Information Systems in Public Financial Management

Expanding the institutional coverage of a financial
management information system:
Lessons from Benin, Nigeria and Ghana

Contents

Acronyms and abbreviations

BES	Budget Execution Subsystem
BMCs	Budget Management Centres
BPS	Budget Preparation Subsystem
COVID-19	Coronavirus Disease 2019
DAF	Director of Administration and Finance
FGoN	Federal Government of Nigeria
FMIS	Financial Management Information System
GBCO	*Gestion Budgétaire et Comptable des communes* (Budgetary and accounting management of municipalities)
GIFMIS Ghana	Ghana Integrated Financial Management Information System
GIFMIS Nigeria	Government Integrated Financial Management Information System
GOE	Government-owned Enterprise
IGF	Internally Generated Funds
IT	Information Technology
LGBC	*Logiciel de Gestion Budgétaire et Comptable des communes* (Budgetary and accounting management software for municipalities)
MDAs	Ministries, Departments and Agencies
MMDAs	Metropolitan, Municipal and District Assemblies
MoF	Ministry of Finance
MoFEP	Ministry of Finance and Economic Planning
PBB	Performance-Based Budgeting
SDE	Deconcentrated State Services
SGDB	*Système de Gestion de Base de Données* (Database management system)
SIGFiP / SIGFP	*Système Intégré de Gestion des Finances Publiques* (Integrated public financial management system)
SNDI	*Société Nationale de Développement Informatique*
SOEs	State-owned Enterprises
WAEMU	West African Economic and Monetary Union

Acknowledgements

1 Introduction

In most sub-Saharan African countries, budget execution and accounting processes were, until the 2000s, either manual or supported by very old and inadequately maintained software applications. This limited access to reliable and timely data on revenue and expenditure for budget planning, execution, monitoring and reporting, and contributed to inefficient budget management. Most African governments, supported by development partners, have consequently made significant investments in the development of financial management information systems (FMIS) to automate functionalities of public financial management for greater allocative efficiency, budget credibility and transparency (Diamond & Khemani, 2005).

All African ministries of finance now operate some form of FMIS and many have rolled these systems out across central government to line ministries and, occasionally, state-owned enterprises (SOEs). FMIS have also, albeit less frequently and with varying levels of success, been rolled out to lower tiers of government (departments, provinces, states and municipalities) and, in some countries, public social services (schools and hospitals).

The comprehensive coverage of an FMIS allows government to approach public financial management holistically and reduces fragmentation in data capturing and analysis. Introducing a single FMIS across all tiers and parts of government, particularly local government, is believed to (i) improve financial management and the adoption of appropriate management of public resources for enhanced service delivery (Gcora & Chigona, 2019); (ii) increase comprehensiveness and efficiency of the municipalities' staff and services (Pecdar, n.d.); and (iii) improve financial accountability through prompt reporting (Muhamud et al., 2019).

However, rolling out an FMIS beyond the ministry of finance (MoF) to line ministries and then to local government or agencies is, perhaps unsurprisingly, a complex and time-consuming exercise.[1] It requires many different administrative units to work with the same tools and language such as a standard chart of accounts; strong IT capabilities and equipment throughout government; budget officials' willingness to shift from manual to computerised processes (despite their fearing a loss of authority and, possibly, opportunities to embezzle funds) (Muhamud et al., 2019); and the existence of 'proper process and systems' (Gerardo & Pimenta, 2015) such that budget guidelines and requisite organisational structures are in place with new responsibilities and approval hierarchies.

Many African countries, cognisant of the challenges faced by their peers in rolling out their FMIS beyond central government, and even beyond the ministry of finance, have not yet taken the leap to fully extend the institutional coverage of their FMIS. This case study therefore offers important lessons for these countries, and those seeking to optimise their rollout process, by sharing lessons learned in extending FMIS coverage in the Republic of Benin, the Federal Republic of Nigeria, and the Republic of Ghana.

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1   For instance, the rollout process in Mozambique, Tanzania and Zambia suffered significant delays (four years, three years and four years, respectively), primarily due to institutional weakness and lack of readiness from all stakeholders.

2 Country experiences in extending the institutional coverage of their FMIS

This section outlines how Benin, Nigeria and Ghana extended the institutional coverage of their FMIS.

The Benin experience depicts the government's rollout of its existing FMIS (SIGFiP) and the adoption of a new FMIS (SIGFP), designed for programme-based budgeting. Key lessons from Benin include (i) the importance of establishing clear policies and measures for the mandatory use of FMIS by all institutions; (ii) the need to set up continuous training in budgeting, accounting and internal procedures; and (iii) the importance, at the local-government level, of streamlining information systems used and ensuring their robustness and functioning.

