, the Financial Services Commission (FSC) of Mauritius issued Guidance Note on the Recognition of Digital Assets as an asset-class for investment by Sophisticated and Expert Investors. The Guidance Note clearly provides that cryptocurrencies, unlike fiat currencies, are not legal tender in Mauritius. Nonetheless, the FSC acknowledges that, albeit reliant upon market demand and supply, Cryptocurrencies have "value" since they are exchangeable for other things having value, thereby showing characteristics akin to physical commodities such as grain or precious metals. The FSC thus considers a Digital Asset including a Cryptocurrency as being a store of value which may constitute an asset-class for investment by the following: Sophisticated investors; Expert Investors; Expert Funds; Specialised Collective Investment Schemes; and Professional Collective Investment Schemes. Following the issue of the Guidance Note, the FSC is now establishing the regulatory framework in relation to the Custodian Services (Digital Asset) Licence which will enable its holder to provide safe-keeping services in relation to Digital Assets.</p>
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	The National Strategy for Fintech, which is yet to be developed, will determine the list of Fintech products and services best appropriate for the Seychelles environment.
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	This is not a priority area for the Central Bank. However, the Bank is aware that there is a significant interest in this area.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	Study to be conducted
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	The SARB along with the IFWG are currently busy reconsider the 2014 positions issued by both the SARB and the NT (refer to 2.13), stating that crypto-assets are not legal tender and that users engage at their own risk. At the start of 2018, a joint working group was formed by the IFWG and the South African Revenue Services. The joint working group is following a use case based approach on crypto assets. The objective of the working group is to conduct a review of the existing policy stance on crypto assets that will enable a possible revised regulatory framework for crypto-assets.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The Bank is currently exploring the subject.
Sous-région	Banque Centrale	Question N°2.3 Is your Central Bank in favor of banning crypto-currencies for transactions within the national economy?
1	Banque d'Algérie	
1	Central Bank of Egypt	CBE has issued a warning statement against any cryptocurrency transaction in Jan. 2018
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	Not yet. But we follow and study the phenomenon, waiting to take a position at the right time
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	The Bank, as part of a joint action with the other financial market regulators, has alerted about the risks associated with the use of crypto-assets and Bitcoin in particular.
2	BCEAO	A report on the issue has been prepared and advocates a ban on institutions subject to the Central Bank.
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	CBG sits on the fence
2	Bank of Ghana	IN STUDY. The Bank is monitoring and assessing cryptocurrency activities to learn more of the applications in the payment systems
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	Cryptocurrencies are not in use in our economy as at now. As a Bank, we are working on acquainting ourselves with relevant literature on cryptocurrencies, to enable us understand its challenges for monetary policy implementation and risks to financial system stability.
3	BEAC	-
3	Banque Centrale du Congo	
3	Banque Centrale de São Tomé e Príncipe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	CBK has taken a cautious approach and has issued several public notices cautioning the public and banks to avoid dealing in virtual currencies or transacting with entities that are engaged in virtual currencies. CBK continues to work with other Central Banks to ensure a common position on crypto currencies.
4	Bank of Mauritius	The Guidance Note on the Recognition of Digital Assets issued by the Financial Services Commission of Mauritius has already clarified that cryptocurrencies are not legal tender in Mauritius but may rather be considered as an asset class for investment by sophisticated and expert investors.
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	THOSE ENGAGED DO SO AT THEIR OWN RISK
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	As per the previous comment, this will be identified in the strategy.
4	Central Bank of Somalia	
5	Central Banco de Angola	The central bank is working on a position paper to issue an official position on this subject.
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	Study to be conducted
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	Refer to (2.2). The review of crypto-assets is still in progress and no definitive stance has yet been taken to ban or regulate crypto-assets
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	During the first half of 2018, the Reserve Bank issued a ban on cryptocurrencies, while it studied the subject. Going forward, the Bank shall come up with a policy that will outline the regulatory approach

Sous-région	Banque Centrale	Question N°2.4 Has your Central Bank considered issuing cryptocurrencies?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	The central bank is following with great interest the tests and experiments under way in central banks. It also took note of the recommendations just issued by an IMF report, which is intended to encourage central banks to issue cryptocurrency.
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	-
4	Bank of Mauritius	Not at this stage but further research is being conducted in this area.
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	-
5	Central Banco de Angola	The Central Bank has developed a benchmark to understand how other Central Banks are dealing with this matter before making an official statement regarding this subject.
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	The SARB is reviewing the policy implications of a central bank issued digital currency (CBDC), including the possible impacts on monetary policy, financial stability and other public policy objectives such as enhanced financial inclusion, competition and innovation. Project Khokha was a proof-of-concept trial where the rand was tokenised and could be seen as a form of wholesale CBDC. The SARB is also involved with international bodies, such as the BIS and FSB, where the topic is being discussed.
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The reserve bank is still studying the subject and will be monitoring international development on the subject matter
Sous-région	Banque Centrale	Question N°2.5 Has your Central Bank taken initiatives for a good understanding of cryptocurrencies (creation of a cryptocurrency Unit)?
1	Banque d'Algérie	
1	Central Bank of Egypt	CBE has formed the crypto-currency task force group to make a full detailed informative study about the crypto-currencies, and to write up its recommendations.
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	Not yet, but it is envisaged.
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	In October 2017, the BCT set up a think-tank on crypto-currencies and blockchain technology by involving stakeholder representatives (Fintechs, Government, Banks, University researchers, experts, telecom operators, system managers of payment, ...). The commission's work culminated in a white paper summarizing recommendations made after allowing the BCT team and other members of the commission to demystify the fundamentals of Blockchain's Crypto-currencies and technology.
1	Bank Al-Maghrib	-
2	BCEAO	A report has been prepared on the subject at the request of the authorities of the Central Bank.
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	IN STUDY. The BOG is studying and monitoring the cryptocurrency space. The Payment Systems department is responsible for digital currency and payment.
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	By Decision N ° 082 / GR / 2018 of October 30, 2018, a working group was set up to conduct a reflection on the Fin-tech, crypto-currencies and blockchain technology
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	CBK does not have a crypto currency unit. However, CBK has a Financial Inclusion and Innovation Team (FIIT) that has undertaken in-depth studies of cryptocurrencies. CBK continues to work with other financial regulators, other financial sector stakeholders and standard setting bodies to have a common position on cryptocurrencies with other regulators.
4	Bank of Mauritius	The Bank has established a committee across divisions, to analyse the international trend and understand the implication of cryptocurrencies on the banking sector. However, no specialised unit has been created yet.
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	A COMMITTEE WAS SET UP TO STUDY CRYPTOCURRENCIES AND BLOCKCHAIN
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	-

4	Central Bank of Somalia	
5	Central Banco de Angola	The Payment Systems department develops internal forums to allow technicians within the department to a better understanding.
5	Bank of Botswana	-
5	Central Bank of Lesotho	Brief on the crypto currencies have been prepared for consideration.
5	Banque Centrale de Madagascar	The creation of a permanent working group on cryptocurrencies is under study.
5	Reserve Bank of Malawi	Not a special Unit, but a Committee for sandy/investigate crypto related issues
5	Banco de Moçambique	-
5	Bank of Namibia	A digital innovations working group is in existence that undertakes studies on various digital financial innovations including cryptocurrencies etc.
5	Reserve Bank of South Africa	Refer to (1.2) on the establishment of the Fintech Programme. The SARB established a dedicated unit to consider the policy and regulatory impact of fintech innovations, the Fintech Programme. The scope of work includes private issued crypto-assets, DLT as well as central bank issued digital currencies.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The Bank has not considering establishing a standalone cryptocurrency unit. The Fintech Working Group's remit covers of fintech and innovative developments including cryptocurrencies. To this end, the working group produced a working paper on cryptocurrencies
Sous-région	Banque Centrale	Question N°2.6 Has your Central Bank taken specific initiatives to understand the block chains technonology?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	Participating in some workshops related to block chains technology
1	Banque Centrale de Mauritanie	Not yet, but it is envisaged.
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	In May 2018, the BCT organized the Africa Blockchain Summit to which it invited experts and representatives of central banks from several countries to organize an international Hackaton on the use of Blockchain technology. At the end of the summit, two innovative solutions using blockchain technology were selected: one relating to cross-border transfers and another solution dealing with irregular checks.
1	Bank Al-Maghrib	The Bank has set up a working group composed of the entities concerned by this subject; Several POCs have also been initiated around technology, some of which have reached the project phase.
2	BCEAO	This technology and its potential applications has been analyzed in various documents submitted to the authorities.
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	IN PROGRESS. Staff members attend seminars and conferences on Blockchain Technology. The Payment Advisory Committee of the Bank has tasked the Standard Automation and Technology Working Group to carry out further study on blockchain technology.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	Block chains technology is currently not used in our economy. However, the Bank is encouraging staff to build capacity in these areas. The Bank has benefited from few presentations delivered to Management by agents of international organizations, among others.
3	BEAC	By Decision N ° 082 / GR / 2018 of October 30, 2018, a working group was set up to conduct a reflection on the Fintech, crypto-currencies and blockchain technology
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	Yes. CBK has participated in various workshops, seminars and forums on emerging technologies including blockchain and currently CBK is exploring potential blockchain use cases.
4	Bank of Mauritius	The internal working group is assessing projects which can be implemented on Blockchain within the Bank. Experts in the field have been invited to deliver talks to management and members of the staff.
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	A COMMITTEE IS IN PLACE
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	
5	Central Banco de Angola	The Payment System department has developed internal meetings to understand this type of initiatives. In addition, the Central Bank has had meetings with companies interested in providing this type of services to the Central Bank..
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	Study to be carried out later
5	Reserve Bank of Malawi	As above
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	Refer to (1.2) on the establishment of the Fintech Programme within the SARB which has crypto-assets and DLT as part of its focus areas. The SARB initiated a project to specifically explore the use of distributed ledger technology (DLT) for wholesale payments purposes. This initiative is Project Khokha which aimed to gain deeper insights on the use of the technology and to understand the impact of such arrangements on its mandate and the financial institutions it is responsible for.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The Fintech working group produced a working paper on "Block chain and its implication on the financial sector". The paper outlines the various innovations, the uses cases of blockchain and proffers a set of recommendations on how the cou
Sous-région	Banque Centrale	Question N°2.7 Has your Central Bank taken specific initiatives to understand the artificial intelligence, including machine learning?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	Not yet, but it is envisaged.
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	Several POCs are initiated as part of a Digital Lab.
2	BCEAO	This technology and its potential applications has been analyzed in various documents submitted to the authorities.
2	Banco de Cabo Verde	

