Ministry of Health & Population

NHSSP

A Concept Note

Transaction Accounting And Budget Control System (TABUCS)

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Strengthening Health Systems-Improving Services

"Sound budgeting and financial management are based on the following principles: comprehensiveness, legitimacy, flexibility, predictability, contestability, honesty, transparency and accountability."[1]

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[1] Source : Financial Management Information Systems: 25 Years of World Bank Experience on What Works and What Doesn't

Acknowledgements

We are grateful to all respondents listed in Annex 1 for giving their time to discuss this work.

Contents

Abbreviations and Acronyms

CIPFA	Chartered Institute of Public Finances and Accountancy
COTS	Commercial Off The Shelf
DFID	Department for International Development
DoHS	Department of Health Services
D/PHO	District/ Public Health Office
DTCO	District Treasury Comptroller Office
e-AWPB	Electronic Annual Work Planning and Budgeting
EDP	External Development Partner
FCGO	Financial Comptroller Generals' Office
FMR	Financial Monitoring Report
FMIS	Financial Management Information System
GoN	Government of Nepal
HMIS	Health Management Information System
HSR-SP	Health Sector Reform Support Programme
ICT	Information Communication Technology
IT	Internet Technology
IPSAS	International Public Sector Accounting Standard
MIS	Management Information System
MoF	Ministry of Finance
MoHP	Ministry of Health and Population
NHSP	Nepal Health Sector Programme
NHSSP	Nepal Health Sector Support Programme
NPC	National Planning Commission
NPSAS	Nepal Public Sector Accounting Standard
PEFA	Public Expenditure and Financial Accountability
PFM	Public Financial Management
RDBMS	Relational Database Management System
RTI	Research Triangle Institute
TABUCS	Transaction Accounting and Budget Control System
TTF	TABUCS Task Force

Background[2]

During the period of the first Nepal Health Sector Programme (NHSP-1), substantial technical support was provided on health financing and financial management through the Health Sector Reform Support Programme (HSR-SP), managed by Research Triangle Institute (RTI). The technical quality of the support was highly valued but there remains a need for further reinforcement of inputs through institutional capacity building. Support to financial management was particularly appreciated by the finance sections, although not all products have yet been fully implemented.

Enhancing financial management requires both the introduction of new systems and ensuring compliance with existing financial management systems at the Ministry of Health and Population (MoHP). Technical assistance in financial management should include:

1. Implementing output based budget preparation and reporting and monitoring systems at MoHP
2. Enhancing/introducing and implementing technology based financial management systems for budget preparation, execution (funds release mechanisms), accounting and reporting and monitoring processes
3. Developing human resource capacity in the areas of financial management and strategic planning and use of technology based solutions; this will require investment in financial and human resources
4. Developing a system/ culture of compliance and accountability to ensure the systems are used
5. Design and implementation of evaluation mechanisms (social and performance audits, evaluation reports).

Counterparts in the finance sections of the MoHP and Department of Health services (DoHS) can be clearly identified. They have well developed ideas about the problems of financial management, which appear to be consistent with those of other informants. Financial management staff are part of the organisation of the Financial Comptroller General's Office (FCGO). Due to centralisation of financial management at the Ministry of Finance (MoF), there is limited financial management capacity in the Accounts Sections of MoHP and DoHS for the budgeting and accounting processes.

The financial management staff at MoHP include one Chief Account Officer (Under Secretary), one Budget Officer and two Accounts Officers with financial management qualifications (Masters in Commerce, Bachelors in Commerce or similar). The financial management staff at DoHS include a Chief Accountant Officer (Under Secretary), five Accounts Officers (for seven divisions) and five Accounts Officers (for five centres). The Finance Section at DoHS is responsible for supporting implementation of the majority of public health service programmes (around 80% of funding for public facilities go through DoHS).

In organisations where systems are in their early stages, institutional memory depends on personnel. However, in MoHP the frequent staff turnover removes this potential and hinders enhancement of financial management capacity at various levels of the organisation. Also, since financial management staff report to FCGO, there is reliance on FCGO's ability to hire and train relevant personnel and post them to MoHP and its subordinate offices.

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[2] Reproduced from "Draft Capacity Assessment, Health Financing and Financial Management Report" prepared recently by the NHSSP 2

A number of overarching systemic issues also affect the performance of the staff and organisation. These include staff lacking formal qualifications and training, an ineffective reward and penalty system, and lack of proper equipment and tools. Respondents from the MoF, MoHP and DoHS identified similar issues, although their perspectives on the reasons are necessarily different. MoF pointed to the slow submission of External Development Partner (EDP) spending plans during the development of the annual budget, particularly for non-pooled funding. It was suggested that submission has become slower than previously. MoHP also often submit delayed audited reports of expenditure and claims for reimbursement that are required for the release of Government of Nepal (GoN) funds under pool financing arrangements.