Ghana's experience relates to the extension of its platform, the Ghana Integrated Financial Management Information System (GIFMIS), to metropolitan, municipal and district assemblies (MMDAs), and these institutions' non-conformity to the legal requirement to use the platform for budget transactions. It shows that, even with clearly legislated sanctions for not implementing or using the GIFMIS, lack of compliance prevails, pointing to the importance of capacity and will to enforce sanctions. Moreover, the Ghana Health Service's responsibility for capturing financial information for hospitals overburdens certain agents and increases the potential for data being captured inaccurately. Finally, from Ghana, we are reminded that when onboarding additional institutions, government cannot afford to underinvest in the system's performance and functionality.

Finally, the experience of Nigeria in extending the institutional coverage of its GIFMIS to government-owned enterprises (GOEs) teaches us that the standardisation of budget information and processes for all institutions is a prerequisite for effective rollout of an FMIS. We also learn from Nigeria's experience that particular challenges arise when attempting to roll out an FMIS to self-funded enterprises.

2.1. Republic of Benin: extension to MDAs and system replacement

This case study reflects Benin's experience in rolling out its original information system – *Système Intégré de Gestion des Finances Publiques* (SIGFiP) – to lower levels of government as well as adopting a new FMIS (SIGFP, also *Système Intégré de Gestion des Finances Publiques*), which is integrated with the old system. The process of rolling out the SIGFP to line ministries is illustrated through the experience of the Ministry of Agriculture, Livestock and Fisheries.

Benin built its original custom software (SIGFiP) in 2001 – in partnership with a private firm from Côte d'Ivoire, *Société Nationale de Développement Informatique* (SNDI) – for the purpose of automating the expenditure chain, first within central government, i.e., line ministries and public institutions, and, subsequently, with the advent of decentralisation in 2003, within local government at the department level and, more specifically, within prefectures.

The new SIGFP is an integrated web design system comprising a *Système de Gestion de Base de Données* (SGDB) (Diamond & Khemani, 2005) ORACLE 11g database developed using agile methodology by the same Ivorian service provider (SNDI) that designed the first platform, implying permanent interaction between information technology (IT) experts and sector experts (Diamond & Khemani, 2005). It is designed to include classification of performance-based budgeting (PBB) and will have three modules (compared to one presently): budget preparation, budget execution and accounting. The three modules will be launched simultaneously for all ministries. Data entry into the SIGFP is synchronised with the SIGFiP – the platforms are interconnected, such that budget officials are using both platforms at the same time (called double command).

Extension of the SIGFiP to lower tiers of government

The extension of the SIGFiP to departments and, more specifically, prefectures was aimed at recording Deconcentrated State Services' (SDE)[2] budget execution. The decision was motivated by the negative consequences of using manual procedures: (i) tardiness in receiving prefectures' budget information; (ii) inaccuracy of the data due to high error rates; and (iii) inconvenience, as the MoF had to collect data every trimester from prefectures as a way of obtaining their budget information.

As a result, in 2007, the FMIS was extended to departments, with all six departments directly and simultaneously connected to the system at the central level. With the reconfiguration of the national territory to 12 departments in 2016, the government extended the rollout of the SIGFiP to the new departments and trained the relevant staff. All stages of approving and disbursing expenditures – commitment, validation, authorisation and payment – have been automated. As a result, departments can execute their expenditures in real time and must publish their financial statements through the system; manual operation is forbidden.

The deployment of the FMIS in departments consisted of (i) equipping prefectures with computers, printers and servers, and (ii) training staff in the financial affairs departments of prefectures and the SDE, as well as any agents responsible for finances in an institution managing assigned funds. The training is held annually and is led by the MoF's IT department. It focuses mainly on capturing and validating commitments and lasts one week (a day for each group of institutions). Participants appreciate the training as they feel they learn new aspects of the platform for better utilisation during these sessions.

Overall, agents are becoming proficient in operating the system through learning by doing; however, there are occasional instances when errors occur. They are mainly due to inaccurate data entries, but thanks to the different levels of control on the platform, the errors end up being detected – at best, at the level of the Director of Administration and Finance (DAF) and, at worst, at the level of the Financial Controller who is in the Budget Directorate and responsible for verifying payment requests and controlling supporting documents. The SIGFiP is configured in such a way that budget officers cannot enter an amount that is higher than the amount initially budgeted for a line item; however, the platform does not detect the capturing of an amount that is lower than the budgeted amount. Budget officers can cancel an incorrect entry as soon as they realise the mistake.

At the level of prefectures, several challenges have arisen with the use of the system. Prefectures are responsible for overseeing budget preparation and execution by municipalities and play a role in reporting the use of resources transferred by central government to municipalities. However, they face a number of difficulties:

- **Limited access to energy supply and unstable connectivity.** The smooth use of the system is disrupted by limited access to energy supply and, more importantly, an unstable connection to the SIGFiP network. As a result, when the system is down, a representative of the Prefect and the secondary authorising officer are asked to travel to the economic capital Cotonou or to the nearest prefecture to capture the data. Data capture happens when there is an accumulation of enough files on the projects executed, but when conditions don't allow for local data capture an agent or team from the prefecture chooses a date to make the trip to another centre to input the budget information. This has not impacted negatively on the exhaustiveness of the data captured by different prefectures committed to using SIGFiP for their financial transactions, but inefficiencies are common in a few prefectures that often have to capture their budget information in a neighbouring prefecture. It becomes cumbersome for representatives of these municipalities to travel with their files to another centre to do their work. It also raises the issue of the robustness of the SIGFiP at the local level. All updates and repair costs are borne by the government through the use of subcontracted companies close to, or that have representatives near, the different prefectures.

