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# INTEGRATED FINANCIAL MANAGEMENT INFORMATION SYSTEMS

A PRACTICAL GUIDE

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## ABBREVIATIONS

|         |  |
|---------|--|
| ADB     | Asian Development Bank                                     |
| ADB     | African Development Bank                                   |
| BPR     | Business process re-engineering                            |
| CIDA    | Canadian International Development Agency                  |
| CoA     | Chart of Accounts  |
| COFOG   | UN Classification of the Functions of Government           |
| COTS    | Commercial Off-the-Shelf software packages                 |
| ERP     | Enterprise Resource Planning systems                       |
| EU      | European Union   |
| GFS     | Government Finance Statistics                              |
| IAS     | International Accounting Standards                         |
| IFMIS   | Integrated Financial Management Information Systems        |
| IFRS    | International Financial Reporting Standards                |
| IMF     | International Monetary Fund                                |
| IPSAS   | International Public Sector Accounting Standards           |
| ODA     | Official Development Aid                                   |
| PFM     | Public financial management                                |
| SIDA    | Swedish International Development Agency                   |
| SU      | Spending Units   |
| TSA     | Treasury Single Account                                    |
| UK GAPP | United Kingdom Generally Accepted Practices and Principles |
| UN DPKO | United Nations Department of Peace Keeping Operations      |
| UNMIK   | United Nations Mission in Kosovo                           |
| USAID   | United States Agency for International Development         |
| US GAAP | United States Generally Accepted Accounting Principles     |
| WB      | World Bank   |



## EXECUTIVE SUMMARY

This paper discusses the subject of “best practices” for designing and implementing Integrated Financial Management Information Systems (IFMIS) and how to put them into place in specific environments: namely, in developing and transitional countries as well as in conflict and post-conflict situations. The IFMIS provides a critical financial management solution for countries whose administrative and economic infrastructure is obsolete, or has been destroyed through war and years of conflict.

There is broad agreement that a fully functioning IFMIS can improve governance by providing real-time financial information that financial and other managers can use to administer programs effectively, formulate budgets, and manage resources. Sound IFMIS systems, coupled with the adoption of centralized treasury operations, can not only help developing country governments gain effective control over their finances, but also enhance transparency and accountability, reducing political discretion and acting as a deterrent to corruption and fraud.

Obstacles should not be underestimated. The road to implementing successful IFMIS in developing countries is paved with difficulties, such as resistance from the bureaucracies involved; lack of decision-making from the top; weak human capital; corruption and fraud; and, in the case of conflict-ridden countries, the instability and violence that impair any efficient long-term work. Moreover, IFMIS systems are complicated, expensive, and difficult to manage and maintain. Indeed, a 2003 review of 34 IFMIS projects supported by the World Bank over 15 years estimated that only few of the systems were likely to be sustained after donor support ceased.

Obstacles notwithstanding, the task is still feasible. The technology exists and aid agencies can play a very important role in helping the decision-makers choose the most adaptable and appropriate tools for their environments. The choice of a step-by-step, or phased approach offers the best chances for successful implementation as a project can be carefully monitored and reviewed regularly. Given the cost of such exercises, it is important to aim first for a sound “entry level” system, which, once functioning effectively, can then be extended to support additional functions. Indeed, the simple demonstration effect of effective entry-level systems can generate the necessary demand for more comprehensive systems.

Political will is crucial to this process. Once the decision has been made to implement an IFMIS, the battle is half won. Garnering support from those who will use the new system, and overcoming resistance from those who stand to lose from its implementation, can be an equally daunting challenge. Change management is therefore an important part of any IFMIS project.

On a more practical level, selecting the right tools, equipment and technology requires a good deal of shopping around. All too often, it is discovered only after procurement of new systems that those systems do not meet the specific conditions and needs of the project, leading to costly delays and unplanned outlays. To avoid these types of hiccups, a variety of experts should be called on to test, monitor and guide the implementation process.

Above all, IFMIS implementation requires patience. The full project life cycle—from definition of objectives, to system specifications, to system procurement, configuration, testing, and rollout—can easily take seven to ten years, or longer, to complete. This type of time horizon is usually well beyond the attention span of donors, which is why it is advisable to divide IFMIS implementation into clearly defined stages with clear objectives and milestones. As each stage is completed, stakeholders should carefully assess project progress and ensure that the system under development still meets the needs of the government, and that government commitment to the IFMIS is still there. The ultimate goal should be to put in place sound systems that are well understood and embraced by counterparts and in the end will be self-sustaining.



## INTRODUCTION

Over the past decade, developing, transition and post-conflict countries have increasingly embarked on efforts to computerize their government operations, particularly with respect to public financial management (PFM). Most common among these have been efforts to introduce integrated financial management information systems (IFMIS) that computerize and automate key aspects of budget execution and accounting operations across the institutions of government. IFMIS can enable prompt and efficient access to reliable financial data and help strengthen government financial controls, improving the provision of government services, raising the budget process to higher levels of transparency and accountability, and expediting government operations. Donors and international institutions like the International Monetary Fund (IMF), the World Bank, and USAID have played a critical role, and will continue to do so, in supporting and shaping developing countries' financial management systems through projects that provide a combination of technical assistance, training, financial resources and procurement support to partner governments.

The recent literature on IFMIS has addressed various aspects of IFMIS design, systems development, implementation and sustainability, but no one study has effectively synthesized all of these elements with actual country experiences to identify the most appropriate strategies with respect to IFMIS project design, management, monitoring and evaluation. This Best Practices paper will catalogue and discuss good or "best" practices around the world in the design, development, and implementation of government IFMIS, drawing on the relevant literature and practical examples of country experiences with introducing IFMIS.

The paper is divided into three parts and is written to provide USAID Officers with enough information to understand not only what an IFMIS is in practical terms, but also to provide sufficient examples of project successes and failure to understand what is involved in putting an IFMIS into place. Further, this paper is intended to equip USAID Officers with sufficient knowledge to evaluate, monitor and assure progress in IFMIS implementation, with an understanding of what should be taking place during design, implementation and the final stages of "going live." It will address some of the major pitfalls, traps, and common mistakes, the things to look out for, and the resources that should be made available to ensure positive results. At all times the objective is to be pragmatic and realistic.

The first part of this paper covers the conceptual aspects of IFMIS:

- What IFMIS are and what they do;
- Why they are useful and indeed critical for sound economic governance; and
- Some of the key aspects of any well designed IFMIS project.

This will require explanation of some basic accounting, finance and treasury management concepts.

The second part of the paper touches upon several country examples to demonstrate different approaches, some of the common features and problems faced, and how these kinds of problems can be avoided or resolved.

The third part of the paper lays out a series of good or best practice steps and options that experience has shown to deliver best results. These recommendations are based on actual situations where IFMIS have been successfully installed and implemented.

Finally, Annex 1 presents a checklist of the main steps that need to be covered when managing IFMIS implementation. This checklist, coupled with the examples and recommendations highlighted throughout the paper, should help inform future programming related to implementing government IFMIS systems, and to strengthening public financial management more broadly.

# PART 1: UNDERSTANDING IFMIS

## IFMIS: WHAT IT IS

A financial management information system, or *integrated* financial management information system (IFMIS), is an information system that tracks financial events and summarizes financial information. In its basic form, an IFMIS is little more than an accounting system configured to operate according to the needs and specifications of the environment in which it is installed.

Generally, the term “IFMIS” refers to the use of information and communications technology in financial operations to support management and budget decisions, fiduciary responsibilities, and the preparation of financial reports and statements. In the government realm, IFMIS refers more specifically to the computerization of public financial management (PFM) processes, from budget preparation and execution to accounting and reporting, with the help of an integrated system for financial management of line ministries, spending agencies and other public sector operations.

The principal element that “integrates” an IFMIS is a common, single, reliable platform database (or a series of interconnected databases) to and from which all data expressed in financial terms flow.<sup>1</sup> Integration is the key to any successful IFMIS. In a nutshell, integration implies that the system has the following basic features:

- Standard data classification for recording financial events;
- Internal controls over data entry, transaction processing, and reporting; and
- Common processes for similar transactions and a system design that eliminates unnecessary duplication of data entry.

Integration oftentimes applies only to the core financial management functions that an IFMIS supports, but in an ideal world it would also cover other information systems with which the core systems communicate, such as human resources, payroll, and revenue (tax and customs). At a minimum, the IFMIS should be designed to interface with these systems.

## IFMIS: WHAT IT DOES

An IFMIS stores, organizes and makes access to financial information easy. It not only stores all the financial information relating to current and past years’ spending, but also stores the approved budgets for these years, details on inflows and outflows of funds, as well as complete inventories of financial assets (e.g., equipment, land and buildings) and liabilities (debt).

The scale and scope of an IFMIS can vary, from simple General Ledger System to a comprehensive system addressing Budget, Revenue, Expenditure Control, Debt, Resource Management, Human Resources, Payroll, Accounting, Financial Reporting, and Auditing processes across central government or even including local government and other public sector and quasi-governmental agencies and operations.

A more comprehensive, well integrated system will:

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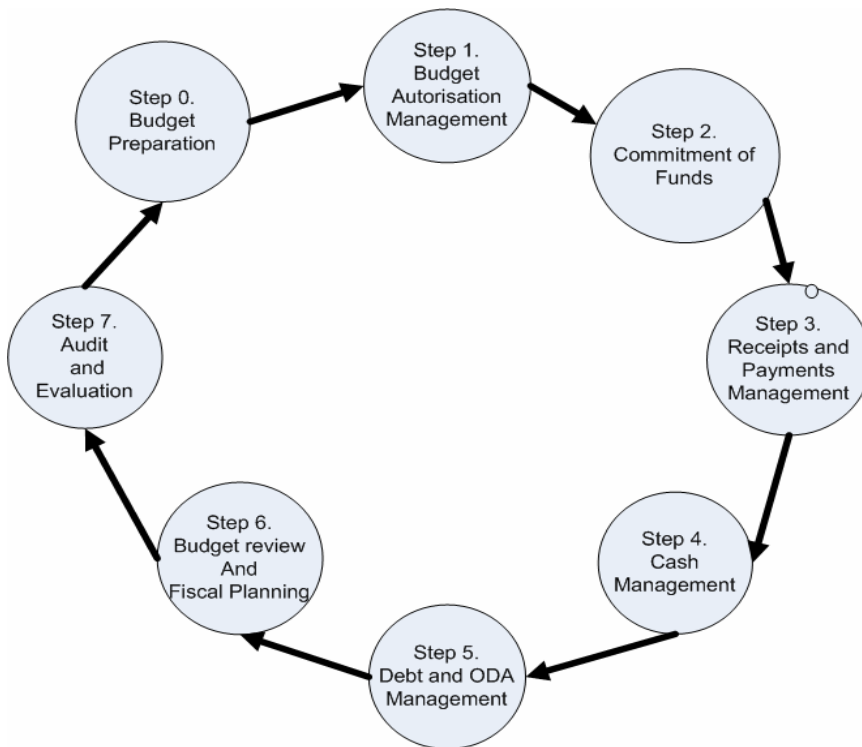
<sup>1</sup> Source: *Transparency International Source Book 2000*, in Casals and Associates, “Integrated Financial Management Systems Best Practices: Bolivia and Chile,” funded under USAID Contract AEP-I-00-00-00010-00, Task Order No. 01 Transparency and Accountability, 2004.