2	Central Bank of the Gambia	-
2	Bank of Ghana	IN PROGRESS. Machine learning is being used by some authorised institutions to deliver credit through mobile money.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	As a Bank, we are working on acquainting ourselves with the literature on AI technology, so as to grasp the rudiments and fundamentals of the concept
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	CBK has participated in various workshops, seminars and forums on emerging technologies including artificial intelligence and machine learning.
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	
5	Central Banco de Angola	The Payment System Department has done presentations on Fintechs that includes a slide or two on artificial intelligence and machine learning.
5	Bank of Botswana	Staff are regularly sponsored to partake in seminars/conferences that focus on these areas of fintech as part of main agenda e.g. SWIFT International Banking Operations Seminar (SIBOS) that is held annually.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	Intranet application software for Central Bank agents in the field of computer security.
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	A feasibility study is planned for 2019.
5	Reserve Bank of South Africa	There is a machine learning (ML) reading group within the SARB. In addition there have been initiatives by departments within the SARB to explore the use of ML and artificial intelligence in the SARB, e.g. using ML to detect suspicious transactions in the Financial Surveillance Department. Additionally, the Financial Stability Department is looking into the use of sentiment analysis (natural language processing/understanding) to aid in the monitoring of developments that may have implications for financial stability in SA.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The Bank is in the process of finalize a working paper on artificial intelligence in financial services. The papers explores the various use cases of artificial intelligence at the Bank.
Sous-région	Banque Centrale	Question N°2.8 Has your Central Bank taken specific initiatives to understand Big Data analysis techniques?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	Not yet
1	Bank of Sudan	Some BI reporting tools are considered for some of central bank applications and in the way for the payment system data as well
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	A first public Data Lake is being implemented and the technology is still being tested.
2	BCEAO	This technology and its potential applications has been analyzed in various documents submitted to the authorities.
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	IN PROGRESS. Capacity building is currently on going on Big Data Analysis.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	This is part of the broader strategy of the Research Department to enhance its monetary policy analysis in the long-term.
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	The Central Bank of Kenya is currently implementing a centralized enterprise data warehouse for structured and un-structured data. Staff are being trained on big data analytics techniques for creating analysis and dashboards.
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	Deployment is underway in certain areas of the Bank. This will be extended in 2019 and beyond following a successful Feasibility Study, pilot phase and initial deployment in late 2018.
5	Reserve Bank of South Africa	There are different initiatives within the SARB, but our technology department, for instance, has an initiative to determine how best to SARB can use data across the enterprise.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-

Sous-région	Banque Centrale	Question N°2.9 Has your Central Bank taken specific initiatives to understand information security innovation, such as biometrics technology?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	Not yet
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	Experiments and POC are in progress for some use cases, especially around facial recognition.
2	BCEAO	The BCEAO has participated in many meetings on this theme to feed its reflection on the subject.
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	At central bank of the Gambia data centre
2	Bank of Ghana	A wholly owned subsidiary of the Bank of Ghana, GhIPSS has issued a biometric payment card (ezwich card) which offers electronic payment and banking services through POS and ATM
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	The BEAC introduced biometrics in the regulation relating to the Central Payment Incidents to address the problem of identifying customers of credit institutions.
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	-
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	The Bank's access control uses biometric identification
5	Banque Centrale de Madagascar	Study to be carried out later
5	Reserve Bank of Malawi	
5	Banco de Moçambique	
5	Bank of Namibia	During the BoN's feasibility study for biometric or Multi-Factor-Authentication (MFA), the Bank chose the more tried and tested solution of MFA, which was more cost effective, yet providing very similar benefits to the Bank. The Bank does make use of Biometrics in key areas for physical security access (i.e. Data Centers).
5	Reserve Bank of South Africa	There are different initiatives within the SARB to understand innovation surrounding cybersecurity, including by our technology department as well as the Cyber and Information Security Unit. South Africa has led the development of a biometric standard for point-of-sale devices, now an endorsed global Europay, MasterCard and Visa standard.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°2.10 Indicate any other action taken by your Central Bank with regard to Fintech or cryptocurrencies.
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	The structure dedicated to Fintech works in close collaboration with the Fintech. This synergy with innovative players will allow the BCT to better understand these new technologies. In addition, the BCT-LAB, which will be set up soon, will test innovative solutions.
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	
2	Bank of Ghana	The Bank of Ghana has issued a notice (notice NO. BG/GOV/SEC/2018/02) to clarify its position on digital and virtual currencies operation in Ghana.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	Attended a workshop on Block chains, which is inadequate
2	Central Bank of Nigeria	The Bank recently created Payments System Management Department to regulate activities of Financial Technology companies (FinTechs). The Bank also issues regulations on some aspects of FinTechs operations e.g. (Mobile Money, Electronic Channels etc). Caveats had been issued to the public on virtual currencies.
2	Bank of Sierra Leone	The bank organizes fintechs competition in order to identify suitable ones that would promote financial inclusion.
3	BEAC	-
3	Banque Centrale du Congo	Les travaux entre la BCC et la firme FsdAfrica. Les travaux au niveau régional avec les banques centrales de la SADC et du COMESA.
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	Organized a Fintech Conference for dialogue with Fintech stakeholders. Requires financial institutions partnering with Fintechs to seek approval of the Central Bank of Kenya.
4	Bank of Mauritius	The Bank has issued a public notice on 9 August 2017 whereby it was advising the public on the risks involved in cryptocurrencies, which are not regulated by the Bank.
4	Banque Nationale du Rwanda	The Central Bank is gathering experiences from other countries to take a final position on cryptocurrencies but in the meantime it warned the population through a public notice about the risks involved in cryptocurrencies.
4	Bank of Uganda	THE CENTRAL BANK WARNED THE GENERAL PUBLIC IN A PRESS STATEMENT THAT CRYPTOCURRENCY INVESTMENT WAS A RISK IN A SPACE THAT HAS NO INVESTISSOR PROTECTION OR REGULATOR PURVIEW
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-

4	National Bank of Ethiopia	
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	
5	Central Banco de Angola	At the moment the Central Bank is elaborating a Memo on Fintech and working on a sandbox.
5	Bank of Botswana	Relevant functional Departments continue to review existing literature in order to remain informed about developments in this space.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	Reflections on these topics are ongoing within BFM.
5	Reserve Bank of Malawi	There is a country level forum which is looking at the possibility of using blockchain in finance and government
5	Banco de Moçambique	Cryptocurrency: Awareness Fintech : Sandbox
5	Bank of Namibia	-
5	Reserve Bank of South Africa	The SARB established a dedicated unit to consider the policy and regulatory impact of fintech innovations, the Fintech Programme. The scope of work includes private issued crypto-assets as well as central bank issued digital currencies.
5	Central Bank of Eswatini	
5	Bank of Zambia	The Central Bank issued a cautionary notice to the public to warn members of the public on the risks associated with engaging in cryptocurrencies
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°2.11 Has your central Bank considered issuing central bank digital currency (CBDC) as an alternative to Cryptocurrency?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	Not yet : The central bank is following with great interest the tests and experiments under way in some central banks.
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	The central bank is conducting studies on this subject.
2	BCEAO	-
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Príncipe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	-
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	This will be determined upon the formulation of the Fintech strategy.
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	But studies should be conducted.
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	It was considered and comprehensively declined by the Bank.
5	Reserve Bank of South Africa	Also see (2.4). The SARB is still reviewing the design and policy implications of a CBDC, including the possible impacts on monetary policy, financial stability and other public policy objectives which include, among other, such as enhanced financial inclusion, competition and innovation.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°2.12 Does your Central Bank think that cryptocurrencies have currently a significant impact on your country's monetary and financial stability?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	At present, the use of Crypto-active remains insignificant in Morocco.
2	BCEAO	-
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Príncipe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	-
4	Bank of Mauritius	-

4	Banque Nationale du Rwanda	-
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	Study to be carried out later
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	The SARB does not currently view crypto-assets as material or systemic and therefore it does not pose a threat to financial stability or monetary policy. The total trade of crypto-assets (over a 3 year period) in SA is estimated at less than one percent of the narrow money (M1) in SA.
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°2.13 Has your central bank issued any recommendations regarding Cryptocurrencies?
1	Banque d'Algérie	-
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	Not yet
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	Apart from the Joint Press Release (Ministry of Economy and Finance - Bank Al-Maghrib - AMMC (Moroccan Capital Market Authority)) dated November 21, 2017 on the use of virtual currencies, intended for public clarifying risks associated with their use (lack of consumer protection in the event of loss, theft or misappropriation, volatility of the exchange rate, use for illicit purposes including money laundering and terrorist financing and non-compliance with Capital Market Regulation and Exchange Law).
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	The Bank of Ghana has issued a notice (notice NO. BG/GOV/SEC/2018/02) to clarify its position on digital and virtual currencies operation in Ghana.
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	Caveats had been issued to the public on virtual currencies.
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	CBK issued pronouncements to the public on cryptocurrencies in December 2015 warning against virtual currencies such as Bitcoin. The notice indicated that Bitcoin is not legal tender and thus no protection exists in the event that a platform that exchanges or holds a virtual currency fails or goes out of business. CBK also issued a circular to commercial banks, mortgage finance companies and microfinance banks warning them of the risks associated with buying, holding or trading virtual currencies, including lack of protection, regulation, and the speculative nature of these assets.
4	Bank of Mauritius	The Bank has issued a public notice on 9 August 2017 whereby it was advising the public on the risks involved in cryptocurrencies, which are not regulated by the Bank.
4	Banque Nationale du Rwanda	It issued a public notice about the risks involved in cryptocurrencies.
4	Bank of Uganda	THE RISKS WERE HIGHLIGHTED IN A PRESS STATEMENT
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	At various forums and upon enquiry, the Central bank has indicated that the public has to be cautious when trading in cryptocurrencies and undertake the necessary due diligence, in particular to guard against participating in fraudulent activities and/or pyramid schemes and to understand the risks.
5	Central Bank of Lesotho	A public statement about the stance of the Bank
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	A position paper is available on the Bank's corporate website.
5	Reserve Bank of South Africa	In 2014 a joint (with other regulatory authorities) public statement was issued, warning members of the public to be aware of the risks associated with the use of crypto assets and advised users to take extreme caution. Following the user alert the SARB, issued a position paper on crypto assets highlighted risks surrounding crypto assets such as money laundering and financing of terrorism, the lack of a regulatory and legal framework, the absence of consumer protection laws and the inability to enforce the principle of finality and irrevocability in the payment system as well as the circumvention of exchange control regulations. The position paper stated that the SARB does not oversee, supervise or regulate the crypto assets landscape, systems or intermediaries. Therefore, all activities related to the acquisition, trading or use of crypto assets are done at the end users' sole and independent risk and there is no recourse to the SARB.
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	An advisory note was issued to the public on the risks associated with the usage of cryptocurrencies
Sous-région	Banque Centrale	Question N°2.14 Has your Central Bank taken practical actions to use the blockchain technology ?
1	Banque d'Algérie	-
1	Central Bank of Egypt	CBE has formed the e-KYC task force group to study the possibility of providing e-KYC for the banking sector upon the blockchain technology, and to expand blockchain technology to other activities in case of success and recommendation.
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	Not yet, but in principle it will be done soon.