- **Fragmented nature of information systems for municipalities.** As discussed further in text box 1 (on page 6), the Government of Benin has elected for municipalities to have independent information systems (up to three, with only one, the *Gestion Budgétaire et Comptable des communes* (GBCO), being mandatory). These systems are neither linked nor integrated with the SIGFiP, leading to duplication and fragmented operations and information.

Introducing the new FMIS: SIGFP

In 2014, the Ministry of Economy and Finance drafted the 2016–2020 strategy for implementing the 2009 West African Economic and Monetary Union (WAEMU) directives related to the harmonised framework for public financial management. The strategy included the redesign of the current information system to create an entirely new platform (SIGFP) (Winfred et al., 2018) to: (i) incorporate innovations from the directives, primarily adopting programme-based budgeting; (ii) design a more modern and performant platform that will integrate all modules; and (iii) take into account the difficulties encountered with the current platform (Ministry of Economy and Finance (Benin), 2016). The SIGFP, which was due to go live on 1 January 2021, is currently in the last stage of

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2   Deconcentrated State Services (SDE) are representatives of selected MDAs at the departmental level, specifically in prefectures, who assist municipalities in implementing sectoral programmes and resource mobilisation, and provide advisory services.

Text box 1: Municipalities' multiplicity of software and its impact on streamlining budget information

From the onset of decentralisation in 2003, municipalities in Benin have been using three locally developed software packages for the management of local finances: LGBC (*Logiciel de Gestion Budgétaire et Comptable des communes*) for budget formulation, execution and payroll; GBCO (*Gestion Budgétaire et Comptable des communes*) for budget formulation, execution, programme budgeting, payroll, project management and accounting; and WMoney for accounting management. GBCO is the only mandatory software for all municipalities.

The objectives of these software packages were to automate financial transactions, provide similar information to all stakeholders in the expenditure chain, reduce data entry errors, and optimise the production of administrative and management accounts in a timely fashion. Various updates were made over time in order to comply with changes in regulations and to cater to the information needs of central government and technical and financial partners. Besides the repetition of operations to capture financial transactions in three systems, there are a number of other shortcomings:

- **Lack of transparency**. The lack of transparency in the contractual relationship between municipalities and service providers who designed the two budget-management software programmes has led to the public administration ignoring the terms of the contracts and costs incurred. Moreover, it also prevents the government from exerting pressure on the service providers to provide prompt technical assistance to municipalities, and leaves municipalities vulnerable in terms of access to and safeguarding of their data.

- **The fragmentation of information between different software programmes**. This fragmentation prevents the government from obtaining an overview of budget information across municipalities in real time. Moreover, despite efforts to harmonise the information, the system carries the risk of errors and a mismatch of data so that it becomes impossible to produce statistics on local finances directly from the existing software. This situation is not likely to change as municipalities will not be enrolled on the new SIGFP.

- **Irregular organisation of training sessions, which are conducted separately for each software package**. As a result, due to staff turnover, there are sometimes no staff members with experience in using the software. Also, difficulties encountered with the software are not discussed with all users so that common solutions can be found. Last, most capacity-building sessions are initiated by development partners who are more concerned about informing municipalities about the evolution of the technology than strengthening their use of the system.

Source: Ora2K. (2018). Diagnostic of municipalities' software for budget management and accounting.

phase one, being piloted in all ministries, departments and agencies (MDAs). Phase two will include enrolling lower tiers of government. While this staggered rollout is primarily due to funding constraints, rather than any strategic or logistical preoccupations, the challenges associated with rolling out an FMIS to local government (as discussed in text box 2) would indubitably have been a consideration for the Government of Benin.

Piloting SIGFP in ministries and public institutions: Since the beginning of fiscal year 2020, the Government of Benin has been piloting the use of the SIGFP in the entire national government (underway in all 24 ministries and all public institutions simultaneously). The system was scheduled to be rolled out on 1 January 2021, but this has been delayed. From the outset, the government's instruction was clear: no capture of budget information in the new FMIS, and no appropriation to MDAs.

Various measures were taken to ensure compliance, such as setting up the new FMIS on dedicated computers in MDAs, more specifically in the Directorate of Financial Affairs. The configured software is the sole platform that MDAs can use, and it is interconnected with the old one such that any data entry is captured in both systems. It is only in the case of an emergency related to the speedy execution of a project that officers can revert to the old system, but they then need to go back to the new one to input the data. A dedicated MOF team is readily available to assist MDAs in case of difficulties or bugs in the system. This approach is lengthy and cumbersome, but it has ensured the use of the platform by all MDAs, as requested.