- Provide timely, accurate, and consistent data for management and budget decision-making;
- Support government-wide as well as agency-level policy decisions;
- Integrate budget and budget execution data, allowing greater financial control and reducing opportunities for discretion in the use of public funds;
- Provide information for budget planning, analysis and government-wide reporting;
- Facilitate financial statement preparation; and
- Provide a complete audit trail to facilitate audits.

By recording information into an integrated system that uses common values, IFMIS users can access the system and extract the specific information they require to carry out different functions and tasks. All manner of reports can be generated: balance sheets, sources and uses of funds, cost reports, returns on investment, aging of receivables and payables, cash flow projections, budget variances, and performance reports of all types. Some systems have libraries consisting of hundreds of standard reports. Managers can use this information for a variety of purposes: to plan and formulate budgets; examine results against budgets and plans; manage cash balances; track the status of debts and receivables; monitor the use of fixed assets; monitor the performance of specific departments or units; and make revisions and adjustments as necessary, to name a few. Reports can also be tailored to meet the reporting requirements set by external agencies and international institutions like the IMF.

Figure 1 illustrates the complex set of functions a government IFMIS can be called on to support. These include the typical functions that make up the PFM cycle, from budget formulation to budget execution and review, to audit and evaluation of financial performance and results.

**Figure 1. IFMIS and the public financial management cycle**



### Box 1. Double-entry bookkeeping and modern financial management

Financial management information systems are not a new phenomenon. On the contrary, the recording of financial information is the oldest known form of record keeping, dating back thousands of years. Yet financial information has long presented problems, particularly since the invention of money. It was only late in the 15th century when Luca Pacioli, an Italian mathematician, set out to codify the “double-entry” accounting system that modern financial management began to develop.

All modern financial management information systems—including those used in the private sector and in the public sector—are based on Pacioli’s technical innovation. The system is called “double-entry” because each transaction involves an exchange between two accounts: *debits* and *credits*. For every debit, there is an equal and opposite credit; the sum of all debits must therefore equal the sum of all credits. This balancing requirement is critical, as it makes it easier to detect errors or discrepancies in the recording of transactions. Moreover, because it provides a full picture of the financial situation of an organization, double-entry accounting also facilitates the preparation of financial reports directly from the accounts.

To illustrate the double-entry concept, consider a simple transaction involving the purchase of a laptop computer on January 1 for a cash payment of \$1,000. In a “single-entry” bookkeeping system, the buyer would simply enter the \$1000 in his books as an “expense”. The vendor would record the same \$1,000 in its books, but as “revenue.” Here, only the change in income (money coming in, or money going out) is reflected.

By contrast, the double-entry method considers the entire financial position of an entity—that is, not only changes in cash balances, but also the change in assets and liabilities (e.g., accounts receivable, accounts payable, inventory, debt, etc.). Accordingly, in a double-entry system the buyer would enter the transaction as follows:

| Date                                | Accounts | Debit    | Credit   |
|-------------------------------------|----------|----------|----------|
| Jan 1                               | Expense  | 1,000.00 |          |
|                                     | Cash     |          | 1,000.00 |
| Note: Purchased one laptop computer |          |          |          |

The vendor would record the same transaction (from its perspective) with the same values, but in reverse:

| Date                           | Accounts | Debit    | Credit   |
|--------------------------------|----------|----------|----------|
| Jan 1                          | Revenue  |          | 1,000.00 |
|                                | Cash     | 1,000.00 |          |
| Note: Sold one laptop computer |          |          |          |

This example demonstrates a simple cash transaction. Had the buyer not paid cash but instead was extended credit, he would have entered a \$1,000 credit to “accounts payable,” rather than to “cash.” Likewise, the vendor would have entered a \$1,000 debit to “accounts receivable”, rather than to cash.

The permutations on this simple example are innumerable. The way financial transactions are recorded, whether in government or in the private sector, can vary depending on the nature of the transaction, method of payment (e.g., cash vs. credit), method of accounting (e.g., cash vs. accrual), and myriad other factors. Notwithstanding these factors, the fundamental principle of double-entry accounting always holds: the debit and credit accounts must balance. Where the accounts are not in balance, close scrutiny will reveal any errors or irregularities.

A testament to the ingenuity of the double-entry methodology is that it has not been fundamentally changed since it was invented. Whether in government, banks, small or large businesses or non-governmental organizations, the same concept forms the basis of today’s modern computerized accounting systems. It is important to understand this concept before embarking on an analysis of the reasons why IFMIS systems sometimes succeed, but more often fail when implemented by developing country governments. For such a robust system to falter, the problems faced must be related to factors external to the system itself. This paper highlights some of these factors.

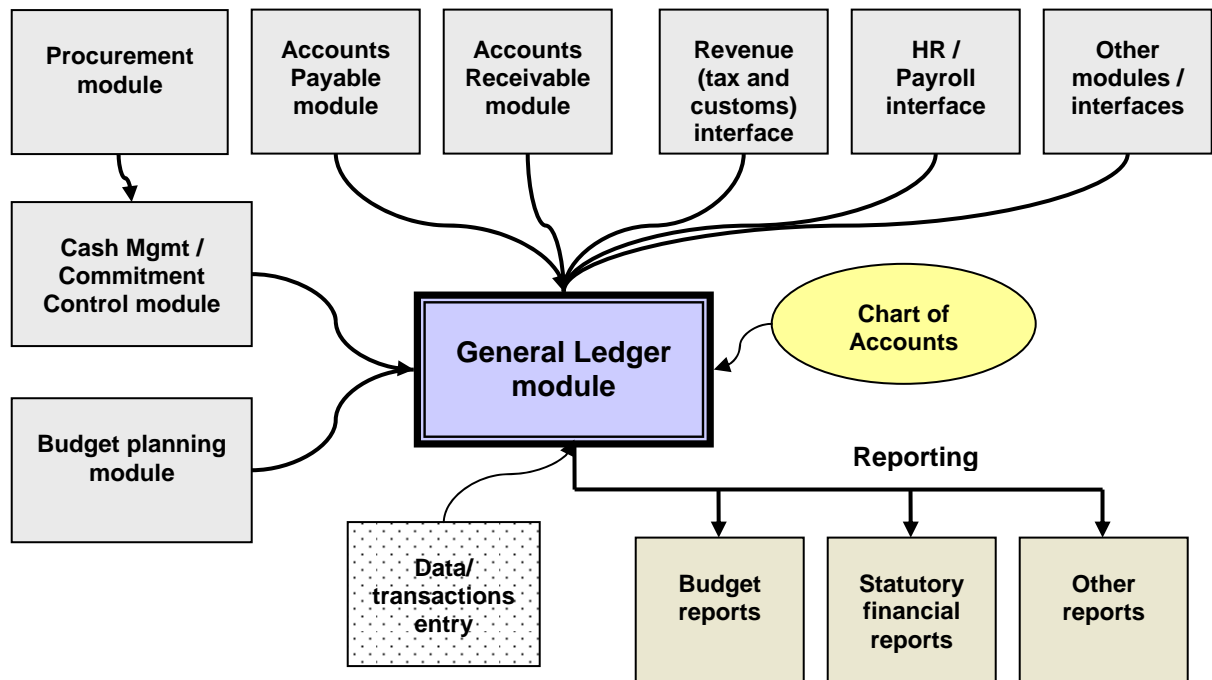


## BASIC COMPONENTS OF A GOVERNMENT IFMIS

An IFMIS will generally consist of several distinct components or modules that use information to perform different functions. Figure 2 presents a basic diagram of a typical government IFMIS, including several core components, as well as non-core components that will either be integrated into the system or connected to the system via an interface. Bear in mind that some systems are far simpler, while many are far more complex in scope and functionality.

At the core of the system is the *General Ledger*. The General Ledger constitutes the central “books” of any IFMIS. Every transaction entered into the system posts to the General Ledger, starting with the allocation of budget funds through to the commitments to payment for goods and services. All transactions should simultaneously post to the General Ledger and to all appropriate sub-ledgers/modules following the rules imposed by a standardized chart of accounts. (See section below for more on the ‘Chart of Accounts’.) These records remain as a permanent track of the history of all financial transactions, and represent the source from which all reports and financial statements are derived.

Figure 2. Components of a typical IFMIS



In addition to the General Ledger, other core components and their main functions will generally include:

- *Cash Management* – monitors and forecasts cash flows and financing requirements, and performs reconciliation between bank accounts and IFMIS records.

- *Commitment control* – ensures that before a purchase is committed to, there is sufficient cash allocated for the expense and the allocation matches the appropriated budget.
- *Accounts payable* – Processes and generates payments, with built-in checks to ensure invoices match approved commitments.
- *Accounts receivable* – produces bills and processes and records receipts, including all types of inflows received by government units, including nontax revenues and fees.