1	Bank of Sudan	-
1	Banque Centrale de Tunisie	At the Hackaton organized on the margins of the Africa Blockchain Summit, two POCs were developed using Blockchain technology (cross-border transfers and irregular checks).
1	Bank Al-Maghrib	Several POCs are initiated. The first was the dematerialization and decentralization of the process of management of Private Tribute Center (CPT) accreditation through a private Blockchain solution in the form of a "Blockchain As a Record Keeper".
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	IN PROGRESS. The Bank of Ghana is monitoring development in the Blockchain Technology space.
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	CBK is currently exploring possible use cases of block chain technology.
4	Bank of Mauritius	The internal working group is assessing projects which can be implemented on Blockchain within the Bank.
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	This will be determined upon the formulation of the Fintech strategy.
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	The SARB initiated a project to specifically explore the use of distributed ledger technology (DLT) for wholesale payments purposes. This initiative is Project Khokha which aimed to gain deeper insights on the use of the technology and to understand the impact of such arrangements on its mandate and the financial institutions it is responsible for.
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The working paper on blockchain makes a series of recommendations on the potential use cases if blockchain. These initiatives shall be implemented once the Framework is finalized
Sous-région	Banque Centrale	Question N°2.15 Does your central bank collaborate or participate in any regional or global forum with a focus on Cryptocurrencies and or blockchain technology?
1	Banque d'Algérie	-
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	The Central Bank is a member of the Blockchain Technology Working Group, which is being set up by the Arab Monetary Fund.
1	Bank of Sudan	Through participation in AFI and AMF
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	In November 2018 at high level seminar for bank supervisors
2	Bank of Ghana	The Bank of Ghana has participated in various programmes on cryptocurrencies and blockchain.
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	CBK has been working with other regulators including Central banks across the globe, international standard setting bodies and other financial stakeholders on crypto currencies, block chain technologies and other emerging technologies.
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	-
5	Central Banco de Angola	The Central Bank often participates on forums promoted by SADC and other entities regarding payment systems and digital financial services.
5	Bank of Botswana	Mainly to gain more insights and understanding of these types of technologies.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	BFM participates in seminars addressing these topics.
5	Reserve Bank of Malawi	IMF as well as common wealth forum for central banks
5	Banco de Moçambique	-
5	Bank of Namibia	Within the SADC region at the Committee of Central Bank Governors (CCBG) and associated Sub-Committees.
5	Reserve Bank of South Africa	The SARB is represented on various international forums with the focus on crypto assets or distributed technology. These forums include the Working Group for Digital Innovations of the Bank for International Settlement's Committee for Payments and Markets Infrastructure and the Financial Innovation Network of the Financial Stability Board.
5	Central Bank of Eswatini	-

5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The Central Bank participates in workshops and meetings where such issues are discussed. Such foras include MEF-MI, AFI, World Bank workshops.
Sous-région	Banque Centrale	Question N°3.1 Is there a regulation relating to cyber security in your Central Bank?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	Law 2016-007 of 20/01/2016 on cybercrime (OJ-1354).
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	Global Information Security Policy Cybersecurity Governance Framework based on NIST CSF and Security Controls WITHOUT BAM Directive on Internal Control BAM Guideline on the Business Continuity Plan BAM Guideline on Intrusion Testing
2	BCEAO	An information security policy has been in force since 2013. The creation of a security reference system, begun in 2012, continued with the development of specific policies regulating the management of access to systems, applications and networks. support for information security incidents, etc.
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	YES. The Bank of Ghana issued cyber and information security Directives in October 2018. The Directive applies to financial institution regulated by the Bank of Ghana.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	A Cyber Security guideline has been drafted and now awaits
3	BEAC	This is a regulation that is being modified to take into account new threats and to align with best practices. The first project concerns compliance with the recommendations of the SWIFT Customer Security Program, which will subsequently be extended to the entire Information System.
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	The Central Bank of Kenya issued a cybersecurity guidance note to commercial banks in August 2017 and a draft to payment service providers in August 2018.
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	A new cybersecurity regulation was established for the sector
4	Bank of Uganda	INFORMATION SECURITY POLICY
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	We have a draft Information Security Policy Based on IT Governance CoBit 5. We expect to be finalise during 1st Quarter 2019
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	The Bank of Botswana through the Information and Communications Technology Department (ICTD) and Protective Services Department has a framework for handling issues of cyber threats and cyber risk.
5	Central Bank of Lesotho	It is in draft form. However, other existing regulation is being used to assess cyber security readiness
5	Banque Centrale de Madagascar	Loi 2014-006 du 19 juin 2014 sur la lutte contre la cybercriminalité Existence du projet de loi bancaire révisée incluant des dispositions relatives au cyber sécurité au niveau des établissements de crédit
5	Reserve Bank of Malawi	But we have Security Blicy wich includes cybersecurity
5	Banco de Moçambique	-
5	Bank of Namibia	Yes, BID 30 was issued in 2017 for the Banking industry.
5	Reserve Bank of South Africa	There are specific information security regulation as part of the current National Key Points Act 102 of 1980 which the SARB abides by. This is in the process of being enhanced by the enactment of the Protection of Critical Infrastructure Bill, which was adopted by the National Council of Provinces in December 2018 (last parliamentary hurdle).
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The Bank has issued directives and guidance to the market relating to cyber security issues.
Sous-région	Banque Centrale	Question N°3.2 Are there procedures for implementing cyber security standards?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	A major security project has just been launched
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	Yes, formally these procedures mainly affect a small scope affecting part of our information system by applying a Framework inspired by a compilation and synthesis of three cyber security standards (PCI-DSS, NIST, ISO 27002)
1	Bank Al-Maghrib	Bank Al-Maghrib is WSIS Certified (ISO 27001) Bank Al-Maghrib is ISO 9001 certified (Quality Management System) Deployment of the Cybersecurity Governance Framework
2	BCEAO	As part of cybersecurity management, guides have been developed for risk analysis, cybersecurity incident response, and information sharing.
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	The Procedures for implementing cyber security standards are captured in the cyber and information security directives
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	The Bank is in the midst of a review of its entire cybersecurity system.
3	Banque Centrale du Congo	There is an Act on Payment and Securities Settlement Systems that incorporates provisions related to cyber security. Instructions are being developed.
3	Banque Centrale de São Tome e Principe	-

4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	-
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	Procedures in place in regard to ISO27001
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	We are following the ISO 27032 guidelines
4	Central Bank of Somalia	
5	Central Banco de Angola	GSI: Current techniques are being implemented and reviewed in accordance with ISO 27001/27002 Standards.
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	The revised banking bill provides for provisions on cyber-security: "Credit institutions are required to: implement any system required to prevent, manage and mitigate cyber risks and a framework for intervention and quick and effective control adapted to the nature of the credit institution's activity".
5	Reserve Bank of Malawi	Information security standards and guidelines include cybersecurity
5	Banco de Moçambique	-
5	Bank of Namibia	No, not yet, however plans are underway for developing these procedures in 2019.
5	Reserve Bank of South Africa	The SARB has policies, procedures and standards which are being continuously being enhanced based on a Security Reference Model (SRM), which is best practice aligned.
5	Central Bank of Eswatini	
5	Bank of Zambia	This is available for internal security operations
5	Reserve Bank of Zimbabwe	The directives provide high guidance on the the regulatory expectations regarding risks including cybersecurity. Institutions are also encouraged to leverage on best practices such ISO, NERC and NIST
Sous-région	Banque Centrale	Question N°3.3 Has your Central Bank infrastructure been at least once the target of a cyber attack?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	It was a DoS-type attack with no significant impact that just hit one of the Bank's sites
1	Bank Al-Maghrib	Mainly phishing or social engineering attacks.
2	BCEAO	-
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	YES (ransomware attack which lead to loss of data(Fileserver))
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	-
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	Attempts were/are identified, but no success identified so far
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	On the workstation two years ago
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	We see many Social Engineering (especially phishing emails and impersonations) attempts targeting CBS staff. We also see a lot of Vulnerability scanning on our public facing IP however to date there has no evidence that we have been breach yet.
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	BFM regularly observes attempts on its perimeter equipment, but BFM can not say whether it is a targeted attack or not. In any case, BFM lacks visibility on this point.
5	Reserve Bank of Malawi	Minor spoofing and Ransommore attacks
5	Banco de Moçambique	-
5	Bank of Namibia	Yes, several times. We can monitor attacks as they happen – usually from "Script Kiddies" (likely young people using automated tools [or bots] to scan for vulnerabilities. The Bank has also received more targeted attacks in the form of website defacing and was also susceptible to the WannaCry attack in 2017 (albeit a very small attack surface – 1 server and 1 workstation).
5	Reserve Bank of South Africa	The SARB has monitoring in place detecting cyber-attacks on an ongoing basis. Cyber-attacks is a common occurrence and in most cases preventative measures provide adequate protection to not require a specific response. The SARB's response and recovery capabilities are activated when required.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.4 Does your Central Bank have a legal framework against money laundering and the fight against the financing of terrorism?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	Act 2007-047 fight against terrorism Law 2005-048 money laundering and terrorism financing (amended by law 2016-013 and law 2016-015). AML / CFT device
1	Bank of Sudan	Anti-money Laundering & combating of terrorism Finance ACT 2009
1	Banque Centrale de Tunisie	-

1	Bank Al-Maghrib	Morocco has a legal and regulatory framework for the fight against money laundering and the financing of terrorism: Law No. 43-05 on the fight against money laundering Concerning the banking sector, Bank Al-Maghrib has issued Circular N ° 5 / W / 2017 on the obligation of vigilance incumbent on credit institutions.
2	BCEAO	This mainly concerns the Directive and the Uniform Law of 2 July 2015 on the fight against money laundering and the financing of terrorism.
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	ANTI- MONEY LAUNDERING AND COMBATING OF TERRORIST FINANCING Act, 2012. Gambia Financial Intelligence Unit established in 2013
2	Bank of Ghana	The Bank of Ghana has issued Anti-Money Laundering/Combating the financing of Terrorism and Proliferation of weapons of mass Destruction (AML/CFT&P) Guidelines for Banks and non-bank financial institutions in Ghana.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	An Anti-Money Laundering Act in addition to a regulation on Customers Due Diligence
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	Law No. 04/016 of 19 July 2004 on the fight against money laundering and the financing of terrorism Instruction No. 15 on Anti-Money Laundering and Anti-Terrorist Financing Standards
3	Banque Centrale de São Tomé e Príncipe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	Kenya has enacted various legislations on combating money laundering and the financing of terrorism (AML/CFT): Proceeds of Crime and Anti Money Laundering Act 2009 (POCAMLA). Proceeds of Crime and Anti-Money Laundering Regulations were issued in 2013. Prevention of Terrorism Act, 2012. Prevention of Terrorism Regulations, 2013. Central Bank of Kenya Prudential Guideline on Anti-Money Laundering and Combating the Financing of Terrorism (CBK/PG/08).
4	Bank of Mauritius	There are a number of legislations which have been enacted in Mauritius to combat money laundering, terrorism financing and proliferation, namely the Financial Intelligence and Anti-Money Laundering Act, the Prevention of Terrorism Act, the Convention for the Suppression of the Financing of Terrorism Act, Dangerous Drugs Act, Prevention of Corruption Act, the Asset Recovery Act and the Good Governance and Integrity Reporting Act, including the Regulations made under these enactments. In addition to the above, there are specific provisions in the Banking Act which vest on the Bank of Mauritius the power to take such action and issue such guideline, directive or instruction as it may consider necessary for the prevention of money laundering and terrorism financing. The Bank of Mauritius has also issued Guidance Notes on AML/CFT, which are regularly updated in line with international standards. The Guidance Notes set out the broad parameters within which financial institutions should operate in order to ward off money laundering and terrorist financing risks. Financial institutions are therein required to inter alia maintain AML/CFT deterrence policies and train staffs thereon. Noncompliance with any guideline, directive or instruction issued by the Bank tantamount to an offence punishable, on conviction, to a fine not exceeding one million rupees and, in the case of a continuing offence, to, after conviction, a further fine of 100,000 rupees for every day or part of a day during which the offence continues.
4	Banque Nationale du Rwanda	Yes, There is a regulation on Money Laundering/ Combating Financing Terrorism
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	The Financial Intelligence Unit is responsible for same.
4	Central Bank of Somalia	
5	Central Banco de Angola	DRC: There's an internal policy approved covering this subject
5	Bank of Botswana	The Bank uses the Financial Intelligence Agency Act to ensure compliance for this purpose.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	Law No. 2004-020 of 19/08/2004 on Laundering, Screening, Confiscation and International Cooperation on Crime Products Law n ° 97-039 of 04/11/1997 on the control of narcotic drugs, psychotropic substances and precursors in Madagascar Law n ° 2014- 005 of 17/07/2014 against terrorism and transnational organized crime.
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	This is in place but not operated from the Cyber Function specifically but is in place.
5	Central Bank of Eswatini	
5	Bank of Zambia	We subscribe to the Financial Intelligence Agency Act
5	Reserve Bank of Zimbabwe	The Money Laundering and Proceeds of Crime Act is the legal framework that deals with money laundering and terrorism financing issues
Sous-région	Banque Centrale	Question N°3.5 Have cyber attacks on commercial banks been detected in your country? What measures have been taken?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	There is an observatory grouping CISOs and security managers at the level of the national banking sector under the auspices of the professional association of banks which deals with this aspect (Organization of thematic meetings by inviting experts in the field in a purpose rather awareness, there are also information notes on preventive security measures such as for example the Interbank Note on the obligation to upgrade the ATMs OS and the obligation to upgrade to Windows 10, there were also exchanges of thoughts and efforts during these events to encourage the establishment of a SOC for banks, ...).
1	Bank Al-Maghrib	Attacks were detected by the Moroccan commercial banks and brought to the attention of the national CERT reporting to the DGSSI. Corrective measures have been put in place by the banks concerned. The attacks and the measures undertaken are exchanged within the framework of a Bank Al-Maghrib - Banks working group set up for this purpose.
2	BCEAO	-
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-