To facilitate the adequate use of the FMIS, three to four focal points were chosen in each line ministry to participate in a series of training courses on theoretical concepts and practical-use cases. These focal points also received an extensive manual of procedures to refer to in case of uncertainties. The selection of these officials is a determinant of the reform. While it is important that they assimilate the concepts adequately, they also have to find and dedicate the time to train their colleagues, especially because they are responsible for training their units to ensure that all stakeholders understand how to use the new system. There has not yet been an assessment of the effectiveness of this training or an evaluation of the agents to establish whether transfer of knowledge has taken place.

At the end of the pilot, an evaluation session will bring together all users in line ministries to share the advantages, and difficulties, of the platform. This feedback will be factored into the improvements that will be made to the functionalities of the platform as well as related processes. However, the rollout of the platform will not be conditional on integrating these changes, which will be actioned progressively. Although done to gain time and make the system available for the budget process, this approach presents risks in the seamless use of the FMIS: functionalities might not be relevant to MDAs, the reporting format might be inadequate, and data might not be available on an exhaustive and timely basis.

Change in approval process, and increasing the autonomy of MDAs: The approval hierarchy has also changed with the introduction of PBB and the rollout of the SIGFP. Heads of programmes are nominated, through ministerial decision, in proportion to the number of programmes within the ministry (maximum of four). They include the Director of Financial Affairs and other sector experts for each programme within the ministry. The authorising function is deconcentrated from the DAF to the heads of programmes, making them all deputy authorising officers responsible for committing, validating and authorising expenditures for their respective programmes. They can also reallocate funds in a programme within a set

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Text box 2: Rolling out FMIS to lower tiers of government in sub-Saharan Africa

The experiences of rolling out FMIS to lower tiers of government in sub-Saharan Africa have not been as well documented as the rollout of FMIS at government level. While some prerequisites such as effective design of the platform, ownership from users, leadership and commitment from government and the project implementation team, and capacity building contribute to a successful rollout of the platform, there are specificities of lower tiers of government that need to be taken into consideration. These include:

• **Availability of infrastructure:** Infrastructure includes permanent energy, hardware and software, internet connection and network connectivity between platforms in central government and those in lower tiers of government (Winfred et al., 2018). More so than in other parts of the public administration, the IT infrastructure of local governments is poor. Moreover, local governments, government institutions and agencies have limited numbers of computers, and those that are available are often not of high quality. Often, development partners step in to donate equipment and, in worse cases, some agents bring their personal computers to work to perform their duties. Regardless of internet penetration, the further one goes from metropolitan areas, the less stable or existent is the connection, requiring a trip to a nearby city to send documents or emails, or going several days without being able to perform certain duties. Last, generally, the different interfaces of the FMIS in different institutions are interconnected such that information captured in one institution is saved and visible on the central dashboard. However, at times, due to defaults in design or connectivity problems, the captured data are not available in real time. It is thus important for governments to be mindful of existing infrastructure during the rollout of the FMIS and to make the necessary additional investments to ensure reliability in order to work effectively and accomplish the intended tasks so that information is not lost and agents do not spend unnecessary time on the platform or travelling to cities.

• **Quality of the system:** According to Delone & McLean (2003), system quality implies that users' needs are addressed, information produced is accurate, new information is swiftly processed, complete information is produced in a clear, coherent and consistent format, information is accessible when needed, and information can be combined with information from other sources (Winfred et al., 2018). Overall, the system must satisfy standards related to factors such as accuracy, timeliness, completeness and security (Winfred et al., 2018). Often, due to the extent of the rollout of the FMIS to lower tiers of government, system quality criteria are only partially existent because infrastructure, capacities and monitoring do not allow for accuracy, timeliness, completeness and security. Quality standards must be ensured at all levels of government so that the FMIS accurately reflects financial transactions from institutions enrolled on the system.

• **Training and capacity building:** Lower tiers of government have difficulties attracting the best candidates because graduates and professionals prefer building their careers in the capital and other cities where salaries and perks are more enticing. As a result, these institutions generally have personnel with low capacity, including in the use of information systems, and often experience high staff turnover. There is thus a need to focus on building the capacity of local government officials through continuous training and dissemination of manuals and operational guidelines. Besides formal classroom-type training, support is also necessary for all staff in the form of coaching, mentoring, etc. The support that system users receive from centralised IT teams includes responsiveness, accuracy, reliability, technical competence and empathy (Ministry of Finance and Economic Planning and Local Government Board, 2013).

framework, although more substantial changes still need the approval of the Budget Director in the MoF. With the shift to the SIGFP, the dependence of MDAs on the MoF and Budget Directorate in executing expenditure will decrease. This shift in processes will give more autonomy to MDAs, which will henceforth interact with the MoF only in exceptional circumstances and when assistance with the platform is needed. They will no longer be submitted to the intricacies of negotiating for prioritisation of their disbursements.