Discussions in the MoHP and DoHS suggest that financial management problems identified during NHSP-1 still persist, including:
- Late EDP reporting of planned expenditure delaying the annual budget process
- Slow reporting of GoN and EDP spending from district to central level, caused by the large number of programmes and use of a paper-postal system for sending reports
- Financial and physical progress reporting using different systems that are hard to reconcile.

Reporting is impeded by two factors: i) the large number of programmes and activities operating at district level and the inability of the current FCGO coding system to properly separate programme spending; ii) A paper-postal system of district reporting which means that routine reports often arrive late, delaying consolidated reporting. The limited financial management capability of District/ Public Health Offices (D/PHO) also delays accurate and timely reporting. Although D/PHOs should have accounting officers, often accountants (book keepers) are upgraded to these positions without proper training.

Both MoHP and DoHS suggested that expenditure reporting problems could be alleviated by introducing an electronic reporting system that permits easy classification of expenditure by programme code and speedy onward transmission to Kathmandu. The shortfalls of the MoHP accounting systems are also alluded to in the NHSP-2 Implementation Plan, in particular the lack of an appropriate system makes it difficult to separate out priority programme spending.

Analysis of Existing Financial Management IT Systems

During NHSP-1, in order to automate financial management processes, the MoHP developed and implemented an IT based system called e-AWPB 1.0. The manual of e-AWPB[3] states that "*Electronic Annual Work Planning and Budgeting (e-AWPB 1.0) is a bilingual (English and Nepali), simple, interactive database developed in Microsoft Access 2003. It is designed for use by the Ministry of Health and Population (MoHP) to facilitate the Annual Work Planning and Budgeting process. It also generates analytical tables in a systematic way from different perspectives.*"

The e-AWPB 1.0 was programmed in 2009 and implemented at MoHP. It is an important innovation for automating budget and other preparation processes at MoHP and subordinate offices. The software is currently being partly used at the Finance and Planning sections of the MoHP and some centres as well as divisions at DoHS. It is not being used by the D/PHOs and spending units.

The MoHP is currently working on finalising e-AWPB 2.0 with enhanced features, access and reporting capabilities. A separate consultancy is being discussed for supporting this. The MoHP and DoHS are currently partially implementing the e-AWPB 2.0.

Accounting
- The accounts of MoHP and its subordinate offices are maintained by the FCGO and District Treasury Comptroller Offices (DTCO), but the monthly reconciliation of accounts between FCGO/DTCO reports and records maintained with subordinate offices is often late
- Coverage of the general government transaction is incomplete. Some key data, especially on liabilities, are not captured adequately. There is no comprehensive Chart of Accounts, which hinders standardised capture and classification of all transactions. The move towards a full system of General Financial Statistics has not fully evolved (Public Expenditure and Financial Accountability (PEFA) Report 2007, Indicator PI.5). There are also some methodological issues for quality data
- The final accounts are not prepared on time, often nearly a year elapses after the end of the relevant fiscal year.

Issues and Challenges[4]
- Current government accounting and reporting practices, introduced in 1962, are not in line with the Cash Basis International Public Sector Accounting Standard (IPSAS), since there are inherent problems in generating transparent, comparable and uniform financial reports.
- The system is not comprehensive or sufficiently complete to represent the actual financial position of the Government.
- Partial computerisation has actually weakened the timeliness and quality of accounting and financial reporting.
- The audited consolidated financial statements and annual revenues and expenditure statements do not include accounting policies and explanatory notes, as required by IPSAS.

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[3] eAWPB Operating Manual 1.0, March 2009. Ministry of Health and Population. Government of Nepal.
[4] Source : "Component 2: Supporting The Implementation Of The Public Sector Accounting And Reporting Standards" of the "Strengthening Cash Management System, Reporting System, and PFM Capacity Project"

- The existing accounting practices and reporting of all controlled entities (which include budgetary and non-budgetary entities as well as the state owned enterprises) are not sufficient and need to be upgraded in order to provide the financial information on all cash transactions handled by central government and assist in meeting the Millennium Development Goals.

With a view to resolving these issues, the World Bank led Strengthening Cash Management System, Reporting System and PFM Capacity Project suggested that *"following the recommendation of the PEFA Assessment and in line with the Public Financial Management (PFM) Strategy Document, the Government made a decision to adopt Nepal Public Sector Accounting Standards (NPSAS), which require the presentation of general purpose consolidated financial statements in line with Cash Basis IPSAS. This requires presentation of a statement of cash receipts and payments, disclosure of accounting policies and explanatory notes, and where the entity makes publicly available its approved budget, a comparison of budget and actual amounts. Compliance with NPSAS will provide decision makers and the public with more comprehensive and meaningful information as to the Government's use of public resources."*

Rationale for a Computerised Transaction Accounting System

The World Bank is working closely with Ministry of Finance in a Public Financial Management Project with the main objective to design and implement "*An effective Public Financial Management system that facilitates the delivery of better public services to improve the lives of the people of Nepal*". The main outputs of this project are:

1. Treasury Single Account implemented at the DTCO
2. TSA implemented at the FCGO
3. Cash Receipts and Payments Statement and Budget/Actual Comparative Statement for budgetary and non budgetary entities in accordance with Part 1, Cash IPSAS
4. State owned enterprises produce accrual financial statements in accordance with international accounting and financial management standards
5. Government of Nepal produces a consolidated Cash Receipts and Payments Statement
6. Well functioning PEFA secretariat established
7. Nepali civil society organisations use social accountability tools and techniques

MoHP has been implementing the NHSP-2 with a strong focus on improved financial management. The fundamental requirement for any financial management system is availability of reliable and up to date accounting data from the spending units / cost centres.