2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	A Risk based Cyber Security Framework and Guideline had been developed for the industry.
2	Bank of Sierra Leone	There has been no formally reported case of cyber attack from any commercial bank in Sierra Leone
3	BEAC	Given the nature of the cyber-attacks detected in commercial banks, the measures taken have so far been limited to the scope of the Information System of the entities concerned.
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	Detected cyber-attacks on commercial banks are reported to CBK within 24 hours after occurrence and the actions taken by the institution in response to the attack. A thorough investigation is conducted by the institution and report shared with CBK. CBK conducts targeted inspections.
4	Bank of Mauritius	On receiving the report of the attacks, recommendations were provided to commercial bank on the technical and process controls that will be needed to prevent re-occurrence.
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	We are in the process of issuing a set of Cybersecurity Guideline to all Financial Institutions in the country
4	Central Bank of Somalia	
5	Central Banco de Angola	DSB: 4 of 29 Authorized Banks confirmed that they suffered cyberattacks. Measures taken: Installation of more effective IT controls; Adoption of information security incident and response procedures.
5	Bank of Botswana	Installation of defence mechanisms (Firewalls, VPN, etc). Sensitisation of the staff to be extra vigilant in their operational environment. Information sharing arrangements.
5	Central Bank of Lesotho	Improvements were made to protective measures
5	Banque Centrale de Madagascar	No information available on this subject.
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	Namibia is still in the process of rolling out the basic requirements of BID 30, where banks are required to report security incidents to the Central Bank. This has not yet reached an acceptable maturity level. Furthermore, regular cyber related fraud on electronic payment instruments are shared to ensure that the necessary preventative standards are implemented. In this regard all banks are required to comply with EMV and PCI DSS standards in as far as card data security is concerned. Currently Namibia only issue EMV (chip & pin) card e.g. and is working toward 3D security for e-commerce transactions.
5	Reserve Bank of South Africa	Cyber-attacks on commercial banks are an ongoing occurrence and measures are deployed as appropriate for each incident. In addition to capabilities within each of the commercial banks to ensure appropriate measures are taken. The South Africa Banking Risk Information Center (SABRIC) assists in coordinating response activities across commercial banks. This is further supported across the financial sector by the Financial Critical Infrastructure (FCI), The Association for Savings and Investment South Africa (ASISA), South African Insurance Association (SAIA) and Payments Association of South Africa (PASA) Computer Security Incident Response Teams (CSIRTs). Work is underway to deepen interaction with the Cybersecurity Hub, mandated by the National Cybersecurity Policy Framework (NCPF), which was passed by Cabinet in March 2012. The SARB assist in coordination and threat intelligence sharing over and above its involvement as a FCI CSIRT member.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	Bank Supervision division has engaged banking institutions for them to enhance their security protocols. The division subject the institutions to ongoing monitoring
Sous-région	Banque Centrale	Question N°3.6 Does your Central Bank have a specific legal framework against cybercrime?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	Law 2016-007 of 20/01/2016 on cybercrime (JO-1354) is not specific for the bank
1	Bank of Sudan	Through the draft of national payment system ACT
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	Cybercrime is a punishable offence under the country's laws.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	The establishment of a specific legal framework against cybercrime is an integral part of the ongoing review within the Central Bank.
3	Banque Centrale du Congo	The criminal aspect is covered by the law on payment and securities settlement systems.
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	Computer Misuse and Cybercrimes Act, 2018 Cybercrime is criminal in nature and is outside CBK's regulatory purview. However, CBK has issued a Guidance Note on Cyber Security to institutions to guide them in setting up and implementing standards to protect them against cyber attacks. This is in addition to Risk Management Guidelines which obligate institutions to put in place robust risk management strategies, including management of technology and cyber risks.

4	Bank of Mauritius	The Bank has to align itself to the prevailing ICT laws of Mauritius such as the ICTA act and the Computer Misuse Act. A computer misuse and cybercrime Act has been enacted in Mauritius. Additionally, a Cybercrime Strategy has been adopted for Mauritius. In line with domestic and international trend, the Bank of Mauritius will issue a Guideline on Information Technology and cyber security
4	Banque Nationale du Rwanda	One bank has been victim and we provided technical support. This triggered the release of this cybersecurity regulation and regular cybersecurity assessments to banks as measures
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	Law No. 110 / AN / 11 / 6emeL on Combating the Financing of Terrorism, Criminal Code
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	Seychelles is in the process of drafting its Cybercrime bill, which Central Bank of Seychelles has been asked to provide comments.
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	Botswana recently passed the Cybercrime and Computer Related Crimes Act, 2018 which addresses related crimes and Bank of Botswana's legal framework is premised on the same national law.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	On the other hand, a national law on cybercrime was promulgated in 2014.
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	Legislation for cyber crime is dealt with at a national level. The National Assembly has adopted the Cybercrimes and Cybersecurity Bill on 27 November 2018 and needs to be approved by the National Council of Provinces before enactment. The SARB is a participant in the larger national criminal legal framework, as are the commercial banks with extensive cybercrime capabilities. This is enhanced by The SABRIC structures to ensure a banking industry wide coordinated response with specific cyber structures in place.
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	Development of the framework is currently underway
Sous-région	Banque Centrale	Question N°3.7 Does your Central Bank have a cyber security risk analysis system?
1	Banque d'Algérie	-
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	In fact, the bank recently created a management of RISK Management and a position of security advisor and launched a major security project.
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	The Bank has a risk analysis system backed by a methodology compliant with the standards (ISO 27005). In addition, and as part of a roadmap for monitoring cyber risk in the financial sector, a Cybersecurity Risk Analytical Framework is being put in place. It is planned to integrate this framework into the mapping of systemic risks to financial stability.
2	BCEAO	The mapping of information security risks takes into account the risk of cybersecurity. It is updated annually. The cybersecurity risk assessment is done in collaboration with the business structures and the structure in charge of information systems.
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	The SWIFT Customer Security Program (CSP)
2	Bank of Ghana	The Bank of Ghana has a cyber and information security management system in place which includes a security operations centre, Cyber and information security committee and soon to be established Board subcommittee on cyber and information security. The system includes people, technology and relevant system, underpinned by an approved risk management framework.
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	The Central Bank has several entities in charge of risk analysis related to the Information System. However, the establishment of a specific system for cybersecurity risk analysis is not yet effective.
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	The Bank has well trained and certified cyber risk officers who employ the best practice cyber risk analysis methodologies including ISO 31000 (risk management) and ISO 27005 (information security risk management) in the management of cyber risks.
4	Bank of Mauritius	A framework based on ISO 27005 has been developed for IT Risk assessment and mitigation.
4	Banque Nationale du Rwanda	A new cybersecurity regulation was established for the sector. Further references on cybercrime are in our national cyber law
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	Cyber Security Risks analysis forms part of the overall Enterprise Risk Management framework
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	A cyber security function is being established.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	BFM is currently setting up a WSIS (Information Security Management System).
5	Reserve Bank of Malawi	Information security management system (ISMS) project under way
5	Banco de Moçambique	-
5	Bank of Namibia	We are working towards having a form of a Security Operations Centre (SOC). At the moment, the systems are deployed and accessible remotely by engineers.
5	Reserve Bank of South Africa	Cyber security risk analysis forms part of the overall SARB Cyber capabilities which has an internal focus. This is being further integrated with the overall enterprise risk management capability.
5	Central Bank of Eswatini	-
5	Bank of Zambia	This is not fully developed
5	Reserve Bank of Zimbabwe	This is covered under Enterprise Risk Management framework
Sous-région	Banque Centrale	Question N°3.8 Does your Central Bank have a system for the protection of customers?

1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	Law No. 036 on Credit Institutions. Order 2006-031 The banking law 2018
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	The Bank ensures a certain degree of indirect security for its clients, which are generally financial institutions, by imposing on them an internal measure for all the online services it implements through a preliminary phase of external technical audit before they are put into effect. In production. These technical audit missions can identify and correct vulnerabilities and can generate guidelines to protect customers by security compliance requirements before they can access services (Example: disable the use of TLS 1.0 at level of browsers accessing these services)
1	Bank Al-Maghrib	There is a customer protection structure whose responsibilities are: Handle claims from customers of credit institutions; Develop texts on customer protection; Ensure that credit institutions comply with the legal and regulatory provisions on customer protection.
2	BCEAO	-
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	The aspect of client protection is systematically taken into account in the development of the regulation.
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tomé e Príncipe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	Customers' in the banking sector are protected through:- Republic of Kenya Constitution, 2010. Consumer Protection Act, 2012. Competition Act, 2010 which aims at protecting consumers from unfair and misleading market conduct. Financial Sector Laws such as Banking Act and Microfinance Act. Guideline on Consumer Protection.
4	Bank of Mauritius	Section 96A of the Banking act covers protection of customers of financial institutions, in general. Specific guidelines such as the Guideline on Internet Banking and the Guideline on Mobile Banking and Mobile Payment Systems have sections on customer protection/education.
4	Banque Nationale du Rwanda	We are using national data protection law
4	Bank of Uganda	CONFIRMATION OF TRANSACTIONS IS DONE
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	The Financial Institutions (Complaint Handling) Regulation, 2008 is currently being used to handle complaint from consumers. However, the Central Bank is in the process of developing a Financial Consumer Protection Act by 2019.
4	Central Bank of Somalia	
5	Central Banco de Angola	GSI: On BNA's side there are techniques and technologies in place to safeguard customers.
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	Provisions on consumer protection are provided: Law No. 2016-056 of February 2, 2017 on Electronic Money and Electronic Money Institutions (Electronic Money Institutions) Law No. 2017-026 of 8 February 2018 on Microfinance Revised Banking Bill
5	Reserve Bank of Malawi	Network protection services and enterprise antivirus
5	Banco de Moçambique	-
5	Bank of Namibia	The Bank has system of protection of customer in the financial system, which could include ones affected by fintech entities associated with either banks or non-banks.
5	Reserve Bank of South Africa	The SARB has implemented extensive measures on its client facing systems to ensure cyber security incorporated into its overall Cyber and Information Security Programme. This includes ensuring SWIFT Customer Security Programme attestation is done annually as required.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.9 Does your Central Bank have a local, regional and international collaboration framework with cyber risk regulators and stakeholders?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	Yes on the local level we coordinate with national information Centre, and with AFI, AMF
1	Banque Centrale de Tunisie	The Central Bank is obliged to participate in an international program (SCP of SWIFT) to protect banks against cyber attacks, and show its compliance with a set of controls required by the framework of this program, and at the same time As a regulator of the sector, it receives from SWIFT the list of banks that do not comply with the required controls.
1	Bank Al-Maghrib	Bank Al-Maghrib collaborates with national regulators and has frameworks for collaboration with central banks. The Bank also works with the Directorate General of Information Systems Security (DGSSI) under the National Defense Administration. In addition, a project is underway for the establishment of a CERT within the Bank to further promote the exchange of security information with national and international cyber security communities. In addition, as part of the collaboration between the financial sector regulators (banks, insurance companies and capital market), a roadmap on cyber-risk monitoring was developed and validated by the Coordination Committee and Systemic Risk Monitor in July 2018. The latter is responsible in particular for the macro-prudential supervision of the financial system.
2	BCEAO	-
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	-