The number of procedures that need validation before proceeding to the next phase and the extent of the supporting documents that are required make data capturing in the new platform a relatively lengthy process (validation from stakeholders in the expenditure chain who physically have to make their approvals on one of the computers in the ministry; supporting documents have to be scanned; etc.). Agents spend twice as much time conforming to this requirement and it has led to complaints and dissatisfaction among budget officials who find the reforms cumbersome (SIGFP Steering Committee, 2020). While this has been acknowledged by the steering committee in charge of the pilot, no measures have been taken to motivate and appease agents.

Lessons learned from Benin

- **Clear government instruction on the systematic use of the FMIS by MDAs for budgeting and conditioning disbursements to the use of the platform ensure compliance from MDAs.** The conditioning of disbursements of funds to MDAs to execute their budget through the new FMIS (SIGFP) has worked despite the additional burden that has been added to the daily tasks and changes in responsibilities of various actors. It seems that the financial incentive (access to budget allocations) and the close monitoring of institutions in the use of the FMIS are strong incentives to avoid circumventing the use of the system for budgeting.

- **Extending the coverage of a new FMIS and backing it up with the former FMIS should prevent recourse to the latter, and clear conditions for exceptional procedures should be specified.** MDAs' exemption from the MoF to swiftly capture transactions in the old platform (SIGFP) in cases of urgent disbursement of funding for a project can be delicate, as it introduces the risk of a few transactions not being captured due to omission or negligence. Moreover, the lack of clarity in the criteria for approving these exceptional transactions poses risks such as lack of transparency and budget information not being available in real time. Therefore, bypassing the platform to use the previous platform in the case of urgent disbursements should be avoided, or allowed only for exceptional cases that are clearly

defined by government, otherwise it undermines transparency. With the pressure of ending the pilot in order for the SIGFP to be entirely operational on 1 January 2021, guidelines need to be established to address exceptional procedures.

- **The appointment of new stakeholders in the expenditure chain requires a continuous training programme to ensure basic understanding of executing expenditure and to learn the ropes of navigating the public administration.** The integration of the nomenclature for PBB in the SIGFP entails the decentralisation of power from the DAF to heads of programmes. These new stakeholders most likely have no experience or understanding of executing expenditure. Moreover, they were not central to the process of committing, validating and authorising expenditure and may not understand the bureaucracy, including who to address, which files to expedite, how to get swift validations, etc. Worse, during the pilot phase, they did not start using the new system to get acquainted with its modules and functionalities. While the government is pursuing a wide training programme for all involved stakeholders, heads of programmes have yet to be trained. In the meantime, though, heads of programmes participate in periodic management dialogues. These dialogues should include a training dimension from DAFs or other financial officers that will both increase the heads of programmes' understanding of budgeting and accounting concepts and show them how to navigate public administration for timely execution of the budget.

- **The multiplicity of information systems at all levels of government does not give an exhaustive and transparent account of public finances, and the platform used by lower tiers should be robust and functional.** The use of multiple platforms with similar information being captured in several different places gives a fragmented view of public finances and prevents the timely accessibility of budget information. Moreover, the various bugs and dysfunctions in the SIGFiP at departmental level signify the platform's lack of robustness with regard to existing infrastructure. This takes a lot of the agents' time away from their regular duties. In the case of municipalities, up to three information systems are being used simultaneously for budgeting and accounting purposes, none of which is integrated with SIGFiP or will be with the SIGFP either. This undermines the exhaustiveness of the information on the national budget. An audit of the three platforms has resulted in recommendations for their merger so that municipalities have a unique platform.

2.2. Republic of Ghana: extension of the GIFMIS to local government

Ghana's FMIS, the Ghana Integrated Financial Management Information System (GIFMIS), was launched in 2014 for the 2015 budget. A well-considered system, it was aimed at onboarding all entities financed by the national budget, including all MDAs as well as government-funded schools, hospitals and MMDAs. The overall objective of extending the system to assemblies is to monitor revenue collection, disbursement and judicious utilisation of internally generated revenue funds, as well as to prevent fraud (GBN, 2018).

Designed in conjunction with the consulting firm KPMG, the approach to developing the GIFMIS was inclusive: various stakeholders were interviewed, and a study was conducted on what would work in the context and according to budget procedures, manuals and acts. The results of the study were used by the vendor from Portugal who was hired to develop the GIFMIS as an on-premises, web-based system that could be used by users on computer, tablet or smartphone with an internet connection. Moreover, a blueprint document was developed, which outlined the characteristics of the system, the step-by-step use of functionalities, and the design of reports.