The Chartered Institute of Public Finances and Accounting (CIPFA) 2010 report defines Public Financial Management (PFM) as "… *the system by which financial resources are planned, directed and controlled to enable and influence the efficient and effective delivery of public service goals"*.

It is important to understand the multiplicity and interdependence of various stakeholders' roles in a typical Public Financial Management reform programme. While the Parliament provides the strategic direction for PFM and Ministry of Finance/ Treasury provides the policy framework and overall monitoring and guidance support, it is the various line ministries who have to *implement* the core aspects (budget preparation and expenditure management) for the PFM to work. The donors, development partners and above all civil society at large, provide the *demand* to make the most optimal use of public funds from a range of competing options, which is the core objective of any PFM.

"The CIPFA definition moves away from the concept that 'managing the money' rests solely with the Ministry of Finance. Every manager charged with delivering public services is equally responsible for ensuring that public money is managed well. As CIPFA (2010) notes "Public financial management is not just about accountants keeping score". Leaders and managers need to be financially literate and finance professionals need the skills to analyse, challenge, advise and not just control (or try to control!).

The complexity of PFM relationships and multiplicity of PFM role players is illustrated in Figure 1 (Andrews, 2007), which also highlights the sometimes forgotten area of policy. In order to improve accountability and understanding, PFM capacity should therefore be developed within government's core and spending entities as well as within civil society, the media and relevant oversight bodies"[5]

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[5] Source : "Capacity Development in PFM – Practitioners Guide Version 2" OECD 2010

Traditionally there have been two approaches in implementing any PFM reform programme. Either PFM reform action has to begin from the top – typically Ministry of Finance, or from the bottom, at the spending unit level. **The GoN,** working in close consultation with the World Bank, has taken the pragmatic decision to adopt neither of these traditional approaches, but **opted for the platform approach, which allows *simultaneous* work on *all* PFM fronts.** (*"A well sequenced sector strategy with a holistic, integrated approach is required for improving PFM performance. A promising option is adopting a platform approach, which allows*

Figure 1: PFM relationships

for consistent progress across all PFM dimensions to reach a particular outcome, which then becomes the platform for moving to the next level of reforms. These platforms, and their focus on clearly identified outcomes, will help centre reform efforts and align the objectives of various activities and stakeholders".[6]).* It is in congruence with this platform approach that GoN now wishes to implement a Transaction Accounting and Budget Control System (TABUCS) to work at the spending unit level - the lowest level of accounting, where the bulk of accounting data originates (as also shown in the highlighted portion of the diagram above).

Given that most of the spending units in MoHP maintain accounts using predominantly manual systems, the need for implementing computerised systems for basic accounting and reporting cannot be overstated. Although computers are available in most D/PHOs, in the absence of any accounting package, most accountants use individual personal systems to record transactions and prepare financial reports. Such systems typically involve use of spreadsheets to prepare simple lists and formats in which transactional information is entered and printed. Most calculations and voucher preparation work is done manually. Therefore the need for a simple computerised accounting system which records all receipts and payments, *budget wise, programme wise and activity wise,* at the spending unit level, is paramount. Such a system should also disallow any expenditure for which an approved budget head does not exist.

In short, a Transaction Accounting and Budget Control System (TABUCS) is needed, and was defined as one of the key components of the NHSP-2 technical assistance in financial management, as recommended in the Capacity Assessment, Health Financing and Financial Management Report under *"Enhancing/ introducing and implementing technology based financial management systems for budget preparation, execution (funds release mechanisms), accounting and reporting and monitoring processes".*