2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	The need to establish a local, regional and international collaboration framework with regulators and cyber security stakeholders goes well beyond the scope of the Central Bank.
3	Banque Centrale du Congo	At the regional level, collaboration is carried out within the framework of the cooperative supervision of the SADC payment system, SIRESS.
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	CBK is a member of the National Kenya Computer Incident Response Team – Coordination Centre (National KE-CIRT/CC), a multi-agency collaboration team which is responsible for national coordination of cybersecurity as Kenya's national point of contact on cybersecurity matters.
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	2 executives in Amman attended a seminar on cyber security organized by METAC
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	The Bank participated in IMF, Bank of Belgium and Committee of Central Bank Governors in SADC workshops
5	Banque Centrale de Madagascar	There is cooperation between the SADC central banks in this area. Existence of revised banking bill including provisions on cyber security.
5	Reserve Bank of Malawi	SADC cybersecurity framework
5	Banco de Moçambique	-
5	Bank of Namibia	Partially. Still a work in progress. Local activities are in their infancy stages, while regional and international collaboration are as yet, non-existent.
5	Reserve Bank of South Africa	The SARB is an active member of the Basel Committee on Bank Supervision's Operational Risk Group as well as the Financial Stability Board structures including the Regional Consultative Group for Sub-Saharan Africa. This is in addition to a number of existing relationships with other regulators.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.10 Does your Central Bank have a regulatory and supervisory framework based on the prevention of cyber risks?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	Yes – The Guidance Note on Cyber Security requires institutions to develop and annually revise their cybersecurity policies. One of the requirements of the cybersecurity policy is for institutions to identify, detect and protect against cyber risks.
4	Bank of Mauritius	The Bank is currently working on a Guideline on Information Technology Risk Management.
4	Banque Nationale du Rwanda	A new cybersecurity regulation was established for the sector.
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	
5	Central Banco de Angola	GSI: There is a task force, working on the regulatory and supervisory framework.
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	Existence of revised banking bill including provisions on cyber security.
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	The Bank's BID 30 is aimed at addressing this. The Payment Systems Oversight Policy Framework addresses all risks including risks related to Cyber and uses the Cobit standards to assess the resilience of systems against the standards. Furthermore the Bank subscribes to the PFMI and have incorporated the BIS guidance on cyber resilience for financial market infrastructure in its regulatory frameworks.
5	Reserve Bank of South Africa	The SARB issued an official guidance note to banks on the 15th of May 2017 referring to the applicability of the Guidance on Cyber Resilience, issued on 29 June 2016 by the Committee on Payments and Market Infrastructures (CPMI) and the Board of the International Organization of Security Commissions (IOSCO). In the note the office of the Registrar of Banks indicates that the adequacy of policies, processes and practices will be evaluated as part of the supervisory review process.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The supervision department has issued directives and guidance to the market relating to cyber security issues.

Sous-région	Banque Centrale	Question N°3.11 Does your Central Bank have a customer awareness framework on cybercrime?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	Code of ethics and deontology, user charter
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	Cybercrime awareness is currently limited to Central Bank agents
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	-
4	Bank of Mauritius	Some guidelines issued by the Central Bank have customer protection and education included such as in the case of Internet Banking and Mobile Banking.
4	Banque Nationale du Rwanda	This concept is approved, but the implementation plan is in progress
4	Bank of Uganda	RISK AWARENESS IS DONE THROUGH THE RISK AND OMLIANCE DEPARTMENT AND THE ANNUAL RISK MANAGMENT AWARENESS WEEK
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	We do not have a framework in place, however the communication unit send adhoc awareness on cyber hygiene.
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	The ICTD educates staff of the Central Bank on Cybercrime issues, and banks are implored to do the same through the supervisory process.
5	Central Bank of Lesotho	The awareness programme is focused on employees of the Bank but the Bank partners with other national bodies who spread the message.
5	Banque Centrale de Madagascar	Existence of revised banking bill including provisions on cyber security.
5	Reserve Bank of Malawi	ReserveBank of Malawi cybersecurity framework
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	Banking sector wide cyber awareness is mostly driven by the SABRIC for commercial banks in addition to extensive individual bank campaigns. This is supported by awareness conducted by the Cybersecurity Hub, mandated by the National Cybersecurity Policy Framework (NCPF). Awareness is a key requirement as part of the Cyber Oversight administered by the Prudential Authority.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The framework is currently covered by the ICT Security policy
Sous-région	Banque Centrale	Question N°3.12 Has your Central Bank or Supervisory Authority put in place a regulatory framework to implement cyber insurance?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	Cyber insurance is under the regulatory purview of the Insurance Regulatory Authority (IRA).
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	Existence of revised banking bill including provisions on cyber security.
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-

5	Reserve Bank of South Africa	Cyber insurance is but one of the controls that can be implemented by commercial banks and other financial institutions as reviewed by the Prudential Authority as part of regulatory oversight. The SARB has not dictated specific requirements on insurance.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The Bank has not issued any framework on cyber insurance. Financial institutions are however implementing cyber insurance to mitigate against cyber risks.
Sous-région	Banque Centrale	Question N°3.13 Does your Central Bank or Supervisory Authority perform stress tests to see the impact of a possible attack on systemic risk?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	The direction of the supervision makes the stress tests.
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	A working group was created as part of the actions to build a base of coordination of BCPs at the local level. It is thus planned to perform a simulation of a systemic cyber attack.
2	BCEAO	-
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	-
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	We conduct an annual penetration testing
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	We perform 3 Pentest and 1 Vulnerability Assessment yearly
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	Penetration and Red Team tests were performed
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	Stress testing is done by the SARB to model impact in relation to systemic risk. Cyber-attack scenarios are however not considered specifically.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The Bank is in the process of enhancing its stress testing framework to expand the list of risks that are covered in stress testing model.
Sous-région	Banque Centrale	Question N°3.14 Does your Central Bank have adequate skills and capacities to detect and combat cyber attacks?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	To some extent
1	Banque Centrale de Tunisie	Some of the Bank's resources are involved in a number of training and events related to cyber risk detection and identification
1	Bank Al-Maghrib	Existence of an Operational Security Center (SOC) Current evolution to a CERT Ongoing strengthening of banking supervision capabilities
2	BCEAO	-
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	The Bank has in-house expertise and security features that can detect and combat cyberattacks
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	CBK has adequate skills and capacities to detect and combat cyber attacks. However, capacity building of the appropriate staff is an ongoing exercise.
4	Bank of Mauritius	The Bank is in the process of training its resources and implementing latest technologies to detect and combat cyberattacks.
4	Banque Nationale du Rwanda	Our security team is trained but not enough to fight against today's sophisticated cyberattacks. The program is continuous
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	

4	Central Bank of Seychelles	This will depend on the type and level on attacks. Presently we have outsource the monitoring through a Security Operation Center (SOC), which monitors our critical function systems, and send Alerts us on potential incidents (events) that needs to be verified.
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	Initiatives are underway to ensure the Bank is properly resourced to formulate and adopt relevant policies and enhance the relevant technologies.
5	Central Bank of Lesotho	The Bank is building on existing capacity. One member is CISM. Two others are each trained on CEHLPT and CISSP and ready to sit for exams.
5	Banque Centrale de Madagascar	Revised Banking Bill Provides Cyber Security Provisions: "The General Secretariat of the Banking and Financial Supervision Commission surrounds itself with the computer skills needed to detect, analyze and mitigate cyber risk in the financial system. as part of the credit institutions' audit mission".
5	Reserve Bank of Malawi	Need so more capacity
5	Banco de Moçambique	-
5	Bank of Namibia	Partially. The Bank of Namibia works within the resources (human and financial) available to address the threats posed. The BoN also adequate technologies available to detect and combat cyber-attacks, however these will need to be regularly assessed and reviewed by internal and external assurance providers.
5	Reserve Bank of South Africa	There is pressure on cyber skills but to date the SARB has managed to secure appropriate skills.
5	Central Bank of Eswatini	
5	Bank of Zambia	The bank does have staff with cyber security skills however there is need to enhance these skills
5	Reserve Bank of Zimbabwe	The Bank is currently recruiting new personnel and training existing personnel
Sous-région	Banque Centrale	Question N°3.15 Has your Central Bank identified policies or guidelines which absence within the Institution would be a source of vulnerability?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	The security policy, the PCA, ...
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	The Bank has an information system security policy but it is not yet supported because of a lack of appropriate structure to decline it.
1	Bank Al-Maghrib	Policy governing the use of cloud computing being finalized
2	BCEAO	-
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	APPROVED IT SECURITY POLICY
2	Bank of Ghana	YES. The Bank of Ghana has an approved statement of applicability which identifies all areas of information and cyber security that pose vulnerability and required appropriate policies and procedures to be put in place to mitigate these risks.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	Faisant suite aux multiples audits interne et externe, la Banque Centrale a identifié les politiques et Directives absolument nécessaires pour assurer la cyber sécurité
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Príncipe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	-
4	Bank of Mauritius	A new set of policies and procedures is being brought forward to ensure that process, technical and people vulnerabilities are mitigated.
4	Banque Nationale du Rwanda	Policies, guidelines and procedures governing our IT operations are in place in regard to ISO27001:2013 and COBIT5. These policies and guidelines are evaluated for effectiveness every year. Absence of any will represent a certain vulnerability
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	With the help of an external consultant performed an evaluation of our cybersecurity posture. The relevant COBIT 5 policies where drafted and we are in the process of formalising them.
4	Central Bank of Somalia	
5	Central Banco de Angola	GSI: For example, the physical security policy and procedures that will soon be defined.
5	Bank of Botswana	The Information and Communications Technology Strategy is well aligned to the Corporate strategy and initiatives identified are in line with current environmental developments such as cyber-security threats.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	Areas identified have been addressed
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	Ongoing assessments are done including vulnerability testing, penetration testing as well as risk and compliance assessments. This is further enhanced by independent assurance.
5	Central Bank of Eswatini	
5	Bank of Zambia	Policies on data protection and cloud computing
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.16 Does your Central Bank have a framework for updating software security, allowing it to limit its vulnerability?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	Cybersecurity Governance Framework to align with best practices in this area.
2	BCEAO	-
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-