Beyond these core components, there are myriad other types of information that an IFMIS could conceivably support. Other modules or systems that an IFMIS can support or interface with might include:

- Budget preparation/planning
- Procurement and contracts management
- Payroll and human resources
- Revenue administration (tax and customs)
- Debt management
- Assets management
- Project ledger
- Grants management (e.g., counterpart funds from international assistance)

The list of potential add-ons can be very long, depending on the particular needs and the level of sophistication of the government. Moreover, the functions the IFMIS may be called on to perform can vary from producing budgets and reports to managing procurements and grants to processing payments and receipts. On top of this, the system needs to provide security on several levels:

- Internal system security;
- User profiles for each type of user; and
- External security as the system communicates with the outside world: internet, the banking system, citizen interfaces for facilities like taxes, licenses, etc.

## **A COMMERCIAL SOLUTION, WITH GOVERNMENT CHARACTERISTICS**

Financial management information systems are implemented and used successfully almost all the time in the commercial world. When they fail, so do the companies they support. This is the fundamental difference between the commercial and the government environment. Commercial organizations can and do fail. Companies like Enron, WorldCom, and Parmalat are just the most recent examples of organizations whose financial management lapses precipitated their downfall. On the flipside, governments can and do end up in severe financial straits, but rarely is financial collapse the end of the road for a sovereign state.

The major advantage in a commercial environment, however, is that there is a clear objective—be it improving efficiency or improving productivity—and a clear decision making process. If the decision is made to put into place a new financial management information system, then once the needs have been assessed, the organization shops around for the most appropriate product, purchases it, and deploys the necessary resources to complete the job.

Government decision-making and action is not as efficient, or clearly directed, as it is in most commercial institutions. Governments do not have simple line-oriented chains of command. They generally have complex administrative structures, and especially in developing and post-conflict settings, they tend to lack the required competencies and knowledge at most levels to choose or implement the solution. Moreover, the political will to replace old systems, processes and structures with new ones and introduce new ways of operating is often not there. Even when the political will is there, maintaining it can be quite problematic when one considers that the timeline for most IFMIS implementations is longer than most finance ministers' term in office.

The design and functionality of government IFMIS is also critically different from that of private enterprise systems. Because governments are not driven by profit but rather by measures of accountability, financial management information systems for government must be designed to ensure compliance with budget laws, other public finance rules and restrictions, and an entirely different set of accounting rules and reporting requirements. Moreover, they must also be designed to support a multitude of distinctly public sector-oriented functions and organizational arrangements. Governments big and small undertake a vast number of transactions on an ongoing basis, requiring powerful, resilient, dependable systems to handle the information flows. These systems must be able to handle and communicate all the financial movements for the complex structure made up of line ministries, spending agencies, regional and local governments as well as other government clients.

Aside from the above considerations, introducing a government IFMIS is also context-specific and varies greatly from country to country. Indeed, implementing public finance reforms of any kind requires an understanding of the entire public finance system in place in that country. It requires an understanding of the institutional arrangements, the division of authorities and responsibilities, and how these arrangements are carried out across government. Vietnam, with a population over 80 million, has a strong central government, but also has 64 provinces, each with its own full administration and political requirements. In Kosovo, on the other hand, the international community built the fiscal infrastructure of this territory of 2 million people virtually from scratch, delegating only limited powers to nascent Kosovar institutions in the initial post-conflict period. The scale and the challenges are quite different, and these considerations will influence the strategies and solutions adopted. (These country examples are discussed in greater detail in Part 2.) Clearly, without a critical understanding of the political and administrative structure, the existing systems and processes, and other defining factors, any effort to introduce new systems will ultimately fail, or at the very least meet with costly delays.

## **A PANDORA'S BOX**

Once the decision is made to introduce a new IFMIS system, a plethora of issues needs to be anticipated and planned for. These include issues related to:

- Legal framework
- Business/functional processes
- Organizational arrangements
- Budget classification structures
- Chart of accounts
- Change management
- Systems requirements/specifications
- Systems development
- Procurement/tender of software and hardware
- Configuration of software and hardware
- Data conversion/migration

- Testing and training
- Corruption

As each issue is addressed, so a Pandora’s box of unknowns is opened for each, as each country situation presents challenges that, if ignored, decreases the potential for successful IFMIS implementation.

Some of the above issues are discussed briefly below to arm the reader with a basic understanding of the dimension of the challenges that can be faced. How much attention to devote to each issue depends on a variety of factors, including existing conditions, donors’ time horizon, and other factors.

## **LEGAL FRAMEWORK**

When designing a government IFMIS, it is critical to review the legal and regulatory framework and assess the necessary changes to the overall framework for public financial management, including the deployment and reporting of resources. Changing legal frameworks is not a simple task, but IFMIS implementation teams must carefully address legal and regulatory requirements if the IFMIS is to be successful and sustainable.

Typically, the legislative framework—whether enshrined in a Constitution or in a series of public finance, budget and accounting laws and regulations—should include:

- (i) the roles and responsibilities of the treasury, ministry of finance and other agencies involved in controlling and managing public finances,
- (ii) provisions on the receipt and custody of government funds, the annual process, submission and approval of estimates and procedures for release of funds,
- (iii) the basis of accounting and the form and procedures for presentation of annual accounts, and
- (iv) provisions on asset management, borrowing and investment.<sup>2</sup>

Attention will also need to be given to statutory review and reporting requirements, such as publication of the budget, external audits, and reporting to international bodies such as the IMF.

Strong political support for public finance reform can help move legal reforms forward, but even with this support changing national law takes time, a luxury that most IFMIS projects, donor-funded or not, do not have. Yet the legislative reform process need not stall IFMIS implementation. It is very important to understand how the legal system in place functions, and then to build an IFMIS that responds not only to its requirements, but also has the adaptability to respond to eventual changes in the legal framework. Off-the-shelf tools can provide this flexibility.

## **BUSINESS PROCESS RE-ENGINEERING**

Information technology is vastly changing the way information is captured, summarized and communicated, and the benefits of these technological advances should not be underestimated. However, the introduction of a new IFMIS system should not just be seen as a technology fix. Simply automating inefficient processes will not necessarily make them any more efficient; nor will automating tasks that did not need to be carried out in the first place. Rather, an IFMIS implementation should be seen as a public finance reform that affects how things are done across

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<sup>2</sup> Diamond and Khemani (2005), p. 13.

government. It requires changes in management and organizational structures. It requires changes in workflows. And, it requires changes in roles and responsibilities.

Business process re-engineering or redesign (BPR) is, therefore, a critical aspect of any IFMIS reform. This will require a review of all systems, functional processes, methods, rules and regulations, legislation, banking arrangements and related processes. New procedures will have to be established and standardized throughout government. New job descriptions will have to be formalized. The arrangements and systems for internal and external control of public financial management will have to be improved.<sup>3</sup>

To be clear, BPR is a continuous process, one that has to be institutionalized. To ensure that BPR remains a critical focus long after an IFMIS is put in place, it can be integrated into the government's internal control and internal audit functions as part of the risk management process. This will provide a formal framework for identifying risks, errors and potential instances of fraud and a framework for responding to those risks.

### **THE CHART OF ACCOUNTS**

The Chart of Accounts (CoA) represents the basic building block of any accounting system, IFMIS included. The CoA lists all accounts tracked by the system. Each account in the chart is assigned a unique identifier, or an account number, involving a series of information tags that denote certain things about the data being entered into the system. For example, these tags may denote the cost center, the department or unit responsible for the transaction, the program or purpose for which the transaction is being made, the nature of the transaction, and so on.

The account number attaches to the data and serves accounting, management and all other reporting purposes. It also forms part of the data validation process, indicating things such as whether or not a vendor exists, whether or not there is an authorized budget, and whether or not funds have been committed. These are just a few of the many validations that a good computerized system will carry out.

The Chart of Accounts is integral to the success of any IFMIS. Without an intelligently designed CoA, information cannot be stored or accessed properly. Designing an appropriate CoA is not a difficult task, but obtaining the agreement of all parties is. Once there are more than a handful of stakeholders involved, then the task of reaching consensus can become virtually impossible.

#### **Box 2. IFMIS and cash vs. accrual accounting**

In financial accounting, whether in private sector or government, there are basically two accounting methods to choose from: cash and accrual. Most developing country governments record their finances on a cash basis. However, "best practice" suggests that the accrual basis, while relatively complex, is a better method for assessing the government's true financial position and performance against budgets and plans. Fortunately, using a well designed chart of accounts and sometimes some tailored interfaces, an IFMIS can be configured to generate reports using either method, literally at the click of a button.

Furthermore, the chart of accounts can be compromised by the frequent changes in leadership and priorities that are characteristic of most governments. There are constant pressures to restructure or re-shuffle administrative units or shift responsibility for programs each time there is an election or a

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<sup>3</sup> In Pakistan, the move to a new IFMIS necessitated a complete reorganization of the supreme audit institution.

minister is replaced. If the CoA is not designed with the flexibility to accommodate these types of changes, then the IFMIS will almost certainly be thrown into disarray.

### **CHANGE MANAGEMENT**

Change management is one of the most critical, but also one of the most neglected, aspects of IFMIS reforms. Despite the obvious advantages of a new IFMIS system, opposition is to be expected. Resistance will come from all angles. There will be vested interests who have benefited from the way things have traditionally been done. There will be civil servants who see new systems as a threat to their jobs. There will be those who resist simply for fear of the unknown. While opposition is not always easy to overcome, any systems implementation that ignores change management flaunts with failure.

So what can be done? As soon as an IFMIS project is conceived, a change management strategy needs to be laid out, taking into consideration the change implications for diverse stakeholders, from politicians and senior managers to department heads, civil servants and the IT personnel who will support the new systems. A core team needs to be designated to manage the change, composed of people who can and are empowered to lead. This requires a strategy, a plan, with alternatives, with an aim to bring about the change. Overcoming resistance will happen through clear communication, education, training, and “quick wins” that demonstrate the benefits of change.

This topic is worth a major examination in itself, and this paper does not pretend to delve deeply into the subject, only to introduce it to make the reader aware that change management must not be overlooked when planning or implementing an IFMIS project.

### **CENTRALIZED TREASURY MANAGEMENT: THE TREASURY SINGLE ACCOUNT**

Governments need to ensure both efficient implementation of their budgets and good control over their financial resources. Spending agencies must be provided with the funds needed to implement the budget in a timely manner, and the cost of government borrowing must be minimized. Sound management of financial assets and liabilities is also required. This is generally the role of the treasury operations.