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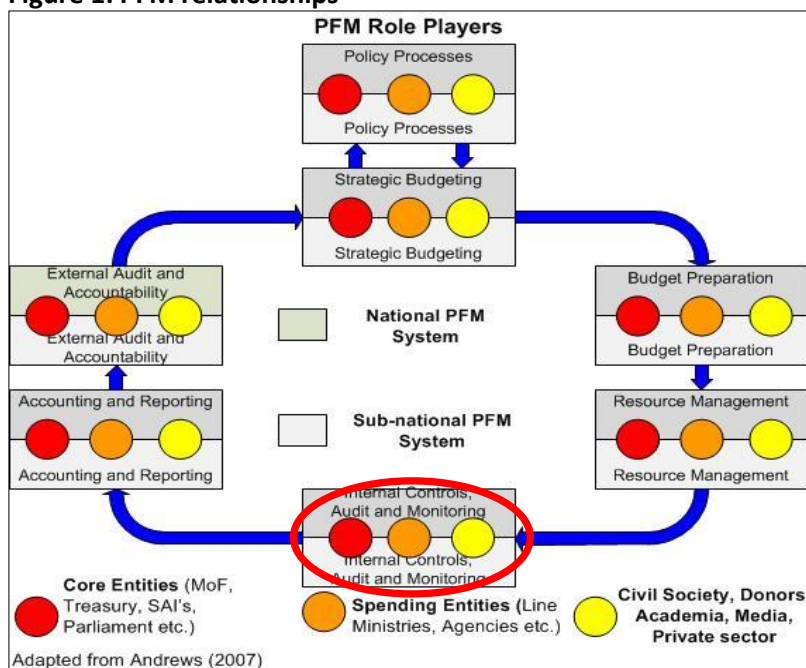
[6] Source : A Platform for Results: Measuring Public Financial Management Performance in Nepal – The World Bank

What is a Transaction Accounting and Budget Control System (TABUCS)

A Transaction Accounting and Budget Control System is a simple accounting system which allows for the capture of basic accounting transactions at source level, and enforces budgetary control procedures so that no expenditure can take place without an approved budget. Basic functionality that might be included in the TABUCS could include:

- Processing of expenditures and payments
- Automatic posting of payments to ledger accounts and summary accounts
- Processing of cash and bank receipts and revenues
- Automatic posting of receipts to ledger accounts and summary accounts
- Automatic posting in cash and bank books
- Generation of all ledgers and accounting and Management Information Systems (MIS) reports, including Financial Monitoring Reports (FMR)

It is important to keep in mind that the TABUCS proposed here will only serve as a small but key component of a fully fledged Financial Management Information System (FMIS), required by MoHP for comprehensive financial management at Ministry level, **and *Public Financial Management*** (PFM), envisaged by the Ministry of Finance and World Bank led PFM Donor Trust fund, for government wide financial management.

A typical FMIS has several components, as shown in Figure 2, including budget preparation, budget approval (or management of budget authorisation), funds commitment, payments and receipts management, cash/ funds management, debt and aid management, fiscal reporting and budget review and audit and evaluation. The payments and receipts management module typically captures the data on all revenue and non-revenue receipts and all capital and revenue expenditure. A system

Figure 2: A modular approach for building FMIS

which captures this data at spending unit level is called a Transaction Accounting system. Hence, TABUCS provides the first building block for future creation of a full fledged FMIS.
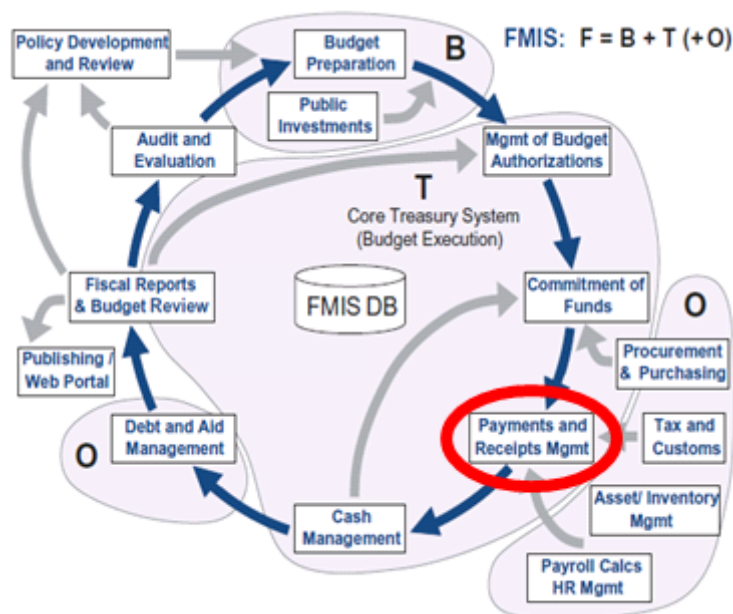
The TABUCS will need to work under the overarching PFM/ FMIS design framework, as shown in the diagram[7]. **TABUCS is only looking at automating the payments and receipts management function at the spending unit level, within the MoHP** (see FMIS Diagram) and in the long term, will need to be complemented with several additional modules like e-AWPB, payroll management, assets management, e-procurement, in order to transform into a comprehensive FMIS.

TABUCS will allow MoHP, and indeed GoN, to 'test waters' before implementing a full scale PFM programme, and to benefit from this experience to refine its PFM strategy for ensuring on-the-ground feasibility and long term sustainability.

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[7] Source : Financial Management Information Systems: 25 Years of World Bank Experience on What Works and What Doesn't. Red circle added for emphasis.