Integration of MMDAs

After more than two years of planning, the government has begun to undertake the integration of subnational entities consisting of the 260 MMDAs that rely on national fiscal transfers from central government for the development of their territorial jurisdictions. To date, 60 pilot assemblies have been enrolled on the GIFMIS (Local Government Service – Ghana, 2017). The process was slowed down by the lockdowns due to the COVID-19 pandemic, which impacted staff's availability and business continuity, and the need to first address sanitary matters to ensure the safety of all. Although the pandemic has slowed down the integration of MMDAs into the platform, the objective to have them using the system for the 2021 fiscal year is still on target.

The enrolment of MDAs and MMDAs into the GIFMIS involves the Ministry of Finance and Economic Planning (MoFEP) sending login details as well as ID codes to every institution for a verification of budget information. Furthermore, the MoFEP trains four core members of the planning and budgeting units on the use of the GIFMIS every year. The training is focused on practical uses of the platform such as capturing data and printing reports. These members are responsible for downstream training of the rest of their teams.

Applying sanctions: responding to reluctance of MMDAs to use the GIFMIS

Despite it being a legal requirement (as shown in text box 3) that all MDAs and MMDAs use the GIFMIS for their financial transactions from all funding sources, namely Government

Text box 3: Offences and penalties under the Public Financial Management Act, 2016 (Act 921)

Ministry of Finance wishes to bring to the attention of all MDAs and MMDAs the offences and penalties indicated in Section 96 of the Public Financial Management Act, 2016 (Act 921), some of which are listed below:

(1) A person who

a. Refuses or fails to produce or submit any information required under this Act

b. Issues a local purchase order outside the Ghana Integrated Financial Management Information or any other electronic platform in use by Government

c. Misuses or permits the misuse of any Government property which results in a loss of public resources

d. Contravenes or knowingly permits another person to contravene a provision of this Act or the Regulations, or

e. Instigates another person to contravene a provision of this Act or the Regulations,

commits an offence and where no penalty provided for the offence, is liable on summary conviction to a fine of not less than one hundred and fifty penalty units and not more than two hundred and fifty penalty units or to a term of imprisonment of not less than six months and not more than two years or to both.

of Ghana funds, development partner funds and internally generated funds (IGF), this rule has not been systematically applied.

MDAs that generate funds internally have a cap on how much they can spend of the resources that they raised. Thus, those that generate more resources than planned have to reallocate the additional funds to government. The health department is the only entity that is allowed to spend 100 percent of internally generated funds. This policy contributes to the reasons why MMDAs are not eager to use the FMIS, as they are not free to spend the entirety of the resources raised on their own and have to reallocate a portion to government.

MMDAs that execute their budgets outside their FMIS of course limit the government's oversight and may limit their return of unused funds. As a result, the 2020 budget implementation instructions enjoin MDAs to use the GIFMIS platform to initiate budget allotment, requests for payment of recurrent and capital expenditure, and requests for commencement certificates, as well as generate purchase orders and process their retained IGF portions, etc., otherwise sanctions will apply. These sanctions include the offences and penalties specified under the Public Financial Management Act, 2016 as well as the Controller and Accountant General's

warning that MDAs would be denied funding from the Consolidated Funds if they refuse to perform their financial transactions using the GIFMIS platform. The funding would be blocked or not released to the offending state agency (CBN, 2020). Since this stern warning was issued only recently, the effect of complying with the directive of using the GIFMIS cannot yet be measured, nor can government's enforcement of the threat.

Experience of an MMDA: using the GIFMIS in the Ghana Health Service

The Ghana Health Service, an agency of the Ministry of Health, has been using Hyperion for budget planning for the past five years. Its planning and budgeting unit includes eight people, one of whom is an accountant while the others are budget planners. Although agents acknowledge that their tasks are made easier by the use of information systems, they have expressed a desire to capture data offline and to use the internet to publish the captured data on GIFMIS. In the context of an unstable internet connection, a break in connectivity results in the loss of all captured data, requiring an agent to start the process all over again. The agency has developed a good working relationship with the GIFMIS team at the MoFEP. This team is available to resolve technical difficulties and correct errors. Beyond capturing its own budget information, the agency is responsible for capturing budget information from the Budget Management Centres (BMCs) of over 12 000 health facilities. This daunting task will soon be removed from the agency's list of responsibilities as there is a project dedicated to downstreaming the GIFMIS to all BMCs so that they can input their own budget information in Hyperion.

System maintenance and upgrades since rollout to MMDAs

With thousands of entities using the system, the rollout to MMDAs has required technical upgrades to the system as well as modifications in functionalities.

A performance audit of the system revealed that, despite the adequacy of configurations for the rollout (RAM and disk space were extended), servers required a power backup that could last seven days in case of blackouts and potential problems with generators. The unstable supply of electricity and irregular and poor network coverage disrupt the continuity of data capturing and data availability. As a result, measures were taken to make the platform more robust, secure and fully operational for all users at a reasonable speed.