#### **Box 3. Centralized treasury management in the commercial world**

In the early 1980s it was already common practice for major corporations to group all financial resources into one treasury management structure. A good example at the time was Reynolds Aluminum, which placed its global treasury operations in Geneva, Switzerland. The treasury unit was staffed with only 11 people, for an organization that employed tens of thousands with hundreds of business units worldwide.

The Reynolds Treasury managed all of the company’s monetary resources. Resources included not only all cash moneys but also all debt and negotiable paper. By company policy, no business unit anywhere in the world was allowed to hold any cash balances in its bank account. Instead, the Geneva Treasury transferred funds to each unit’s local bank account to meet the reported payment schedules. Any manager found to have residual cash in his unit’s bank account for more than seven working days was subject to dismissal (to the author’s knowledge, such action was only taken on two occasions).

The results produced by the system were extraordinary. Reynolds’ treasury unit in Geneva regularly made more profit than the rest of the company. The management of the treasury was extremely prudent, focusing on risk limitation and minimizing the cost of financing. Yet, while applying very conservative money management techniques substantial sums of money were generated for the group from its own resources.

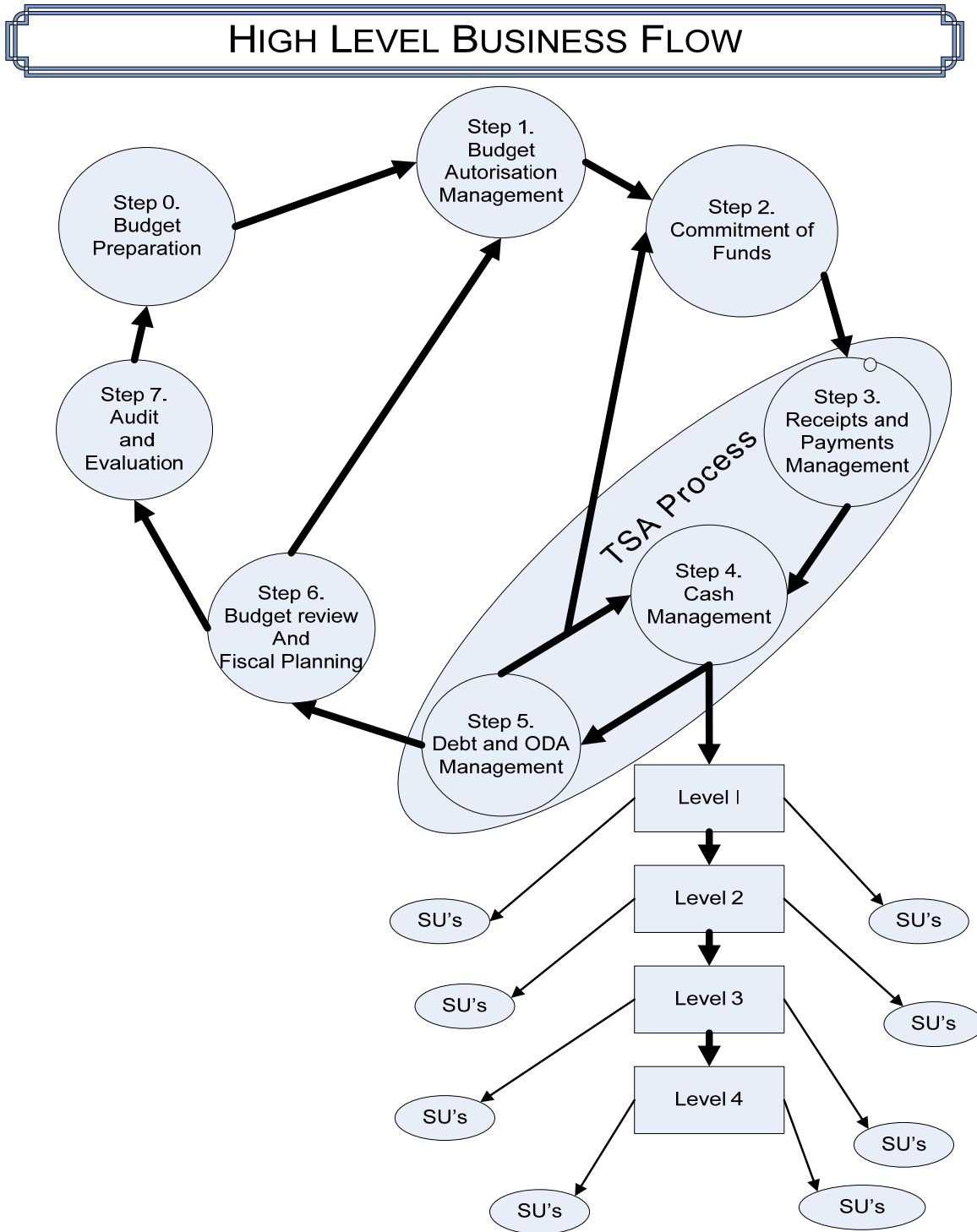
One of the treasury department's main functions is to keep operating cash balances to a minimum. Centralizing cash balances through a Treasury Single Account (TSA) is an effective way to achieve this. A TSA is an account or set of linked accounts through which the government transacts all payments. The institutional arrangements can vary. In some countries, the treasury department controls all financial transactions and makes payments on behalf of spending agencies. In others, the treasury department may set cash limits for transactions but spending agencies have the power to transact payments directly. Whatever the arrangements, the treasury department maintains central control of cash, sweeping idle balances from spending agencies' accounts and consolidating the government's cash position at the end of each day.

Figure 3 illustrates where a TSA fits into the broader IFMIS system.

Virtually all major companies and financial institutions use centralized treasury management methods (See Box 2). Unfortunately, few governments have treasury systems that can match the efficiency of commercial treasury systems. A rare exception is the example of the Slovak Republic, which recently installed a new government IFMIS. The Slovak treasury centralizes control of all cash, foreign exchange and debt and applies similar risk management methods to those used in commercial treasury operations. Using one of the best software tools available (TREMA), the treasury is able to calculate the lowest possible risk exposure and take financial decisions accordingly. Grouping financial resources under one centralized account, the finance ministry gained the ability to make more productive use of its cash balances. By placing cash holdings on overnight international markets, the profits in the first year of operation of the new treasury system exceeded 120,000,000 Euros.

The Slovak example provides evidence of the benefits of implementing a Treasury Single Account. The TSA paid for the complete Slovak IFMIS system in less than 9 months, in terms of improved control over government accounts. Beyond the control aspects of centralized cash management, the return on investment can potentially be used to extend and upgrade the IFMIS as it expands and additional government sectors are brought into the system. This provides insurance for donors, who generally do not want to shoulder additional IFMIS costs once the system has been installed, and for the governments themselves, who have a powerful tool for raising the funds needed to maintain their systems on their own.

Figure 3. State budget execution process with TSA



\* "SU" = Spending Unit.



## **“OFF-THE-SHELF” OR BUILD-YOUR-OWN?**

While the debate continues, a basic understanding of IFMIS architecture, the complexity of these systems, and the intricacies of accounting and reporting rules demonstrates why commercial off the shelf (COTS) software packages are generally more practical than are custom-developed, or “bespoke” systems.

The purpose of this section is not to make a firm recommendation for COTS over bespoke packages. Indeed, there are certain situations in which the build-your-own approach may be justified. Custom-developed applications may be an effective interim solution when transitioning from manual to computerized recordkeeping. They may be sufficient if the functionality of the system and the number of users is limited. And, they may be preferable if the cost of custom development will be significantly lower than purchasing and implementing COTS software.

However, the bespoke approach has its disadvantages. Bespoke systems often go over budget and seldom get delivered on time. They require established skill sets in custom software development and—expertise that is often difficult to find in less developed markets. Even where that IT expertise is available, the IT specialists that build these applications will generally have a limited understanding of government functions, so they fail to anticipate problems or build in the necessary controls and audit trails required of typical government financial management systems.

Indeed, the work involved in writing the specifications for all the programs required to support a labyrinth of government functions and operations, then testing them and maintaining them is colossal and prone to difficulties. Likewise, taking an old system that is in place and modifying it, adding on new features piecemeal, requires major knowledge and resources regularly results in systems that are too complex and fragmented. This is why so many organizations, both commercial and government, make the choice to migrate to COTS packages.

Commercial package producers have already invested and continue to invest considerable effort to standardize core IFMIS functions and “fail-safe” them against the most common problems faced in custom development. Using COTS solutions, an IFMIS project team is able to concentrate on the tailoring that is commonly required to meet specific counterpart or institutional requirements (See Part 3). Furthermore, the detailed checks and balances built in to COTS systems are critical especially for building and maintaining trust and transparency. There is great value in taking a COTS system that has stood the test—for instance, one that has been used successfully by publicly audited entities, or even one that has been certified by an accounting group. It is all too easy to overlook these key elements when building a customized system.

COTS packages are usually modular and can expand in capacity and functionality to meet expanding requirements. For many developing country governments, all that will be required in the early stages is a basic “entry level” system—consisting of little more than a General Ledger application and basic cash management, accounting and payment functions. The new system may also be able to link into “legacy” systems that are already in place to postpone investments in additional modules that may not be needed until resources can justify them. Capitalizing on systems that are already in place can serve as a temporary fix while garnering support and resources for achieving a long-term solution, and can give donors the evidence they need to justify the commitment of additional resources. To achieve results, one must be imaginative and “opportunistic”.

There are a number of COTS financial management systems that tailor to and incorporate public sector requirements related to budget control and accountability. These start from simple “shareware” packages to complex, fully integrated Enterprise Resource Planning (ERP) systems, such as SAP, Oracle Financials, and Free Balance. To attempt to compare each ERP solution here, their

functional coverage and their strengths and weaknesses, would be fruitless, as the software packages are constantly evolving in response to changing technologies and changing consumer demands.

Of course, there are drawbacks to using COTS, too. For instance, COTS packages tend to impose a standard structure on business processes, forcing the government to organize to the application, not the other way around. This may not be such a bad thing as many developing country governments could benefit from the discipline that COTS providers build into their software applications. However, resistance should be expected—both well-founded and otherwise.