TABUCS Scope

TABUCS is initially expected to be operationalised at 122 spending units, including the 75 district health offices. The following areas of budget and accounting data are considered to be within the current scope of the TABUCS project:

- All Incomes accruing from all sources at spending unit level
- All expenditures made at spending unit level
- Programme based, activity based and budget head based budgets.

By way of corollary, anything which is not covered within the above mentioned three heads is not covered under the current scope of TABUCS.

Objectives of the TABUCS

The key objectives of TABUCS are

- **Improved accounting systems efficiency**: Following a business process re-engineering approach, the TABUCS development should be used as an opportunity to review and refine the manual processes and procedures at the data capture and output points, to ensure that accounting processes are made more efficient, data entry is minimised, duplication of effort is eliminated and staff productivity is enhanced.

- **Improved quality of accounting data:** Capturing data at source, through a computerised Relational Database Management System (RDBMS), should allow enforcement of basic checks and balances to ensure that all accounting transactions are recorded in a systematic manner and errors are minimised.

- **More robust budgetary control**: TABUCS should allow enforcement of more robust budgetary control procedures so as to improve financial discipline and follow pre-defined budgetary limits and norms.

- **Better financial monitoring and reporting**: Through a process of automatic aggregation of nationwide data (for all spending units), TABUCS should allow improved financial monitoring and reporting at all internal (MoHP, DoHS, regional offices and spending units) as well as external level (MoF, National Planning Commission (NPC) and EDPs).

- **Reduced workload and time saving**: TABUCS should enable significant benefits to staff in reduced workload, and significantly cut time required to produce periodic financial statements and FMRs.

- **Better compliance with Right to Information requirements**: TABUCS should facilitate provision of key financial data required to answer questions raised by the general public as part of the Right to Information provisions.

- TABUCS will capture all accounting data at the source where it is created, i.e. at the D/PHO level, through a simple and user friendly software system.

- TABUCS for MoHP would be based on web technologies, but would have to designed to work both in both online and offline mode, as the internet connectivity at many spending units is very poor.
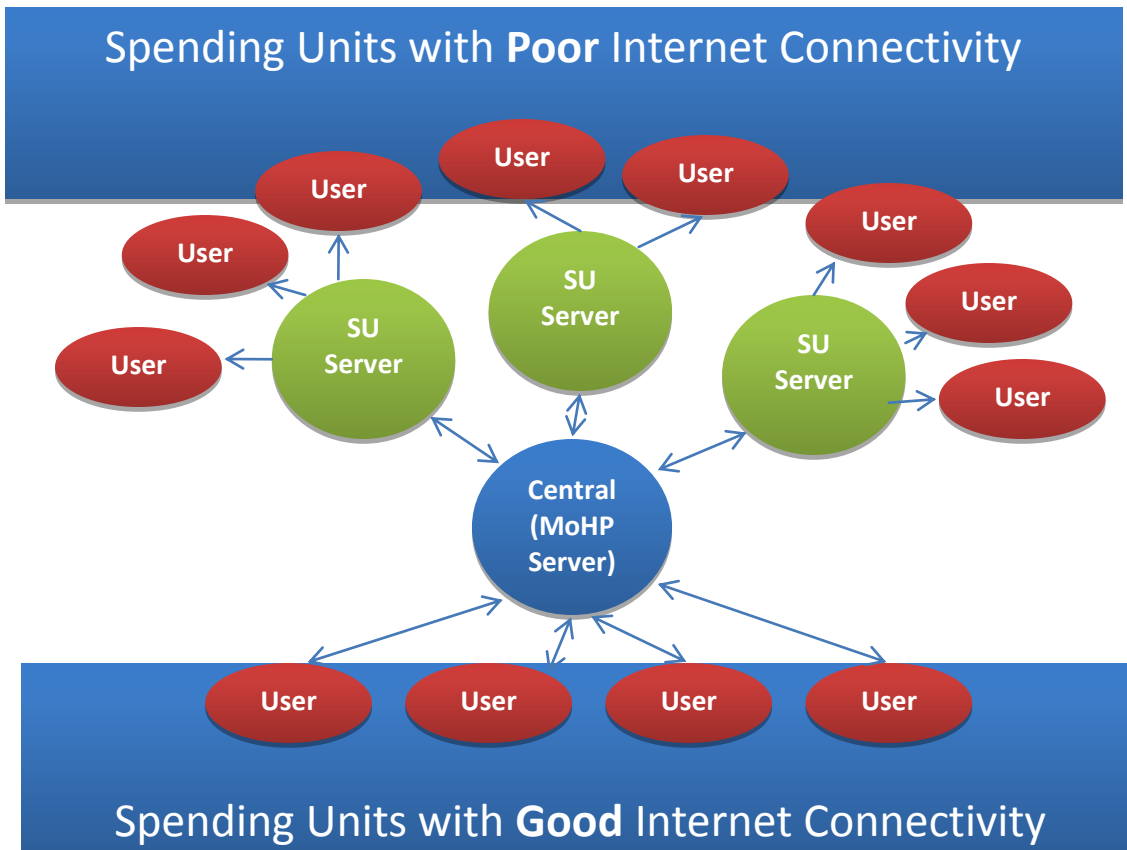
- TABUCS will have two modules :