Moreover, investment in the IT infrastructure is also necessary for the extension of the system and to ensure the functionality and performance of the platform before onboarding additional institutions.

Regarding functionalities, ceiling validation has been introduced to automatically verify and validate ceilings devised by the MoF so that budget execution by MMDAs can be monitored.

Lessons learned from Ghana

The lessons learned from the extension of Ghana's GIFMIS to MDAs and MMDAs include:

- **Enforcing sanctions on MMDAs is necessary to improve compliance with the requirement to use the GIFMIS for all transactions; however, they should not be excessively harsh.** Despite having a legal framework (with sanctions) that requires MDAs and MMDAs to use the GIFMIS for all financial transactions, irrespective of the source of funds, MDAs and MMDAs still circumvent using the platform to execute their budgets. The effective application of available sanctions will send a strong signal to MDAs and MMDAs. Moreover, there needs to be an institutional model for implementing the legal framework based on the degree of severity of the sanction to be applied (Allen & Koshima, 2018). However, for sanctions to be effective, they should not be excessively harsh, otherwise they could negatively affect compliance. Instead, they should alternate between soft and harsh measures and be impartial, proportionate and transparent (Allen & Koshima, 2018).

- **Each institution should be responsible for capturing its own budget information in the FMIS to save time and reduce error rates, and to generalise the automation of the budget process.** It is inefficient for the Ghana Health Service to be responsible for capturing the budget information sent by BMCs from health facilities enrolled on the GIFMIS. It imposes a burden on agents who capture the data and runs the risk of an increase in the error rate because third parties have not elaborated the budget and might not be able to cross-check some of the data to ensure coherence. Moreover, one of the objectives of the rollout of the GIFMIS is to modernise public administration through the automation of procedures. If an institution is enrolled on the GIFMIS, it should be required to use the system itself for its own transactions to: first, ensure greater accuracy in data capturing as well as accountability; second, empower agents in the use of computerised systems to account for financial transactions; and, third, ensure a more efficient division of labour and not concentrate the entire data capturing process in the hands of a small group of agents.

2.3. Federal Republic of Nigeria: extending the GIFMIS to government-owned entities

Nigeria's Government Integrated Financial Management Information System (GIFMIS) was implemented in April 2009, with the assistance of a Hewlett-Packard contractor, to institutionalise fiscal transparency and anti-corruption measures in the budget process.[3]

Extending the GIFMIS to GOEs

The Federal Government of Nigeria (FGoN) is currently extending the GIFMIS to all types of GOEs with the aim of improving their remittances. This followed the 2016 commodity-price-related recession and the FGoN's implementation of several initiatives to improve collection of non-oil revenues and speed up economic recovery. The GOEs are estimated to account for over 40 trillion naira in value (US$105.5 billion, the equivalent of 3 percent of FGoN revenues). However, remittances of operating surpluses to the Treasury (as required by law) have been less than 10 percent annually. Onboarding the GOEs on GIFMIS is also an initiative to minimise the risks associated with their fiscal operations, to subject them to the same level of scrutiny as the other MDAs, and to ensure that their spending priorities are aligned with the overall development objectives of the government.

The FGoN has adopted a phased approach to adapt functionalities to information flows and to make room for adjustments. Despite efforts to integrate GOEs into the GIFMIS since 2016, the process has faced challenges, and it was only in 2020 that there was real progress in incorporating GOEs' finances into the GIFMIS. In 2019, 10 major GOEs (with respect to their revenues and expenditure) were identified for capture in the Medium-term Fiscal Framework and then in the Federal Budget. The process was extended to 60 GOEs that are either partially funded (i.e., the FGoN provides for one or two of their expenditure heads, typically personnel cost) or self-funded for the 2021 budget. Soon, the FGoN will ensure that all GOEs (including those that are self-funded) have designated budget officers who will be trained on how to use and report on the GIFMIS Budget Preparation Subsystem (BPS). Thus, like the MDAs, they will be able to fully prepare their budgets online and in real time using the platform.

Responding to GOEs' resistance to using the GIFMIS

The acts that govern the various GOEs define their financial relations with government; consequently, for those GOEs that do not draw from the Consolidated Revenue Fund there is little incentive, and often much resistance, to utilising the GIFMIS. Even though the Fiscal Responsibility Act, 2007 (Act 31) makes provision for entities to utilise the system, most GOEs still defer to their respective enabling acts. To overcome this hurdle, the Presidency issued an order mandating partially funded or self-funded SOEs to cap their cost at no more than 60 percent or 70 percent of their revenues, and the Budget Office directed that all SOEs be moved to the GIFMIS platform.

The processes of implementing the change order with the vendor and the deployment of the system to GOEs were complex, and there were significant time pressures. GOEs were admitted into a user-acceptance test and the FGoN adopted a step-by-step approach to capturing the budgets of the GOEs. This included designing a revenue reporting format that was used to modify the GIFMIS to capture the peculiarities of various GOEs. However, this process failed to bring on board self-funded GOEs, since the FGoN opted to focus on GOEs that are partially funded as their accounting frameworks are aligned with the chart of accounts implemented in the GIFMIS.