The costs of implementing COTS solutions should not be underestimated either. The initial cost of a COTS solution can be high, the maintenance contracts and license fees a constant cost, but experience suggests that the cost-benefit of COTS compared with the “build-your-own” approach is almost always positive. The same applies to governments as it does to the private sector.

Each software company has a pricing structure. These pricing structures are generally based on a combination of:

- Number of users;
- Size of the organization;
- Types of users;
- Types of hardware used; and
- Number of modules acquired to make up the system installed.

This calculation can become quite complicated and needs to be carefully controlled. If starting with a modest “entry level” system, the initial package can be quite reasonably priced and fall within a small budget. What is most important is to assess accurately what can be done as a first sustainable step, upon which an expanded system can be built.

## **A PHASED APPROACH TO IFMIS IMPLEMENTATION**

Public tendering is a sound, tried and tested, and well-documented process. However, the tender process is best suited to clearly definable items, or turnkey situations. Apart from the hardware, specifications for an integrated financial management information system are not as clearly definable as, say, a specification for equipping a port with tugboats or procuring a vehicle, a computer or a stapler. All these can be defined with clear specifications. An IFMIS seems to be definable, but in reality there are too many interdependent variables that need to be firmed up as the process of implementation evolves.

Implementing an IFMIS requires many different government structures to start to work with common tools. To begin with, for the information to be coherent, all administrative units—national as well as regional and local governments, when applicable—have to adopt a common “language”, in the form of a uniform Chart of Accounts. (See the section above on ‘Chart of Accounts’.) This may seem a very simple task and in principle it is, but in many countries this process can take years to complete.

- In Vietnam, more than five years were required to reach agreement on a common CoA.
- In Kosovo, which some have described as a *tabula rasa*, the process took a little more than four months of negotiation.
- In Uganda, a software package was installed and a CoA configured, only to find that the CoA was too limited and required additional fields, requiring an extremely costly system migration.

- In Slovak Republic, to overcome a stalemate over the design of the new CoA, the government had to devise a workaround to accommodate the needs of a variety of system clients. A centralized chart of accounts was introduced for operation in most major administrative units. Special interfaces were then designed to link into major client systems, such as those operated by the tax and customs administrations. Then, procedures were established for a number of smaller system clients (mostly smaller organizations without the resources to overhaul their systems to accommodate a new CoA) to submit their data monthly with certain key criteria.

Establishing uniformity across all sectors of government can be a long-term process. However, this process need not hold up IFMIS implementation indefinitely. In fact, an IFMIS is so broad in size and scope that it might be better to break down the financing of such systems into defined steps.

Examples of defined steps might include:

- Preparation and delivery of the initial needs assessment;
- Requirements gathering and delivery of systems specifications;
- Design and delivery of a uniform chart of accounts;
- Preparation and delivery of accepted rules and procedures for the new system;
- Evaluation, selection and procurement of software and hardware applications;
- Systems integration, testing and implementation; and
- Audit/evaluation of project progress and results.

Splitting up IFMIS delivery into discrete packages can result in vast improvements in the final product. Adopting a clearly defined, step-by-step approach based on a detailed assessment of existing conditions and needs can not only expedite the process of introducing a sound entry-level IFMIS, but can also help donors and governments alike minimize the risk of project failure.

## PART 2: COUNTRY CASES

This section briefly covers some country examples to demonstrate different approaches to IFMIS implementation; some of the common features and problems faced; and, how similar problems can be avoided or resolved. Some countries chosen were successes, while others have experienced or may continue to experience severe implementation challenges.

### SLOVAK REPUBLIC

It is very hard to emulate the rapid success of the Slovak Republic's IFMIS. Political will was a key driving force, but it was underpinned by a clearly defined strategy and timeframe. A clear understanding of what the government and its institutions required turned into a clear definition of what needed to be achieved, with a clear definition of the tools that were to be used. The system was defined, then acquired, tested, configured and "switched on" in time for the beginning of the planned fiscal year. The result was a system that, in its basic form, was efficient enough to pay for the investment in less than nine months of operation.

The first step in this process was to undertake a needs assessment. This established the basic functions for the new Ministry of Finance IFMIS, a system that was to serve as many Government-related client organizations as feasible. The needs assessment also set out other basic requirements for the new system. These included, *inter alia*:

- It should function in effect as a "bank" for all users,
- It should have the functionality to manage budgets, record financial transactions, and manage financial resources,
- The accounting framework would be International Accounting Standards (IAS), now International Financial Reporting Standards (IFRS),
- The Treasury would centralize control of cash in a Treasury Single Account (TSA), transferring funds to settle payments as they come due,

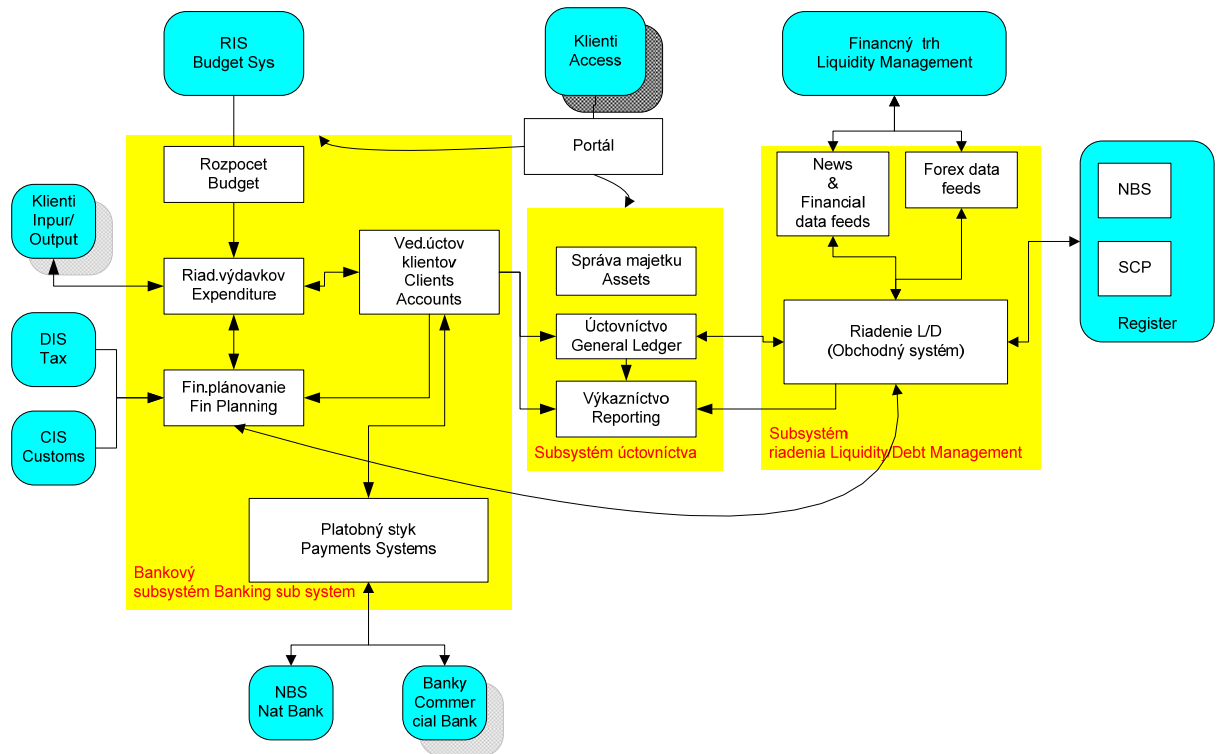
After careful evaluation of available software packages and their ability to meet these requirements, the system chosen was composed of three basic off-the-shelf packages:

- A General ledger application – package chosen SAP
- Client banking software – package chosen QBSW
- Treasury management and trading software – package chosen TREMA

A request for tender documents was then drafted and published and various bidders submitted proposals for integrating the system. The tender process itself did not go as smoothly as the overall implementation. The contract was initially awarded to one firm, and then swiftly withdrawn after a bribery scandal was exposed in the press. Despite a series of appeals, the contract was eventually awarded to the runner-up, Hewlett Packard, which set out to install the selected COTS packages on HP's hardware platform.

As a first task, the integration team established a steering committee to oversee the entire process. The team then designed a system architecture that would link all the information the system needed to handle into one structure. This figure below shows the basic system architecture.

**Figure 4. Example of system architecture – Slovak Republic**



The next key step was to design a CoA that would tag the information correctly across the three central software packages and enable interfaces with other clients.

Other steps included:

- Assessing know-how gaps and setting up training
- Configuring the system in accordance with IAS / IFRS
- Setting up change management support
- Developing training materials and training courses
- Testing the system
- Setting up the new TSA operation with an appropriate legal basis
- Switching over from the old system to the new.

The system “went live” on January 1, 2004. The basic cost of the system was a little over US\$30 million. However, when accounting for training, change management, and other factors, the overall cost was estimated at roughly US\$ 70 million. Notably, the IFMIS was financed entirely from the Slovak Government’s own budget.

The Slovak IFMIS was a major achievement given the political climate as well. The implementation process endured a change in government, but the process was not derailed because the elected Assembly (Parliament) was committed to a new system and forced the hand of the bureaucracy.

The Slovak Government is now gradually bringing the system forward, with possibly one of the most effective IFMIS systems in the European Union (EU), rivaled perhaps by those in Lithuania, Estonia, and Slovenia. The Slovak IFMIS is possibly the most efficient among them and closest to the commercial model.

The Slovak IFMIS implementation succeeded primarily because the country wanted to become part of the EU and was willing to make the changes required to comply with EU directives. The Slovak Government went a step further and installed a system that not only enabled it to conform to EU requirements, but also gave government extremely powerful management control and a sophisticated treasury.

## **KOSOVO**

Post-conflict Kosovo offers another case of successful IFMIS implementation, although the conditions were vastly different from those in the Slovak case. With a population of 2 million people inhabiting a territory barely 100 km<sup>2</sup>, Kosovo was of a much smaller scale. Furthermore, the reconstruction of infrastructure destroyed by conflict required huge inflows of foreign assistance. Yet as a province of Serbia, the territory did not have developed (or even nascent) institutions of government at the central level. There was no budget process, no treasury system to manage the disbursement of funds flowing into the country for reconstruction.<sup>4</sup>

Under a transitional administration led by the United Nations Mission in Kosovo (UNMIK), an administrative structure was put into place, pending establishment of Kosovar Government institutions and resolution of the territory's final political status. An early step was the establishment of a Central Fiscal Authority (CFA), later renamed the Ministry of Finance and Economy (MFE), and creation of a basic financial management system. This initial system was a simple tracking mechanism in Microsoft Excel, the purpose of which was to get an immediate handle on spending and donor funds disbursement. However, within a few months the need for a more sophisticated, Government-wide IFMIS became apparent. The objective was to integrate the 30 Municipalities and the future line ministries and spending agencies under one central system.