  - **Central Module**: This will run at MoHP level and work as a web server, compiling nationwide data from all 122 spending units. This module will have two main features 1) data entry for detailed budgets at all levels and their upload to spending unit modules, 2) aggregation of all receipts and payments data from all 122 spending units and production of consolidated reports

  - **Spending Unit Module:** This will run from a simple local server (powerful desktop computer) at the D/PHO office, which will allow multiple desktops to connect to it for running the TABUCS software.

- Since the TABUCS will be based on web technology, the modules will only have to be installed on the server and not on each user computer. All that would be required at the user computer would be a web browser (like Internet Explorer).

- Wherever good internet connectivity exists, the TABUCS will run from the central module server itself, and no local server would be required.

- The central module will be configured so that it will automatically dial into each spending unit module every day, to download all receipt and payment data from the spending units and upload budget data, if any, into the local servers. This means that the entire process of data aggregation (for receipt and payments) and disaggregation (for budget) will work automatically without any human effort.

- Since the central server will dial in daily (and potentially several times a day), it only needs to download and upload incremental data. Since this translates into aggregating only 3-40 transactions a day, even if the central server connects to the spending unit server for only 10-15 minutes each day, this would be sufficient time to complete the data exchange process.

- Another advantage of such a 'hub and spoke' architecture would be ensuring that system data is automatically stored at two locations; the spending unit (local) server at D/PHO office and the national integrated database at MoHP level. This also takes care of disaster recovery requirements, at least at spending unit level (should something go wrong at the local server level) and potentially (with more effort) at central level.

Activity	Status
Data entry	**As currently done** Responsibility of accounting staff D/PHO and other spending units
Data aggregation (uploading / downloading of data)	**Automated process** *Spending units with good internet connectivity* : Data is directly entered in the central (MoHP) server, so no need for any aggregation process *Spending units with poor internet connectivity:* Data is entered in the spending unit server. The central server automatically dials into all spending unit servers and aggregates data
Submission of information to DTCO	**As currently done** TABUCS will generate all the summary and detailed reports as required by FCGO and the same would be submitted in hard copies to DTCO
Accounting codes / budget classification	**As currently followed** TABUCS will have provision for the introduction of output based budgets and modified chart of account (if necessitated by the PFM programme) at any time
Data availability	**Current data available at all levels**
Data analysis	**More time available for information analysis** Due to availability of disaggregated and reliable data, managers at all levels will be able to concentrate more on analysing data for improved decision making

Overall Framework and Strategy for TABUCS

- Business process re-engineering will form an integral part of the solution proposed, tailored to maximise the benefits of the TABUCS and driven by the MoHP.

- The conceptual design of TABUCS is that it will follow a modular approach (built around data capture), allow data aggregation and flexible analysis, and enable flexibility for emerging and more sophisticated requirements to be configured and accommodated at any time in the future.

- The configuration and build of the system will be directly related to MoHP's requirements and capacity.

- The modular approach to the design of the system allows MoHP to define and progress an integrated system development path within its existing and planned resources and capacity, whilst retaining complete independence in the design, choice and implementation pace of future modules for areas identified in its yet to be defined PFM strategy.

- The TABUCS, as the core module for future system developments, would provide interface 'plug-ins' for as yet unspecified future modules such as Payroll, E-AWPB.

- The conceptual design of the system would afford functionality to accommodate multiple dimensional analyses, which will allow the future introduction of output based budgeting.

- Existing documents used at source in GoN will be created on screen to allow users an easy transition to the new computer system from the old manual system.

- This integrated solution will initially be based on cash accounting, but will have the flexibility to be modified into an accrual and commitment accounting basis, if GoN decides to adopt this in the future.

- The solution will be developed to international standards, using industry standard best practice methods and tools.

- Access to information will be made available through the development of a bespoke report generator which will be made available to identified users via a web browser interface. The focus of the financial information outputs will be MoHP, DoHS, DTCO (FCGO) and donor agencies involved in the sector programme.

- GoN existing Treasury and Coding and Account Classification Rules will be used to ensure the system complies with FCGO's accounting system.

- The system will replace all computerised budget and accounting stand alone systems currently used by some of the D/PHOs and will be phased in over a number of years.

- Responsibility for utilising and maintaining the TABUCS will remain with MoHP and the system will be the primary source of budget and accounting information within MoHP, from which all other systems will take their data.