2	Bank of Sierra Leone	-
3	BEAC	The updating of computer security is the responsibility of the Information Systems Department and is part of its mission.
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	-
4	Bank of Mauritius	The Bank has a vulnerability assessment and penetration testing policy and procedures that dictates the vulnerability management at the level of software.
4	Banque Nationale du Rwanda	We have a patch & vulnerability management procedure
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	The Change management policies have been approved, and we are working on the Vulnerability Management Policies to complement.
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	Among others, SWIFT has Customer Security Update. The Policies and Procedures are in place, but a framework is still being developed in line with CoBIT 5 principles.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	Technology hardening and update procedures in regards to cyber security are in place.
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.17 Has your Central Bank set up an intervention capacity (cyber security group involving the relevant departments)?
1	Banque d'Algérie	-
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	Projet de sécurité : comité de pilotage stratégique, ...
1	Bank of Sudan	There is a committee for information security containing the relevant departments in the bank
1	Banque Centrale de Tunisie	As part of the PCA project, a crisis committee will be set up bringing together the heads of certain departments of the Bank to take the necessary measures and coordinate the necessary interventions in case of disasters that may be a cyber-attack. At the moment we do not have a specific group for cyber security but it is the IT department that does it.
1	Bank Al-Maghrib	Une actualisation du dispositif de gestion de crise de la Banque est en cours en adoptant une démarche transversale et pluridisciplinaire impliquant l'ensemble des compétences : Système d'Information, Sécurité de l'information, Sécurité physique, Continuité d'activité, Ressources humaines, Juridique et Communication.
2	BCEAO	Une équipe de réponse aux incidents de sécurité de l'information est constituée.
2	Banco de Cabo Verde	Une équipe de réponse aux incidents de sécurité de l'information est constituée.
2	Central Bank of the Gambia	-
2	Bank of Ghana	The Bank of Ghana has an office dedicated to cyber and information security (called Information Security Officer) reporting directly to the Governor.
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	Dans le cadre de la modernisation du cadre réglementaire de cybersécurité, la Banque réfléchit à la mise en place d'un comité multidisciplinaire de cyber-réponse.
3	Banque Centrale du Congo	Ce groupe existe au sein de la Direction de l'Informatique qui s'assure de la sécurité du système d'information de la Banque Centrale.
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	The Bank has not setup a cybersecurity group. However in managing cyber security the Information Security function in the Bank frequently shares cyber security issues with the relevant departments and stakeholders.
4	Bank of Mauritius	The Bank has appointed a Chief Information Security Officer that has the mandate to ensure the setting up of a cyber security group for intervention.
4	Banque Nationale du Rwanda	We have an IRT and ISMS teams that involves core departments
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	As part of the IT Governance Charter, the IT Strategy Committee oversees the information security programme
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	The Bank established a Cyber Alert Team which draws membership from the would be high impact departments
5	Banque Centrale de Madagascar	This project is currently being developed (internal CSIRT through CERT at the banking sector level).
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	The Bank's Incident Response process was finalized in 2018 and will be operationalized in 2019.
5	Reserve Bank of South Africa	SARB Cyber and Information Security oversight structures include a Group Security Committee, Cyber and Information Security Steering Committee, Group Security Liaison Forum as well as Cyber and Information Security Technical Forum. These structures address cyber from the strategic, programme, business and technical dimensions respectively. This is in addition to IT governance structures in place.
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.18 Shortage of skills and IT resources
1	Banque d'Algérie	-
1	Central Bank of Egypt	-
1	Central Bank of Libya	-

1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	This shortage poses relatively high vulnerability
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	-
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	-
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.19 Lack of awareness and training of staff
1	Banque d'Algérie	-
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	This poses relatively high vulnerability
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	-
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	-
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.20 Lack of standardized policies, guidelines and laws
1	Banque d'Algérie	-
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-

2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	This poses relatively high vulnerability
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	-
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.21 Updates to computer security
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	Our PCs are regularly updated, as such the vulnerability is low
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	-
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.22 Absence of segregation of duties
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	
2	Central Bank of Nigeria	-

2	Bank of Sierra Leone	Cyber Security is not segregated. This poses relatively high vulnerability
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	-
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	-
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.23 Insufficient information and intelligence sharing
1	Banque d'Algérie	-
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	This poses relatively high vulnerability
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	-
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	-
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.24 Collaboration with third-party service providers
1	Banque d'Algérie	-
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	There is no collaboration. This poses relatively high vulnerability
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-

4	Banque Centrale Comores	
4	Central Bank of Kenya	
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	-
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.25 Are you ready to benchmark your financial sector regulation relating to cyber security in your Central Bank against the rest of Africa?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	Willing to do so
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	CBK has developed cybersecurity guidance note, which can be used in benchmarking with other central banks. The Guidance Note can be accessed under the link https://www.centralbank.go.ke/wp-content/uploads/2017/09/GUIDANCE-NOTE-ON-CYBERSECURITY-FOR-THE-BANKING-SECTOR.pdf
4	Bank of Mauritius	This will help to assist the maturity of the cyber risk mitigation in Mauritius.
4	Banque Nationale du Rwanda	
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	Efforts are being made at regional level, such as with the South African Development Community (SADC) Central Banks.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	In the context of willingness to subscribe to regionally agreed regulations
5	Banco de Moçambique	-
5	Bank of Namibia	At SADC and AACB (CABS) level
5	Reserve Bank of South Africa	The SARB are using recognised international best practice in its regulatory approach.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.26 Do you have structures that collaborate across African central bank structures regarding cyber elements in ensuring financial stability oversight?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	Nigeria Electronic Fraud Forum (NeFF), chaired by the CBN, is an industry platform that promotes collaboration of stakeholders in the payments ecosystem, Law Enforcement, Telecommunications, etc. The Forum had commenced discussion on creation of African Electronic Fraud Forum to foster continental collaboration.
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-

3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	-
4	Bank of Mauritius	The AACB could be common agent that can help in this oversight.
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	THE EAST AFRICAN COMMUNITY MONETARY AFFAIRS COMMITTEE AND THE IMF EAST AFRITAC
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	The CCBG Information, Communications and Technology (ICT) and Payments Systems Subcommittees facilitates collaboration on cyber security for the security of the ICT infrastructure and oversight of the regional payment system respectively.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	The revised banking bill includes provisions for cyber security: "There is a national committee established to: - establish a framework for cooperation at the national and international levels required - coordinate national and international actions on cyber security This committee is composed of the authority in charge of financial stability, the competent authority in telecommunications, BFM, the Banking and Financial Supervision Commission, the Police, the Gendarmerie and any other entity concerned by cyber security "
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	At SADC and AACB (CABS) level
5	Reserve Bank of South Africa	Only informal one-on-one relationships exist with regards to African central bank cyber resilience collaboration.
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.27 Is your Central Bank ready to coordinate Africa-wide Financial sector wide cyber resilience risk assessments?
1	Banque d'Algérie	-
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	The Central Bank of Nigeria (CBN) is open to discussion on this initiative.
2	Bank of Sierra Leone	The Bank of Sierra Leone is willing to coordinate Africa-wide Financial sector wide cyber resilience risk assessments but our state of preparedness is not up to standard as yet.
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	-
4	Bank of Mauritius	The Bank is building competence for the same.
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	but participate
5	Banco de Moçambique	-
5	Bank of Namibia	At SADC and AACB (CABS) level
5	Reserve Bank of South Africa	Having conducted local financial sector wide simulations we are ready to expand into a regional context.
5	Central Bank of Eswatini	-
5	Bank of Zambia	The central bank is willing to collaborate and be part of the assessment
5	Reserve Bank of Zimbabwe	The Bank is however ready to participate in the assessments
Sous-région	Banque Centrale	Question N°3.28 Does your Central Bank conduct/ coordinate or drive industry cyber readiness testing (CBEST, TIBER etc.) that could be standardised across Africa?
1	Banque d'Algérie	-
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-

2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	-
4	Bank of Mauritius	This initiative is in the process of implementation.
4	Banque Nationale du Rwanda	We don't conduct these tests for the industry. We give them right to go for any service provider but test results are reported to the central bank on the annual basis.
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	Other than simulation technical level cyber security testing is only now being considered and evaluated.
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.29 Can your Central Bank collaborate on with other African Central banks to facilitate cyber certification and best practice assessments on the financial industry?
1	Banque d'Algérie	-
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	-
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	A Cyber security Framework is currently being drawn for the SADC Region.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	This is a question that would fall under the management, but in any case, we think it would be good if BFM participates.
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	We are not currently ready but willing to work on this aspect as required.
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.30 Does your Central Bank coordinate cyber threat intelligence capability in your sector to be able to collaborate at a continental level?
1	Banque d'Algérie	-
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-

3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	CBK receives cyber incidence reports from commercial banks and has representations in the Kenya National Computer Incident Response Team – Coordination Centre (KE-CIRT/CC), responsible for the national coordination of cybersecurity matters.
4	Bank of Mauritius	Participation in the setting of the Anti-Cyber Threat Monitoring System at CERT-MU.
4	Banque Nationale du Rwanda	We have a plan to setup a financial SOC. Business case already in final stages of approval, however we have a fraud forum in place as part of security information sharing in the sector
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	The initiative is yet to be finalised and adopted by the industry
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	Currently, threat information is shared internationally with other central banks through various means including a Malware Information Sharing Platform (MISP) and bi-weekly teleconference calls. The SARB is actively piloting an information sharing platform within the local financial sector. All of this can be further formalised. The (SABRIC) assists in coordinating response activities across commercial banks. This is further supported across the financial sector by the Financial Critical Infrastructure (FCI), The Association for Savings and Investment South Africa (ASISA), South African Insurance Association (SAIA) and Payments Association of South Africa (PASA) Computer Security Incident Response Teams (CSIRTs). Work is underway to deepen interaction with the Cybersecurity Hub, mandated by the National Cybersecurity Policy Framework (NCPF), which was passed by Cabinet in March 2012. The SARB assist in coordination and threat intelligence sharing over and above its involvement as a FCI CSIRT member.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.31 Does your Central Bank have access to financial sector incident and threat intelligence to enable sharing at a continental level?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	FSD
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	The Central Bank of Kenya receives cyber incidence reports from commercial banks within 24 hours of occurrence and a quarterly return of cyber incidences.
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	We have a plan to setup a financial SOC. Business case already in final stages of approval, however we have a fraud forum in place as part of security information sharing in the sector
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	However the Bank subscribes to Financial Services and Information Sharing and Analysis Centre (FS-ISAC)
5	Banque Centrale de Madagascar	The security team of BFM ensures a watch on these points, but on the other hand, these watches are based on non-official information (OSINT).
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	See question 1 above.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.32 Does your Central Bank share any threat intelligence or incidents with other Central Banks?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-

1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	FSD
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	The Bank shares and collaborates with Financial Services Information Sharing and Analysis Center.
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	-
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	We don't have this framework but this would be very important
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	This form of collaboration already exists at the level of SADC central banks.
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	See question 1 above.
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.33 Is your Central Bank willing to be part of a national, continental and international financial sector-sharing platform?
1	Banque d'Algérie	-
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	-
4	Bank of Mauritius	The fight against cyberattacks has to be a concerted effort in the financial and the setting up of a sharing platform will greatly help and the Bank is willing to be part of this initiative.
4	Banque Nationale du Rwanda	-
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	The Central Bank is already part of a National Project that would facilitate national financial sector sharing platform.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	This is a question that would fall under the management, but in any case, we think it would be good if BFM participates.
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	Plans and operations are underway to work towards this end goal and capability, starting at a local (country) level.
5	Reserve Bank of South Africa	The SARB would be ready to assist in driving such an initiative.
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.34 Does your Central Bank conduct threat intelligence analysis for consolidation and collaboration?
1	Banque d'Algérie	-
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-

2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	-
4	Bank of Mauritius	The competencies and the capabilities inside the Bank needs to be built for undertaking such activities.
4	Banque Nationale du Rwanda	We have a plan to setup a financial SOC. Business case already in final stages of approval, however we have a fraud forum in place as part of security information sharing in the sector
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	We do, indeed, analyzes; but these analyzes are mainly used internally (OSINT).
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	We have and are enhancing our cyber threat intelligence capabilities.
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.35 Does your Central Bank disseminate threat intelligence on a sector / national sharing platform?
1	Banque d'Algérie	-
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	In collaboration with the Moroccan national CERT
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	-
4	Bank of Mauritius	We are yet to be connected to a sharing platform
4	Banque Nationale du Rwanda	We have a plan to setup a financial SOC. Business case already in final stages of approval, however we have a fraud forum in place as part of security information sharing in the sector
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	National planning is underway through various bodies (including Government, Education sector and Regulatory Authorities), the Banking industry planning is also in its infancy.
5	Reserve Bank of South Africa	Currently being piloted.
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.36 Is there mutual sharing from the sector and national level Financial and Monetary Institutions (FMIs) with your Central Bank for integrated financial sector awareness?
1	Banque d'Algérie	-
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	BCEAO participation in IMF workshops on cyber risks on the theme: "Supervision activities to strengthen cyber security".
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-