Financing of the IFMIS implementation was jointly undertaken by the Canadian International Development Agency (CIDA) and the Swedish International Development Agency (SIDA), with contributions from USAID including all the administrative instructions and procedures. The basic financial envelope was approximately 11,000,000 Euros.

The IFMIS assistance included an E-Government software system, Free Balance, produced by a Canadian firm and also used by the Canadian Government. Having no choice in the software package was slightly unusual, but Free Balance is in itself an unusual package for it can run as well on a notebook as it can on a large-scale network. Consequently, it was possible to set up a pilot system for the CFA in less than 26 days.

Once the first emergency budget for Kosovo had been developed, the IFMIS implementation team set out to install and configure the basic system architecture. The challenge was to set up a system that would work for the entire future administrative structure.

The first step was an assessment process, identifying available human resources and system requirements. The Steering Committee decided early on that the system should include functionality for:

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<sup>4</sup> Mark Gallagher (2007), *Building Fiscal Infrastructure in Post-Conflict Societies*, funded by USAID under Contract GEG-I-06-04-00001-00 Task Order No. 06.

- Full accounting (General Ledger);
- Treasury; and
- Revenues.

The resource assessment showed that many Kosovars had worked under the previous Yugoslav system. Therefore, it was decided to use, wherever possible, procedures and practices that corresponded to the old system.

On this basis, a CoA was developed, agreed on and adopted using the old Yugoslav model. The CoA conformed both to local requirements, and to international standards, such as those of the IMF and the EU. This gave the new Kosovar administrators a familiar set of rules and regulations by which to work, while also meeting international requirements.

At this stage in the implementation process, a meeting was organized to present the complete new system to financial and executive personnel of all of the municipal administrations in the parliamentary assembly hall. After the meeting, comments were received, certain minor changes were made, and the system configured.

A major advantage in using Free Balance is and remains that each installation can run independently but still enable data to be collected into a central unit. This feature allowed the Kosovo system to be rolled out rapidly because each unit could stand alone. As will be seen in the Kazakhstan example below, other systems are not as flexible, but this does not necessarily mean that they are to be avoided; in fact, each has its own strengths and weaknesses.

The program for the Kosovo roll out included:

- Systems demonstrations to show the functionality to future Users;
- Training workshops for both senior administrators and managers and for general staff; and
- Change management workshops.

The data originally entered into the system during the emergency phase was migrated to the new CoA and the system was gradually expanded as the different municipalities were brought on line.

There were problems that needed to be solved as the project evolved, but none were severe enough to halt progress. The biggest challenge faced was when UNMIK ripped out the communications network as it prepared to scale down its operations. Fortunately, the implementation team was able to develop inexpensive replacement routers using specially programmed PCs to link the microwave antennas for the network.

The other major challenge was political, that of addressing the three Kosovo municipalities that are majority Serb. The IFMIS implementation team adopted a non-partisan approach, configuring the system and disseminating all documents and information in Albanian, Serbian as well as English. All Kosovar project staff spoke both languages fluently. As the system incorporated the Yugoslav CoA, the new system allowed Serbian municipalities to extract and communicate their financial data to the Serbian Government in Belgrade, which after the war continued its financial support to the Serbian communities in Kosovo. So, even reporting and accounting were made easier with the introduction of the new IFMIS, which was configured to work in multiple languages depending on the user's system profile.

The core system was up and running in all three languages in 2003 and has been expanding in functionality, ever since. SIDA continues to fund dedicated local staff for system support, but the system now falls directly under the management of the Kosovar Ministry of Finance and Economy.

## KAZAKHSTAN

Kazakhstan's IFMIS implementation faced many hurdles, chief among which was the choice of software. The software selected for the core applications was Oracle Financials—an excellent package, but a system that requires a full communications backbone since all data are processed centrally. This issue had not been addressed in the tender and was completely ignored during the implementation phase. As a consequence of this oversight, the system integrator and the government implementation team had to make a special visit to the World Bank in Washington to negotiate a further loan of more than US\$25 million to put in place a satellite-based communications backbone.

This was hardly the extent of the obstacles faced in installing Kazakhstan's IFMIS. To begin with, CoA development took longer than planned, delaying many other phases of system development. Secondly, the Government made the decision not to implement various key modules of the software, most notably payroll, due to lack of financial resources. This turned out to be a grave mistake, given the size of the public sector workforce and the salary and benefits management this entailed.

Third, the Government failed to ensure full sustainable support to the expansion of the system beyond the initial installation. Many government IFMIS systems encounter this problem. In an ideal world, systems should have the flexibility and the sustained support needed to grow with changes and improvements in fiscal policy and management, and to meet the increasing information requirements of a maturing government administration.

## UGANDA

Uganda offers an example of a country where introduction of a government IFMIS has moved in fits and starts.

The most recent IFMIS implementation started in 2002. This is the second effort to set up a government-wide IFMIS with World Bank loan financing. The previous attempt never went live, after faltering in the design stage. The current system, based on the Oracle Financials platform, is basically a good system, but is fraught with key design problems that will necessitate a system migration.

As mentioned in Part 1, the main design problem lies around the CoA. The Government signed off on the CoA and the system was configured, only to discover several months later that there were several deficiencies in the design of the CoA fields—a discovery that led to months of delays and considerable cost overruns. Most CoA's have this limitation: Once the structure is created, it is very difficult and costly to change.

This problem could have been easily avoided, but once the CoA was approved and the software configured it was too late. The problem was discussed but the cost involved for a rebuild of the system would have added more than US\$6 million to the project cost. This would have meant going back to the World Bank to negotiate an increase in funding. Rather than go back to the donor, the system was put into operation with the defects unaltered. The Uganda IFMIS has limped along ever since, under performing its potential, with patches and workarounds that only serve to decrease the efficiency of what could have been an excellent system.

Various other problems were encountered, most of them common to IFMIS projects around the world. These included:

- Inadequate planning;
- Poor communications between implementers, donors, and Government;
- Shortage of management capacity and resources;



- Changes in systems design documents without full agreement;
- Poorly implemented trainings; and
- Unnecessary and spurious project expenditures.

These types of problems are common to many public sector reforms, whether donor-funded or self-financed. Suggestions will be made in Part 3 to avoid or at least mitigate these problems.

#### **Box 4. An indication of total cost**

Putting a price tag on a complete IFMIS installation is not easy. This is because the costs can vary depending on factors such as the scale of the administration, the number and types of users, hardware and software requirements, and the types of modules required. Yet from successful installations, a rough guideline for estimating the cost of installing the complete hardware and software platforms for a comprehensive government IFMIS is to estimate about US\$6 per capita .

For a country of 5 million, on this basis, the cost would be roughly US\$30 million, approximately the base cost for Slovak IFMIS installation. Then there are the ancillary costs, including training and reorganization , which can easily double the price tag. This is precisely what happened in the Slovak Republic, where, all told, IFMIS installation came to US\$60 million. This does not even account for the ongoing costs of licenses and maintenance contracts.

However, the cost for implementing an “entry level” system that starts the process moving forward is generally far lower, and the time frame far shorter, which make this approach attractive for both donors and developing country governments with limited resources. The donor community can provide the seed funding, but for a prolonged process that will take as many as 10 to 20 years to complete, the country itself must be able to generate the resources needed to support the system and its modernization expansion on an ongoing basis.

It is for this reason that it is recommended that a Treasury Single Account be put into place, as quickly as possible, to enable more efficient management of public finances and to generate the additional cash flow required to support the costs entailed by the move to a modern IFMIS.

## **IRAQ**

The development of an IFMIS for the new Iraqi Transitional Government encountered many of the same problems highlighted in the Uganda case, from poor planning and communications to weak management and human capital. But, the process has also encountered a host of problems unique to the Iraq context.

It is clear now that there was a lack of coordination in planning the new system among the various US Government agencies involved in Iraq’s reconstruction. An October 2007 audit by the Special Inspector General for Iraq Reconstruction (SIGIR) highlights some of the critical problems with the IFMIS implementation process.<sup>5</sup> Among these was a lack of understanding of the existing Iraqi financial systems and processes before and during installation of the new system. The Iraqi government has a distinctive accounting system, a unique combination of cash and accrual accounting methods, that is not easily adapted into the IFMIS system. Moreover, the report indicates that user requirements were not adequately identified and incorporated into the system’s development.

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<sup>5</sup> *Interim Report on Efforts and Further Actions Needed to Implement a Financial Management Information System in Iraq*, Office of the Special Inspector General for Iraq Reconstruction, SIGIR-08-001, October 24 2007.

According to the SIGIR report, because their buy-in was not sought, Iraqi ministries have not taken ownership of the new system and continue to operate legacy systems alongside the new system, manually inputting data from one system to the other, simply ignoring the new system altogether. In fact, several ministries have set up alternate and incompatible financial management information systems.

The problems with interagency coordination have not only led to suboptimal outcomes, but also to missed opportunities. Three years ago, it was easier to find personnel, knowledge resources, and communications systems. As time has passed, the situation has gone from bad, to worse, to disastrous. Now, the comprehensive information needed to conduct fiscal planning and develop and execute budgets is simply not available. After more than \$20 million of investment from USAID and considerable additional investments from other agencies, the Iraq IFMIS project has been halted pending decisions on a strategy for the future.

## **VIETNAM**

The Socialist Republic of Vietnam has been working on introducing a new IFMIS since 2001. IFMIS development and implementation has been funded by the World Bank, administered directly by the Vietnamese Government but using the Bank's procurement guidelines and tender process.

Vietnam offers an interesting example of "too much, too fast." The Government has embarked on drastic reforms to come into compliance with international standards and agreements and to become an accepted player in the international community. Unfortunately, while the leadership races forward, the people and systems in the government administration are not capable, or not willing, to keep up with the feverish pace of reforms.