TABUCS Data Volume Estimate

Rough Estimate of Accounting Transactions Workload at a typical D/PHO

Transaction Description	Units	No. of Transactions	Annual Estimate
Payments			
Programme Activity Transactions	400	5	2000
Payroll Transactions	300	12	3600
Non Salary - Staff Transactions	60	12	720
Travel Transactions	60	12	720
Total Transactions			**7040**
Receipts			
Performance Guarantee	10	12	120
Deposits	10	12	120
Contractor Recoveries, including irregularities	10	12	120
Funds Release	12	12	144
Total Transactions			**504**
Annual Estimate			**7544**
Monthly Estimate			**629**

The accounting staff at each D/PHO are required to prepare the following reports:

Report Name	Periodicity
Report No 13 (Financial Statements)	Monthly
Report No 14 (Advances)	Monthly
Report No 15 (Bank Reconciliation Statement)	Monthly
Report No 5 (Bank Cash Book)	Monthly
Report No 8 (Budget Sheet)	Monthly
Programme Report (Budget Vs. Expenditure)	Monthly
Budget Head Report (for Each of the 12 Budget Heads)	Bi-Monthly
Quarterly Progress Report	Trimester
Annual Report	Annual
Financial Statement	Annual
Payroll Report	Monthly

Alternative Approaches for a Technology Solution

In order to provide the core solution outlined above, there are essentially three options for the MoHP to consider. These are:

1. *A bespoke solution:* A vendor or group of consultants designs custom built software according to specified functionality.

2. *A package solution*: Commonly referred to as Commercial Off The Shelf (COTS), this uses a pre-designed core set of functionalities, configured to meet specific user needs such as implementing the clients' Chart of Accounts, or functionalities needed that are not included in the standard package.

3. *A hybrid solution:* This involves a combination of package and bespoke. In certain instances, key functionality might be added to the core package if a very specific local requirement was most easily met using a bespoke element. This approach is normally adopted in case of large and complex systems, such as fully fledged PFM systems. Since TABUCS is a relatively simple system, this option is not worth considering.

The next section presents a comparison between the two main options COTS vs bespoke solutions.

Key Considerations for Choosing a Solution for the TABUCS Pilot

The following matrix sets out some of the key considerations to be taken into account when assessing which solution will best meet the MoHP requirements for TABUCS.

Criteria	COTS Solution	Bespoke Solution
Core functional requirements	Package solutions typically meet 70-80% of core requirements. Local configuration by the vendor is expected to address the remaining specific user needs.	By their very nature, bespoke solutions address user needs.
Data integrity and credibility	Package solutions are rigorously designed and tested. This means the quality of data processed by the package can be trusted with minimal testing.	In order to ensure the integrity and accuracy of data, bespoke systems have to follow a rigorous design, build and test methodology. This requires considerable time and cost in order to be able to trust the numbers processed by the solution.
Implementation support	Many package vendors provide structured training and support when the package is implemented.	A bespoke designer would be required to provide training and support during the implementation.
Post implementation support and maintenance	Ongoing support is usually provided by authorised agents of the package vendor, and/or through local specialists trained in the COTS solution. A specialist who leaves can normally be readily replaced by another.	Local expertise MUST be retained. The customer has to rely on local expertise remaining on site or easily available to support the solution.
Modularity and scalability	Most packages are modular. This means they can be added to in order to increase both the volume of transactions processed and also the functionality of the system.	Bespoke solutions are often difficult to scale up as additional programming is normally required in order to increase functionality or process greater volumes with integrity.
Rigorous design and testing processes	Package vendors develop software using rigorous methods that provide assurances on the ability of the solution to process data with integrity. These processes can be reviewed if required.	Bespoke developers have to demonstrate a rigorous design, build and test process to the buyer.
Rapid deployment	COTS are relatively easier to deploy in a timely manner because a) there is no development time (only customisation) and b) the more rugged design and implicit assurance about integrity of data processing makes it faster and easier to roll out.	A bespoke solution often takes longer to deploy than a package as far more design and testing is required to ensure integrity and robustness of solution.
Obsolescence	Due to regular upgrades based on latest available technology, COTS solutions do not	Constant development work is required to keep the bespoke solution

|		
proofing	become obsolete.	obsolescence proof.
Cost	COTS solutions (in case of a relatively simple solution such as TABUCS) normally have lower upfront cost when the solution is piloted in only 2-3 locations. Once the system is rolled out to all spending units, the total cost will go up, especially considering the annual technical services fees required for license upgrades and maintenance support.	Initial costs would be higher in case of custom developed solution (since the software has to be built from scratch) but overall total is likely to be less than COTS solution, given that a) no additional licenses need to be purchased for roll out and b) there are no recurring annual technical services costs.

Recommended Approach

A preliminary market scan suggests that the COTS accounting solution available in the market only partially meets the requirements of TABUCS. For instance:

a) TABUCS must follow the same Chart of Accounts defined and followed by FCGO

b) TABUCS must replicate the paper formats currently being followed by DTCO and spending units, at least to a large extent

c) TABUCS must generate all the standard reports required by FCGO and EDPs (such as FMRs)

c) While based on web technology, the system must be able to work in both online and offline modes, given the poor connectivity levels in some regions.