2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	-
4	Bank of Mauritius	That could be an initiative that the Bank could initiate.
4	Banque Nationale du Rwanda	This concept is approved, but the implementation plan is in progress
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	There are various levels of maturity in sharing cyber threat information and intelligence across the sector.
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.37 Does your Central Bank envisage specific security measures for the exchange of information with commercial banks?
1	Banque d'Algérie	-
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	For example the use of a specific certificate for the encryption of data between banks participating in the RTGS system.
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	FSD
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	-
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	The Central Bank has implemented applications for secure exchange of information.
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	-
4	Banque Centrale Comores	-
4	Central Bank of Kenya	-
4	Bank of Mauritius	Through its guidelines and the new guidelines on IT risks
4	Banque Nationale du Rwanda	For business data, any data exchange channel is analysed for security vulnerabilities before it is used. For threat intelligence information, with this concept of financial SOC a secure platform will be setup to server the purpose
4	Bank of Uganda	-
4	Bank of Tanzania	-
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	-
4	Central Bank of Seychelles	As part of the Cybersecurity guidelines Financial institutions shall notify the Central Bank of Seychelles within 24 hours of any cyber incident. We will sanitize the information and share/exchange to other FI as part of risk mitigation.
4	Central Bank of Somalia	-
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	The implementation of defense in depth policy and strong authentication.
5	Reserve Bank of Malawi	with the establishment of a CERT
5	Banco de Moçambique	-
5	Bank of Namibia	This is the Bank's principle priority as we work towards an industry CSIRT.
5	Reserve Bank of South Africa	These arrangements already operate and are in various stages of formality which needs to standardised and agreed.
5	Central Bank of Eswatini	-
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.38 Does your Central Bank use multiple technologies or a single provider for all of its IT security features?
1	Banque d'Algérie	-
1	Central Bank of Egypt	Multiple Tech.
1	Central Bank of Libya	Multiple
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	There is a proposal of a SOC centre for the financial sector under consideration
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	Several technologies
2	BCEAO	Several technologies from different providers are used.

2	Banco de Cabo Verde	
2	Central Bank of the Gambia	CBG uses multiple technologies
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	The Bank uses multiple Service Providers.
2	Bank of Sierra Leone	The Bank of Sierra Leone makes use of multiple technologies for all of its IT security features
3	BEAC	La Banque Centrale utilise plusieurs technologies et plusieurs fournisseurs pour l'ensemble de ses dispositifs de sécurité informatique
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	-
4	Bank of Mauritius	We are using diverse technologies from different vendors for IT security features. Multiple technologies/multiple provider.
4	Banque Nationale du Rwanda	We use multiple technologies with risk based security approach
4	Bank of Uganda	THE BANK USES MULTIPLE TECHNOLOGIES
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	Many
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	We have deployed a defence in depth approach using three layers for scanning Emails and IDS/IPS filtering, SOC as services etc.
4	Central Bank of Somalia	
5	Central Banco de Angola	GSI: We use multiple technologies.
5	Bank of Botswana	Multiple technologies are used to address different aspects of security.
5	Central Bank of Lesotho	Different layers of preventive and detective measures are sourced from different providers
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	Multiple. This question requires more than a yes/no response – however, we've responded to the first part of the sentence...
5	Reserve Bank of South Africa	Multiple cyber security technologies are used to create defence in depth.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
<u>Sous-région</u>	<u>Banque Centrale</u>	<u>Question N°3.39 What are the measures or arrangements implemented by your Central Bank against the information system security standard of the supervised institutions?</u>
1	Banque d'Algérie	
1	Central Bank of Egypt	Issued regulations like internet banking & Mobile payments
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	Can not answer Yes, No, and En on this question? The measures are: An annual questionnaire (checks on documents) A cotrôle on the spot
1	Bank of Sudan	To be set and issued with a technical assistance from the world Bank
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	Bank relies on ISO Standards and NIST repository
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	None
2	Bank of Ghana	YES. The Bank of Ghana has issued a 131 page cyber and Information Security Directive for all supervised institution to comply with.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	The CBN had issued the following Information Technology Standards for the banking industry. Risk based Cyber Security Framework Code of Corporate Governance etc
2	Bank of Sierra Leone	The measures implemented by the Bank of Sierra Leone to protect Information Systems includes: Strong firewall Strong password policy Antivirus protection Software updates Regular backups Diligent monitoring
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	Best practices based on Information Security Management System ISO 27001, CBK's Risk Management and Prudential Guidelines.
4	Bank of Mauritius	The guidelines on IT Risk
4	Banque Nationale du Rwanda	We have established a cybersecurity regulation that sets standardized cybersecurity hygiene to the sector
4	Bank of Uganda	BEING DEVELOPPED
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	The Central Bank is developing a Cyber Security guideline to be issued to all Fis.
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	The Bank periodically assesses regulated entities systems and operations to ascertain compliance with AML/CFT National Laws.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	BFM, through its technical team performs audits / intrusion tests of the central bank link - primary banks, and part of the network of payment systems hosted at the level of the latter.
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-

5	Bank of Namibia	The Determination on Information Security (BID-30) was issued to as an information security standard for banks. Furthermore the industry subscribes to the PCI DSS standards with some banks already having the relevant certification and ongoing quality checks. With the SWIFT CPS mandatory controls attestation, the Central Bank monitors implementation and compliance.
5	Reserve Bank of South Africa	The SARB aims to align to the cyber security requirements for its supervised institutions.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The risk management framework outlines a set of infrastructure, systems and control measures expected for supervised entities. The measures are reviewed during periodic examinations of the information management sections.
Sous-région	Banque Centrale	Question N°3.40 Is there mutual sharing from the sector and national level Financial and Monetary Institutions (FMIs) with your Central Bank for integrated financial sector awareness?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	BCEAO participation in IMF workshops on cyber-risks on the theme: "Supervision activities to strengthen cybersecurity".
2	Banco de Cabo Verde	
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	There is a periodic inclusive consultation framework between taxpayers organized under the supervision of the Central Bank.
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	-
4	Bank of Mauritius	-
4	Banque Nationale du Rwanda	This concept is approved, but the implementation plan is in progress
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	-
5	Reserve Bank of South Africa	See question 1 above.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.41 Does your Central Bank make use of an in-house (SOC/NOC) capability for R2 that could integrate into a continental structure?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	But his IT team has been contacted by several local players in the banking sector for the implementation of a SOC for banks
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	YES. The Bank of Ghana has a fully functional SOC/NOC which will integrate with all Banks in the near future.
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	The Bank plans to set up a cyber incidents response team for the year 2019.
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	The Bank is currently deploying a security operations centre (SOC).
4	Bank of Mauritius	The setting up of the Internal Security Operations Center (SOC) is part of the information and cyber security program of the Bank. This SOC could be extended to or integrated at a continental level.
4	Banque Nationale du Rwanda	We have a plan to setup a financial SOC. Business case already in final stages of approval, however we have a fraud forum in place as part of security information sharing in the sector
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	We have outsource this service SOC as a service
4	Central Bank of Somalia	
5	Central Banco de Angola	-

5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	The implementation of a SOC is underway at the level of BFM.
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	In the process of establishing one (medium to long term plan).
5	Reserve Bank of South Africa	The SARB does have an in house detection, recovery and response structure that could integrated into a continental structure.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	Implmentation of the SOC underway
Sous-région	Banque Centrale	Question N°3.42 Does your Central Bank direct the R2 of sector and/or national Financial Industry cyber security incidents that could be integrated at a continental level?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	CBK is represented in National KE-CIRT (Kenya Cyber Incident Response Team) – by three representatives from Information security and Bank supervision.
4	Bank of Mauritius	The Bank's strategy will to have its own R2.
4	Banque Nationale du Rwanda	We have a plan to setup a financial SOC. Business case already in final stages of approval, however we have a fraud forum in place as part of security information sharing in the sector
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	Currently required by our BID 30, but not yet implemented nor effective.
5	Reserve Bank of South Africa	The SARB participated in cyber response structures and plays a very active role in potentially systemic level incidents.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.43 Does your Central Bank conduct Red/Blue teaming exercises to test R2 that could lead to continental wide tests?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	-
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	CERT in the course of implementation
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	-
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tome e Principe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	-
4	Bank of Mauritius	A holistic approach to cybersecurity based on NIST framework is being drafted for the Bank and be submitted for discussion and implementation. This will include the red and blue teaming exercises to test R2.
4	Banque Nationale du Rwanda	We don't conduct these tests for the industry. We give them right to go for any service provider but test results are reported to the central bank on the annual basis.
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	-

4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	-
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	The study is underway (CERT banking project).
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	The Bank only makes use of planned and coordinated Penetration testing, not full Red/Blue team exercises and cannot yet be integrated into regional or continental wide tests.
5	Reserve Bank of South Africa	The SARB conducts regular vulnerability and penetration tests and will conduct its first official red team exercise in the new year.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.44 Could your Central Bank provide or share emergency support and skills during a cyber security incident on sector and national level?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	Projet sécurité
1	Bank of Sudan	-
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	Not in place
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	As soon as the cyber incidents response committee is set up, it is conceivable that this structure can provide support at the sub-regional level.
3	Banque Centrale du Congo	-
3	Banque Centrale de São Tomé e Príncipe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	-
4	Bank of Mauritius	The Bank is providing training to upgrade the skills of its resources to provide emergency support at a sectorial and national level. Furthermore, the Bank is also participating in the setting up of the Anti-Cyber Threat Monitoring System at CERT-MU as a major stakeholder in the financial and banking sector in Mauritius.
4	Banque Nationale du Rwanda	We have a local cybersecurity team that has been providing such service to the sector and at the national level. However, the team needs more sharpening
4	Bank of Uganda	THE NATIONAL INFORMATION TECHNOLOGY AUTHORITY (NITA) IS TRAINING STAFF FROM VARIOUS ORGANISATIONS
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	-
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	The Bank is in the process of developing the necessary skills.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	BFM has the technical expertise, but the intervention should be in line with BFM's obligations and the various related regulations.
5	Reserve Bank of Malawi	At national level
5	Banco de Moçambique	-
5	Bank of Namibia	Working towards having this capability.
5	Reserve Bank of South Africa	The SARB has built an in-house cyber incident management capability that could be upscale to provide national level support.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	-
Sous-région	Banque Centrale	Question N°3.45 Does your Central Bank have well-defined procedures in the event of an incident (data loss, system failure) or cyber attack?
1	Banque d'Algérie	
1	Central Bank of Egypt	-
1	Central Bank of Libya	-
1	Banque Centrale de Mauritanie	Security Project
1	Bank of Sudan	We have it for the major Payments System and the core banking system
1	Banque Centrale de Tunisie	-
1	Bank Al-Maghrib	-
2	BCEAO	-
2	Banco de Cabo Verde	-
2	Central Bank of the Gambia	-
2	Bank of Ghana	-
2	Banque Centrale de la République de Guinée	
2	Central Bank of Liberia	-
2	Central Bank of Nigeria	-
2	Bank of Sierra Leone	-
3	BEAC	The Bank has begun to think about setting up a global system to combat cyber incidents. This plan takes into account the definition and internal publication of well-defined procedures to deal with it. The achievement of this goal is set for 2019.
3	Banque Centrale du Congo	A document on crisis management is being validated.
3	Banque Centrale de São Tomé e Príncipe	-
4	Banque de la République du Burundi	
4	Banque Centrale Comores	
4	Central Bank of Kenya	The Bank is currently developing a cyber incident management procedure.