Prerequisite for integration: incorporating GOEs into the budget framework

Modifications in the budget process and budget format were necessary to facilitate the integration of GOEs into the GIFMIS and to enable oversight of their budget execution. This involved integrating GOEs into the Federal Government Budget Framework and the detailed budget submitted to Parliament. In the past, some GOEs submitted their budgets to the Budget Office and then took a different budget to their respective parliamentary committees. Now the buy-in of Parliament is secured, since the budgets of GOEs are passed through the Budget Office and are submitted by the President along with the budgets of MDAs. In addition, the government has modified the format of the Appropriation Bill to include revenue projections and expenditure estimates of GOEs. This is unlike in the past, when the Appropriation Bill contained only the expenditure estimates of MDAs. Overall, a total number of 70 GOEs, including all categories, were enrolled to use the GIFMIS.

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3 At that time, only the Budget Execution Subsystem (BES) of the GIFMIS was deployed for use by MDAs and GOEs funded from the Consolidated Revenue Fund. Budget preparation continued to be undertaken on an Excel spreadsheet and uploaded on the GIFMIS. In 2016, the FGoN added the Budget Preparation Subsystem (BPS). More recently, monitoring and evaluation and procurement subsystems have been added; however, they had not yet been activated at the time of writing. The entire infrastructure is hosted on a government platform: Galaxy Backbone.

Lesson learned from Nigeria

The lessons to be learned from the Nigerian experience of integrating public institutions into the GIFMIS are twofold:

- **The standardisation of budget processes by all institutions using the GIFMIS facilitates compliance.** The FGoN managed to overcome difficulties relating to GOEs' lack of compliance in using the GIFMIS for budget execution by: i) getting Parliament to ensure that GOEs follow the same budget procedures as all other institutions, namely, the regular process for the inclusion of their budgets in the Appropriation Bill, and ii) changing the format of the Appropriation Bill in order to include GOEs' revenues and expenditure. These measures enable rigorous oversight by all key stakeholders and greater accountability on the part of GOEs, which henceforth have to justify the use of their funds.

- **There are limitations to the carrot-and-stick approach.** Whereas partially and fully funded GOEs have little choice but to conform to the federal government's instructions to submit their budgets, those that are self-funded have no incentive to use the GIFMIS. Coupled with this, the FGoN has no way of exerting pressure on self-funded GOEs because it does not provide them with funding or any other form of assistance. This shows that, given the choice, public institutions will drag their heels over automating their budget procedures, especially given the required time, the changes in practices, and the accountability that comes with going on the GIFMIS. Government will have to come up with measures that incentivise self-funded GOEs through non-financial means to comply with its requirements, or give them little to no alternative if they don't.

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3 Conclusion

Governments use financial management information systems to capture financial transactions in real time and most accurately. However, the rollout of these systems has not been easy. As shown in this case study, the extension tends to take several years of evaluation, iteration and strengthening of the platform before it can become fully operational and go live.

Besides the technical reasons for the lengthy process, the Benin experience highlights other factors such as, on the one hand, longer and more complex procedures required for data capturing that lead to complaints from and dissatisfaction among agents, and, on the other hand, the emergence of new stakeholders who need to become familiar with not only the use of the platform but also the administrative processes.

This reform also leads to loss of control over procedures and authorisations by other stakeholders whose vested interests are at stake, making the collaboration sometimes strained. The Beninois case reflects the importance of ensuring each institution included in the FMIS is able and willing to capture its own data to foster ownership, unburden data capturers and limit error rates. The importance of limiting the number of systems used simultaneously by institutions was also emphasised, as using several systems is both cumbersome and defies the purpose of having an exhaustive view of the use of public funds.

Ghana's and Nigeria's experiences of onboarding various branches of government have highlighted difficulties in acceptance and issues of compliance with using the GIFMIS. Whether use of the system is voluntary or required by law, GOEs or MMDAs have nevertheless circumvented the platform. GOEs in Nigeria, specifically those that generate their own revenues, have not had any incentives for using the GIFMIS – however, the federal government's inclusion of their budgets in the Appropriation Bill that is passed by Parliament increases the oversight of GOEs' use of funds. From Nigeria, we also learned that it is important to standardise budget processes and accounting frameworks before onboarding institutions onto systems and to facilitate compliance and ensure greater oversight. As for MMDAs in Ghana, they have also not been using the GIFMIS and, until more recently when warnings were issued, received no sanctions for non-compliance. Here we saw the importance of both incentives and conditionalities, particularly financial, to ensure institutions' use of the FMIS, and that legislation is not adequate without enforcement and incentivisation.

The importance of limiting the number of systems used simultaneously by institutions was also emphasised, as using several systems is both cumbersome and defies the purpose of having an exhaustive view of the use of public funds.

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