The critical problem of the CoA has been visited and re-visited for more than four years, without a clear resolution. Officially, the leadership has already signed off on a CoA, but the discussion carries on as various stakeholders in the bureaucracy continue to voice opposition.

The Vietnamese administrative structure is complex, not only in the center, but also in the 64 provinces that comprise the main structure. Little understanding of the complexity of its administrative structure has been taken into account in the current system, which is a hybrid of a French colonial administrative system, with an overlay of ex-Soviet bureaucratic practices. The result is a very cumbersome, slow administrative bureaucracy with an inability and unwillingness to adapt to new circumstances.

The plan for the new IFMIS system is to cover the both central administration as well as the 64 provincial administrations. The scale is monumental, especially considering where Vietnam is starting.

This is where the concept of an "entry level" system comes into perspective. The Slovak Republic's "entry-level" system was set up in the Ministry of Finance in the capital, Bratislava. As the system has been broken in and refined, plans have been formulated to bring other ministries and administrative units into the system.

Vietnam's ambition should not be criticized, but the IFMIS strategy is too ambitious and will likely have to be scaled down if it is to have any chance of success. The system chosen requires, as in Kazakhstan, a strong communications backbone. This does not exist and it is not feasible in the short term. All these problems might have been foreseen and could have been addressed had a proper assessment been done in advance of the tender. It is so tempting to try to drive forward faster than resources can follow.

## **PART 3: BEST PRACTICES**

This section offers a series of good or best practice steps to successful IFMIS implementation, drawing on the country cases cited above, as well as conventional wisdom on the topic. Of course, “best practices” should be taken with a grain of salt. There are few hard and firm rules, for the situation and the requirements vary from country to country. Nevertheless, the following steps seem to be helpful in ensuring successful implementation of IFMIS projects.

### **STEP 1 – THE NEEDS ASSESSMENT**

The first step in any institutional reform project is a needs assessment—not a “wish list,” but a serious and comprehensive assessment of the current institutional conditions, what is needed, and what can be reasonably achieved.

A number of questions should be addressed:

- What are the political priorities of stakeholders?
- How does the current governance system function (the nature of the political system, the bureaucracy, the budget process, etc.)?
- What is the existing legal framework, and how does it function?
- Can the legal framework be used to support the public financial reform process?
- How does the current fiscal system work?
- What systems are in place?
- How is the information being used?
- What human capacity and technical know-how are available, both at the central and at subnational levels of government?

In addition, the assessment team should collect and analyze past years’ spending budgets, planned and executed, going back as many years as possible. This is not always possible, in particular in post-conflict settings such as Iraq, where historical information is extremely scarce and cooperation from counterparts at a minimum.

The historical analysis is of great importance to the assessment process. Many developing countries have inherited systems left behind by past governments or in many cases colonial powers, each leaving its own distinctive trademarks and traits. On top of these systems, subsequent governments have superimposed changes to accommodate changing needs, priorities, and ideologies (socialist, communist, etc.). Consider Vietnam, for example, long colonized by France but also strongly influenced by its recent communist history. As a result, while Vietnam has a very strong central government, each of the 64 provinces has a strong government, too, thanks to its colonial experience. This creates a relatively inflexible system, with each administration having its own demands, requirements, laws, and internal structures. This is a major impediment to introducing a unified IFMIS for the country as a whole. In such a large structure, change comes very slowly. Implementation of an IFMIS on the proposed 4-6 year timeline is simply not feasible.

### **Box 5. The ideal IFMIS assessment team**

The initial needs assessment should ideally be conducted by a multidisciplinary team. Too often the when systems are proposed by donors and international organizations, the specification work is led by economists, who are simply not equipped with the knowledge or training required. This is not to say that economists are not needed or desired. On the contrary, their input is essential to designing systems that support sound fiscal policy and management. To achieve the best results, however, a wider array of specialists should be deployed. The ideal IFMIS assessment team on the ground should include:

- A skilled project manager,
- An economist,
- A qualified accountant with expertise in public and private accounting systems,
- An IT systems expert,
- A business process analyst/engineer,
- A change management specialist,
- Trainers, and
- A logistics expert.

All situations are complicated by the national frameworks, which divide a country up into administrative areas, themselves complicated by other historical structures. These have an effect on the configuration and scope of a system, often best limited to one central agency, namely the finance ministry. Regardless, the technology chosen must be flexible to adapt to evolving conditions so that the system can be rolled to other parts of government gradually as the conditions and resources justify it. Analyzing and understanding how the current systems function, and how they have evolved, will enable a better assessment of how to plan Step 2, the “Roadmap” for IFMIS implementation.

### **CHANGE MANAGEMENT**

Change management, as explained above, must be addressed early in the needs assessment as well. It is all very well to work out system needs, but the human needs are just as important, if not more. If these are not addressed, then the project will constantly be faced with resistance and obstacles from executive staff and elected officials all the way down to the civil service personnel who use the system most regularly. Clearly, identifying the various audiences and their needs is important in this first step.

The best way to overcome resistance is to “sell” the changes, relying on credible national resources to deliver the message. The “selling” can be done through a variety of media: workshops, seminars, training sessions, a website, conferences, or newsletters. The techniques are evolving rapidly and often becoming cheaper as time moves forward.

### **CAPACITY BUILDING AND TRAINING**

Like change management, capacity building and training need to be scoped out during the needs assessment process. The different user groups have to be identified; their levels of knowledge determined; recruiting needs established; and training curricula explored. Training programs need to address various audiences, from senior members of the bureaucracy down to mid- and entry-level civil servants.

The training programs, along with change management, should begin as early as possible in the project, using nationals, who are both committed to the project and to public service, to deliver the programs as much as possible. This process builds local capacity and helps build confidence among users, who through this process are re-assured that there will be some constants amid the change.

Given the nature of institutions and organizations, capacity building is a never-ending process. It needs to be ongoing and permanent. This requires, therefore, establishment of a sound permanent authority within government, empowered to carry these functions forward.

## **LEGACY SYSTEMS AND DATA MIGRATION**

Existing or “legacy” systems must be addressed as part of the needs assessment. It is also important to establish if the data can be recovered and transferred into the future system.

There are various degrees of data migration, all depending on the volumes and costs needed to undertake the exercise. It is very important to bring a creative approach to handling legacy systems and data migration. Often there are very innovative, creative ways to tackle this aspect the IFMIS project.

## **STEP 2 – CREATE A ROADMAP**

Once the needs assessment is completed and agreed, the team can set to work on Step 2, the “Roadmap.” The Roadmap is essentially a strategic plan mapping out how to transform the needs into a coherent solution, the steps involved, how to address each step, and setting out clear objectives and milestones for each step of the way. The Roadmap itself should become a measuring stick by which to measure progress in the process of implementing an IFMIS.

The Roadmap should cover immediate, medium- and long-term tasks and objectives of the IFMIS project. It should clearly define parameters including the system objective and scope; expected impact and benefits; critical milestones and success factors; project implementation methodology; risk assessment and mitigation strategy; estimated cost breakdown by phase; and the financing arrangements. Agreement on these and other parameters should lead to a written commitment the cooperating government and corresponding commitments from donors and other external institutions engaged in the reform process.

The Roadmap (and the needs assessment) should be revisited regularly to ensure that the situation has not substantially changed, as the time spans involved in implementing an IFMIS are so long that Government changes are inevitable and these will often lead to structural changes, which will have an effect on the Roadmap.

Once this phase has been completed, a realistic timeframe has to be worked out through each successive milestone. There should be no overlapping. Each milestone should follow on from the next. Here is where the tender process should come into play. Each milestone should become a specific package, but with provisos, for if the offeror has successfully completed Milestone 1, it should be allowed to go to the next step automatically for a previously agreed price. If it has completed the milestone but outside parameters, then the subsequent milestones should be put out for tender anew.

It must be clearly understood in this approach that all that is being achieved is an “entry-level” IFMIS. Once such a system is in place, providing it is sustainable and the political will remains, then the new system will evolve under its own impetus as management demands for information and processes become increasingly sophisticated.

Rolling out the IFMIS system beyond core central level ministries to the various levels of government needs to be planned in distinct phases with a long-term plan. The needs assessment should help form a preliminary idea of these phases, but the Road Map will set the triggers and milestones that need to be attained in order to ensure that the long-term plan is carried out. This is not only important to reassure donors of the value of their initial investment, but also to enable them to measure progress into the future and to plan future critical investments as deemed appropriate.

### **STEP 3 – THE MODIFIED TENDER APPROACH**

Once an agreed upon Roadmap is in place, the next step is to prepare the tender. Yet before the tender is issued, the stakeholders have to work out the overall cost of the exercise.

All installations are comprised of the same basic components:

1. Intellectual input;
2. Software;
3. Hardware;
4. Training; and
5. Support.

From the initial needs assessment, the project team should know the approximate size of the user base and the various profile types that will be required. This provides a good estimate of the basic software profile, the licensing requirements, service costs, and annual maintenance and support fees. The hardware costs are also easy to calculate.

The needs assessment should show the amount, types of training required, and the time frame required—again, a simple calculation. The support related to software and hardware should be fixed in the hardware and software costs.

The technical assistance inputs, from CoA design and business process re-engineering, to testing and configuration, to training and change management are the variables on which most projects stumble, for the timeframes cannot be easily fixed. In Vietnam, four years have been consumed by CoA design and consultation, and still the issue is not resolved. In Slovak Republic, a turf war between the Central Bank and Ministry of Finance over debt management nearly derailed the IFMIS process. Indeed, there are myriad issues that, even if carefully analyzed during the needs assessment and contemplated in the Roadmap, require long, drawn-out negotiations that can break a project by delay upon delay. This is why Government IFMIS projects should be broken into discrete packets—established from the needs assessment and laid out in the Roadmap.

By adopting a modified tender approach, the IFMIS project can be surmount the hurdles that have been described in this report. It would provide the donor with an interactive role with the beneficiaries, establish clearly what needs to be done to put into place an IFMIS, setting local standards to meet the multiplicity of the objectives.

### **STEP 4 – IMPLEMENTATION**

The final and most critical step of any IFMIS project is Implementation.