4	Bank of Mauritius	The Bank has developed a Cyber Incident Response Policy and Procedure which has already been approved by management. The same has to be submitted to the Board for approval. Furthermore, for Business Continuity in case of an incident, the Bank has already started the implementation of the Business Continuity Management System based on ISO 22301.
4	Banque Nationale du Rwanda	We have in place an incidence response plan together with disaster recovery plan. People are trained on it, and plans are tested regularly
4	Bank of Uganda	-
4	Bank of Tanzania	
4	Banque Nationale de Djibouti	-
4	National Bank of Ethiopia	
4	Central Bank of Seychelles	We have an Incident Respond Plan
4	Central Bank of Somalia	
5	Central Banco de Angola	-
5	Bank of Botswana	There is a framework which feeds into the Business Continuity Plan.
5	Central Bank of Lesotho	-
5	Banque Centrale de Madagascar	-
5	Reserve Bank of Malawi	-
5	Banco de Moçambique	-
5	Bank of Namibia	The Bank is busy revising its policies to better align with international best practices and are pending approval in early 2019.
5	Reserve Bank of South Africa	The SARB has formally defined cyber incident response and recovery procedures in place.
5	Central Bank of Eswatini	
5	Bank of Zambia	-
5	Reserve Bank of Zimbabwe	The procedures are clearly outlined in the systems operation guidelines

Annexe 4 : List of respondents and experts

Sub-region	Central Bank	Names of staff answering and FinTech experts associated
1	Central Bank of Egypt	- Ehab Nasr (ehab.nasr@cbe.org.eg ; Head of payments) - Sameh Elshall (sameh.elshall@cbe.org.eg ; Assistant Sub governor Payment systems & Business Technology)
	Central Bank of Libya	- Dr. Fauzi M Abokhzam (fabokhzam@cbl.gov.ly ; Director of Payments and Settlements) - Dr. Salem Alsewi (SAlsewi@cbl.gov.ly ; Director of IT Security Department) - Dr. Ahmed Mihoob (AMihoob@cbl.gov.ly ; IT consultant) - Dr. Nabeil Abujnah (NAbujnah@cbl.gov.ly ; IT consultant)
	Banque Centrale de Mauritanie	- Saadna Ahmed.Jiddou (saadna@bcm.mr ; Conseiller.du.Gouverneur.chargé.des Fintech) - Ahmed Baba.Wellad (abwelad@bcm.mr ; Conseiller.du.Gouverneur.chargé.de.la.securité) - Ahmed Salem.Mamouny (mamouny@bcm.mr ; Cadre Financier)
	Central Bank of Sudan	- Hamida Mohamed Salih (Hamida.salih@cbos.gov.sd ; Manager, Payment System Directorate) - Mohammed Yassin Moawia (Mohamed.Moawia@cbos.gov.sd ; Assistant Banking Supervisor AML/CFT Division)
	Bank Al Maghrib	
	Banque Centrale de Tunisie	- Nizar CHADED (Fintech@bct.gov.tn) ; Coordinateur du Comité Fintech à la BCT - Dorra MARRAKCHI (Fintech@bct.gov.tn) ; Adjoint au Coordinateur du Comité Fintech à la BCT
2	BCEAO	- Habib THIAM (htihiam@bceao.int) ; Directeur de la Stabilité Financière - Mohamed TRAORE (motraore@bceao.int) ; Chef de Service
	Central Bank of The Gambia	- Karamo Jawara (kjawara@cbg.gm ; Director, Banking Department) - Peter Prom (pprom@cbg.gm ; Director, Information Technology) - Amadou Koora (akoora@cbg.gm ; Director, Financial Supervision)
	Bank of Ghana	
	Central Bank of Liberia	- Erica Reeves Williams (erwilliams@cbl.org.lr ; Asst. Director, Digital Financial Service) - Diakae Al Lewis (dallewis@cbl.org.lr ; Asst. Director, IT & Cyber Security.) - George Harvey. (gharvey@cbl.org.lr ; Dep. Director, Cyber Security.)

Sub-region	Central Bank	Names of staff answering and FinTech experts associated
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	Bank of Sierra Leone	<ul style="list-style-type: none"> - Crispin Denison-George (cgeorge@bsl.gov.sl. ; Assistant Director, Management Information Systems Dept.) - Momoh L. Sesay. (mlsesay@bsl.gov.sl. ; Senior manager, Financial Inclusion)
3	BEAC	<ul style="list-style-type: none"> - IKITO BESSALA Marie (bessala@beac.int.. ; Chef de Service.au Département des Affaires Juridiques et de la Règlementation) - ELOUNDOU NDEME Jacques (jeloundou@beac.int ; Chef de Service des Etudes, Règlementation et Normalisation Financière/Direction des Systèmes et Moyens de Paiement) - MBEDE.Jean-Luc (mbedejl@beac.int ; Chef de Service Sécurité du Système d'Information/Direction des Systèmes d'Information) - DUCOR MSHAA (ducor@beac.int ; Chef de Service des Relations Financières Internationales/Direction des Relations Internationales)
	Banque Centrale du Congo	<ul style="list-style-type: none"> - SIAZO GINI (siazobcc.cd) ; Responsable de Direction - LUBOA NGOVO (luboa@bcc.cd) ; Responsable-Adjoint de Direction - EKINDA BALANGA (ekinda@bcc.cd) ; Responsable de Service ACH - KAMBERE MUKOKOLA (muk.kambere@bcc.cd) ; Responsable de service surveillance - KANKONDE LUMBWE (l.kankonde@bcc.cd) ; Responsable de service RTGS - BEKILA BOFANGA (chris.bekila@bcc.cd) ; Surveillant des systèmes et instruments de paiement - KINGUNGU KISEKA (kingungu@bcc.cd) ; Gestionnaire opérationnel RTGS - NKAMBUA MUSENSE (m.nkambua@bcc.cd) ; Gestionnaire opérationnel RTGS

Sub-region	Central Bank	Names of staff answering and FinTech experts associated
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4	Banque Centrale de Djibouti	- Omar Ibrahim (omar.ibrahim@banque-centrale.dj) ; Superviseur - Habone Mal (habone.mal@banque-centrale.dj) ; Superviseur - Habib Barkat (habib.barkat@banque-centrale.dj) ; Juriste
	Central Bank of Kenya	- GERALD NYAOMA (fin@centralbank.go.ke), Director, Bank Supervision - MWENDA K. M'MARETE (MareteMK@centralbank.go.ke) Ag. Director, Banking and Payment Services - HABIL MUTENDE (Mutendehk@centralbank.go.ke) Ag. Assistant Director, Information Technology - ANTHONY MACHARIA GACHANJA GRACE OGAWO (gachanjaam@centralbank.go.ke ou ogawogo@centralbank.go.ke) Information Systems Auditor - EVELYNE KILONZO (KilonzoEK@centralbank.go.ke) Head of Financial Inclusion and Innovation Team (FIIT) Digitalization Working Group - GRACE GICHEMA (GichemaGW@centralbank.go.ke) Policy Analyst
	Bank of Mauritius	- Neetyanand Kowlessur (Neetyanand.Kowlessur@bom.mu / InternationalRelations@bom.mu ; Chief- Governor's Office)
	Banque Nationale du Rwanda	- Adeline MUKASHEMA. (amukashema@bnr.rw ; Principal Analyst, payment systems)
	Bank of Uganda	- Mackay Aomu (maomu@bou.or.vg ; National Payment System) - Vito Semakula (vsemakula@bou.or.ug ; I.T. Operations) - Olwe Nelson (nolwe@bou.or.ug ; National Payment System)
	Central Bank of Seychelles	- Mr Jude Woodcock (Jude.Woodcock@cbs.sc ; Chief Information Security Officer) - Miss Brigitte Lucas (brigitte.lucas@cbs.sc ; Financial Inclusion Analyst) - Miss Lana Woodcock (lane.woodcock@cbs.sc ; Financial Surveillance Analyst) - Miss Lynn Commettant (lynn.commettant@cbs.sc ; Financial Surveillance Analyst)
5	Banco Nacional de Angola	- José João Borges (jborges@bna.ao ; Director) - Elavoko Chaves João (ERJOAO@bna.ao ; Deputy Director) - Francisco Canvula Manuel (fmanuel@bna.ao ; Deputy Director) - Isabel Gomes (igomes@bna.ao ; Deputy Director) - António Chesseman Neto (acneto@bna.ao ; Deputy Director)
	Bank of Namibia	- Barbara Dreyer (Barbara.dreyer@bon.com.na ; Payment and Settlement System) - Romeo Nel (Romeo.nel@bon.com.na ; Banking Supervision) - Marsorry Ickua (Marsorry.ickua@bon.com.na ; IT)

Sub-region	Central Bank	Names of staff answering and FinTech experts associated
	Reserve Bank of Malawi	<ul style="list-style-type: none"> - Austin Chiumia (achiumia@rbm.mw ; Macroeconomic modelling) - Zellipah Mkandawire (zmkandawire@rbm.mw ; National Payment System) - Tituschima (tituschima@rbm.mw ; Bank supervisor) - Jewel Ndalama (jewelndalama@rbm.mw ; Information and Communication Technology)
	Banky Foiben'I Madagasicara	<ul style="list-style-type: none"> - Seheno Ranaivoson (sec.sg.csbf@bfm.mg ; Secrétaire Général de la CSBF) - Josiane Ramanalinarivo (sec.dsp@bfm.mg ; Directeur des Systèmes de Paiements) - Aubin Belalahy (sec.dri@bfm.mg ; Directeur des Etudes et des relations Internationales)
	Centrale Bank of Lesotho	<ul style="list-style-type: none"> - Rethabile Masenyetse (rmasenyetse@centralbank.org.ls ; Executive Assistant to Governor) - Thabiso Makula (tmakula@centralbank.org.ls ; Acting Head, ICT Department) - Motheo Lechesa (mlechesa@centralbank.org.ls ; Head, National Payment Systems)
	Reserve Bank of Zimbabwe	<ul style="list-style-type: none"> - Mr. E Rwatirera ; erwatirera@rbz.co.zw ; Director Human Resources & Support Services - Mr. E Rwatirera ; erwatirera@rbz.co.zw ;
	South African Reserve Bank	<ul style="list-style-type: none"> - Anrich Daseman (Anrich.Daseman@resbank.co.za ; Senior Fintech Analyst) - Gerhard van Deventer (gerhard.vandeventer@resbank.co.za ; Senior Fintech Analyst) - Arif Ismail (Arif.Ismail@resbank.co.za ; Head of Fintech unit)
	Bank of Botswana	<ul style="list-style-type: none"> - Ms Patricia C Tumedip (tumedip@bob.bw ; Payments and Settlement Department) - Mr Julius Ghanie (ghanieJ@bob.bw ; Information and Technology) - Dr Lesedi Senatla (senatlal@bob.bw ; Banking Supervision Department)
	Banco de Moçambique	<ul style="list-style-type: none"> - BENEDITA GUIMINO (benedita.guimino@bancomoc.mz ; Director - Payment Systems) - PINTO FULANE (pinto.fulane@bancomoc.mz ; Director – Prudential Supervision) - SAMUEL ARONE (samuel.arone@bancomoc.mz ; Head of Service-Currency Department) - JOSE BRAZÃO (nelson.brazão@bancomoc.mz ; Head of Service- IT Department)
	Bank of Zambia	<ul style="list-style-type: none"> - MIRRIAM KAMUHUZA (MKAMUHUZA@BOZ.ZM, HEAD OF PAYMENT DIVISION) - MWABA KASESE (MKASESE@BOZ.ZM, HEAD OF CYBER SECURITY FUNCTION)