## IMPLEMENTATION TEAM

The implementation team needs to be capable of bringing to the project the right skills and talents. A core, or primary, project team should be made up as follows:

- Project Manager (PM)
  - The PM must be a “diplomat” who not only has access to the Minister and other key counterparts as and when needed, but also has the skills and sensitivity to win the trust and confidence of those counterparts.
- Public Finance Economist
  - Must have a sound understanding of public finance, but not a rigid “There is only one way” approach; and, a good understanding of IMF’s Government Finance Statistics (GFS) and UN’s Classification of the Functions of Government (COFOG).
- Qualified Accountant
  - Must be open to an economist’s way of approaching accounting and finance; and, should have a solid understanding of Charts of Accounts, IAS, IFRS and Government adaptation of Standards.
- Change Management/Training Expert
  - Able to visualize the system’s impact on institutional arrangements, responsibilities and relationship, and design programs with counterparts to bridge and fill knowledge gaps and build capacity.
- IT Systems Expert
  - Must have the requisite IT systems skills and have the creativity to work around obstacles that the new system will encounter.
- Logistics expert
  - Needed to organize resources, meetings. Essential and great diplomatic skills are needed to provide backstopping as and when needed.

The persons chosen must not only be professionally qualified, but also culturally aware, with proven skills in handling delicate negotiations. The ability to come up with new ideas and be creative to find solutions to the problems that will be faced in delivering the system is critical. Each of the team members must have previous experience in putting into place IFMIS, whether in government or in industry, but some Government systems experience is a must for the team as a whole. Team members must all have a proven ability to convince and sell ideas and concepts. And, they must be capable of mentoring, transferring knowledge and know-how to a team of local counterparts who will “shadow” them in the initial stages of project implementation.

The “shadow” team should have counterparts to each of the expatriate team members. These individuals should have similar backgrounds and skills to their expatriate counterparts, but their knowledge and experience will be generally at the outset less. They must be capable of taking over the project, assuming its responsibilities. The potential must be there from the start.

The expatriate team’s task is not only to manage the project in its initial phases, but to transfer knowledge and capacity to the local shadow team, who should as quickly as possible assume the responsibilities for the project. The time frame for this is difficult to set. The objective is for the local

team to become the motor behind the IFMIS installation, to build in-country capacity, and for the expatriate team to be phased out from an active role to one of mentoring and support until their support is no longer required. Throughout, the implementation teams, international and local, must have the support of all the stakeholders.

### **STEERING COMMITTEE**

A regular Steering Committee should oversee progress from the highest level. Its role is to ensure that obstacles and hurdles are tackled smoothly and in a timely fashion. Chaired by the Minister of Finance and/or his Permanent Secretary, the Committee should meet regularly, e.g., monthly, produce minutes and follow up on issues and milestones. Donors and stakeholders should attend and observe, for with proper surveillance and interest, obstacles and problems can be addressed and decisions taken to ensure the process of implementation is not derailed.

### **START SMALL, THINK BIG**

Integrated financial management information systems are basically simple to put into place. In theory, they should work as well in a government environment as they do in commercial environments—corporations like GE, Microsoft, and Coca-Cola are as large if not larger than the GDP of most developing countries, and their networks similarly complex— but of course it rarely seems that way.

Indeed, size has little to do with the problems governments face in transitioning to modern IFMIS. What government IFMIS projects often overlook are the inherent conditions on the ground: the political structure, existing systems, human capital, and other forces that come into play when attempting any major institutional change.

Setting the introduction of an IFMIS at a feasible level can help overcome these obstacles. Setting the level can be compared to that of setting the bar for a high jumper training for a competition. The height has to start from a level that can be jumped, with the capabilities already acquired; with training and practice, the bar is gradually raised until the target height is achieved. One does not start at 3 meters, when 50 centimeters is all that the jumper can do at the outset. This analogy applies to IFMIS as well.

A first step should be an entry-level system, limited to a controlled environment such as the Ministry of Finance. The system can be then be rolled out in phases once it has been tested and proven in that controlled environment. This is precisely how systems have developed even in developed western countries. All systems started from some experimental entry level that were gradually expanded, rationalized, consolidated and migrated. An example is the Government of Geneva in Switzerland: Until 2005, the Government had separate IFMIS system, each using different platforms and software configurations, that are only now being consolidated into one.

### **TESTING THE SYSTEM**

Ultimately, the effectiveness of IFMIS as a financial management tool is dependent on the technology—the software and hardware—on which it operates.

It is important to bear in mind that software and hardware are engineered products. When building a production line, engineers will test all steps in a process before actually installing the new line. Through this testing process, they prove that the product can be manufactured; at the same time, they address at least 80% of the problems that the real production line may encounter.



Like all good engineers, all quality hardware and software suppliers test their engineered products in their internal laboratories simulating situations of all types, ensuring that their products function. This is also why, as a rule, it is more cost effective to use COTS products for the process. There are very, very rare exceptions to this.

Installing a government IFMIS is nothing more than a new production line, one that will handle information in a new way. All successful IFMIS installations have gone through a similar process. The systems introduced in Slovak Republic, Kosovo, and Slovenia, to name a few, were tested with data either on paper, or in actual hardware/software environments, to prove the system engineering design before advancing to the installation phase.

Pre-testing the working model with real data—proving the functioning of the CoA, the software and integration processes, recording real transactions, and producing real reports—can mitigate future problems and speed up final installation. One option to consider is setting up a “laboratory” environment in which to test and calibrate the system. Unless one has unlimited resources to dispose of, a new system cannot simply be rolled out and switched on without this kind of testing. In the context of a Ministry of Finance alone, the impact of an IFMIS is enormous; the impact and the risks on a government-wide scale would be exponentially larger.

To ensure that this step is built into the IFMIS project, it should be clearly laid out as one of the tender process milestones to prove that the solution will work before too many resources are committed to the project, thus avoiding wasted money, time and credibility. Of course, this does not obviate the need to pilot-test the system with real users in real budgetary units (e.g., within the finance ministry) before rolling the system out to the broader government.

## **CONCLUDING REMARKS**

While this paper cannot cover all of the facets of IFMIS design, development and implementation, the thrust is to provide a basic understanding of what is required to bring an IFMIS successfully to life.

Today, the systems themselves are based on tried and tested software and hardware platforms, which have worked thousands of times successfully. The problem when it comes to government environments is not an engineering problem, but one of inertia: inertia that is political and bureaucratic at its core. Introducing modern financial management systems demands a commitment to change: change in technology, in processes and procedures, as well as changes in skills, responsibilities and behaviors. Changes of this nature and magnitude have to be accepted from within and not simply imposed from the outside. Successes like the Slovak Republic were the result of real acceptance, at the highest levels of the political system. IFMIS success also requires donors to provide firmer monitoring, and firmer support to ensure sustainability. Too often these projects under perform or take much more time and effort than anticipated because costly mistakes were made, whether in the assessment and design stages, in the tender process, or in the course of system implementation.

This paper proposes a series of best practice steps for introducing IFMIS based on experiences and knowledge of past successes and pitfalls. What is presented here is not a recipe for instant IFMIS success, for this is impossible. Instead, it highlights the key features that must not be overlooked, the key techniques that have been common in successful installations. Starting with these as a basis, IFMIS projects can be better designed and managed to produce the financial management and governance results that they are intended to have.

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# ANNEX 1: CHECK LIST

**Table 1. Basic checklist for IFMIS implementation**

|     |  |
|-----|--|
| 1   | Institutional and Organizational Needs Assessment  |
| 2   | Initial Road Map   |
| 3.  | Government resources to be committed   |
| 4.  | Project team composed of: <ul style="list-style-type: none"> <li>• Project Manager</li> <li>• Logistics Support</li> <li>• Legal support expert in current Government Financial rules and regulations, fiscal matters,</li> <li>• IT expertise</li> <li>• Business process expert – current business processes</li> <li>• Other experts the host government may nominate</li> </ul>  |
| 5.  | Steering Committee (SC) chaired by Minister of Finance or his delegate. Members to include: <ul style="list-style-type: none"> <li>• Project Managers – Government and IFMIS team</li> <li>• Central Bank representative</li> <li>• Debt Agency representative</li> <li>• Ministry Finance department nominees, maximum 4</li> <li>• Nominated minute-taker and secretary to the SC</li> </ul>   |
| 6.  | SC Minute approval process to be in place – Maximum time, 5 working days<br>SC Monthly meeting schedule to be fixed<br>Other committees established should all report to SC  |
| 7.  | Dispute resolution process to be agreed, max time period 60 working days,<br>Ombudsman Minister Finance, or Prime Minister – Donor Representative, last resort   |
| 8.  | Information minimum that be available: <ul style="list-style-type: none"> <li>• Current CoA(s)</li> <li>• Full library of current reports produced, including Balance Sheets</li> <li>• At least past three years’ approved and executed budgets</li> <li>• Current Budgets in execution</li> <li>• Complete set of current accounting records (General Ledger and sub ledgers)</li> <li>• Audit reports and Management replies by: <ul style="list-style-type: none"> <li>• Auditor General</li> <li>• Internal Auditors</li> <li>• External Auditors</li> </ul> </li> <li>• Organization Chart</li> <li>• Current Business process flows</li> <li>• Main job descriptions</li> <li>• Information on current systems functioning</li> </ul> |
| 9.  | What must be completed before tender process <ul style="list-style-type: none"> <li>• CoA</li> <li>• Business Process mapping</li> <li>• Set of complete reports that all Users and User Departments require to accomplish their work</li> <li>• Testing of accepted CoA</li> </ul>  |
| 10. | Training requirements: <ul style="list-style-type: none"> <li>• Train the Trainer personnel need to be identified</li> <li>• Contractually all need to be committed to staying with project for 3 years minimum</li> </ul>   |
| 9   | IFMIS implementation team, minimum requirements:   |

|  |   |
|--|---|
|  | <ul style="list-style-type: none"><li>• Project Manager</li></ul> <p>Experts in:</p> <ul style="list-style-type: none"><li>• Finance (Public and Corporate, Budgeting, Treasury and IAS / IFRS)</li><li>• Training</li><li>• IT</li><li>• Change Management</li><li>• Business process engineering</li><li>• Logistics</li><li>• Government legal systems</li></ul> |
|--|---|