The standard COTS packages available locally (there is no point in looking at packages for which in-country support is not available) do not meet these requirements adequately, at least not as a standard functionality. While it is possible to customise standard COTS to meet these requirements, the effort and cost involved (given the extensive

Figure 2.15. FMIS ICT Cost per User for COTS and LDSW Solutions

customisation effort) would be significant, thereby offsetting the cost and time advantages of using a typical COTS solution. It should also be kept in mind that global experience suggests that as the number of users increases, bespoke software has historically proven to be cheaper and offer better value for money ("*the cost of FMIS Information and Communication Technology (ICT) solutions per user tends to go down as the number of users increases*"[8] See diagram above).

Keeping in view the relatively simple but very specific requirements of TABUCS, it is recommended that MoHP adopts the bespoke solution approach.

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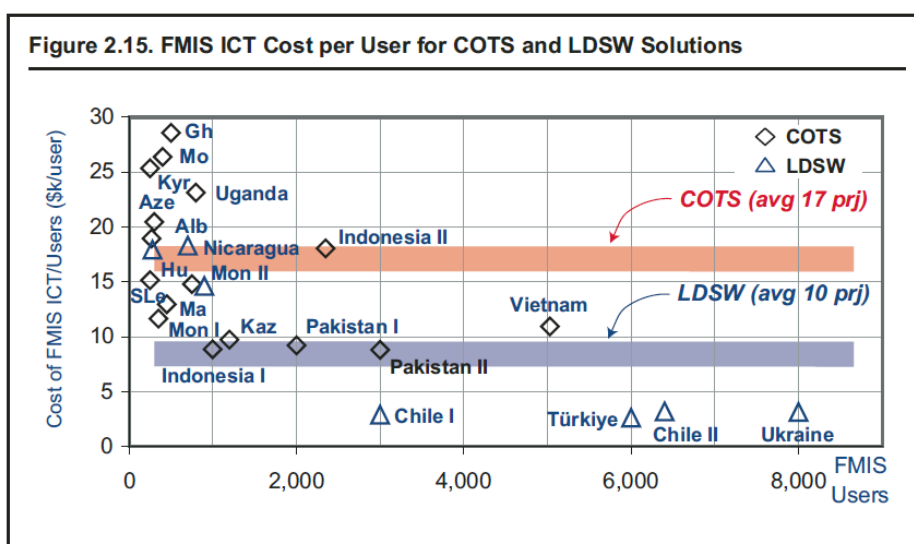
[8] World Bank Study 2010 – "Financial Management Information Systems - *25 Years of World Bank Experience on What Works and What Doesn't*"

Benefits of TABUCS

To a large extent, the potential benefits of TABUCS are encapsulated in the objectives defined in the earlier section of this concept note. In addition, the following benefits can be expected:

- **Faster compliance with EDP requirements**: The EDPs require reliable and regular financial reports from the implementing Ministries. The World Bank, as part of its PFM, has defined production of "Audited Cash Receipts and Payments Financial Statements and Audited Budget/ Actual Comparative Statements" by the selected entities as one of the main milestones for 2011. TABUCS will enable MoHP to produce these financial statements and significantly reduce the time required for production of financial monitoring reports.
- **Up-to-date information available at all times**: Since the TABUCS central module will automatically aggregate accounting data from all spending units on a continuous basis, MoHP and other key stakeholders will always have access to up-to-date information.
- **Reduced impact of accounting staff transfers**: One of the key issues impacting programme implementation, identified by all donor assessment reports, is the frequent and ad hoc transfer of staff, especially all accounting staff under the control of FCGO. A good risk mitigation strategy for resolving this issue, is development of sound computerised systems, which rely less on the institutional memory of the person concerned, and more on systems. Introduction of TABUCS will help minimise the impact of frequent accounting staff transfers since the new incumbent can be trained rapidly on the computerised system to effectively take over the role played by his/her predecessor.
- **Greater capacity building and knowledge sharing**: TABUCS will facilitate easy dissemination of financial information at all levels and hence improve managerial control and decision making process.
- **Promote evidence based and output based budgeting and planning**: Once up-to-date financial information is available to key health professionals, this will facilitate introduction of output based budgeting and better budget control. Regular availability of expenditure data will also help improve the planning process.
- **Reduce audit queries and irregularities**: TABUCS will promote greater financial discipline and over time reduce the irregularities routinely pointed out by internal audit (FCGO) and external audit.
- **Facilitate health professionals' outlook toward financial management:** One of the simple indicators that financial management is currently a low priority with most D/PHOs is the fact that none of the indicators included in the Health Management Information System (HMIS) is financial in nature. While health indicators deserve to be at the top of agenda for the health officers, the complete absence of expenditure and budgetary information may impact the overall effectiveness of health programmes.
- **More time available for information analysis rather than data gathering**: Due to manual and antiquated procedures, accounts and programme staff may spend more than 90% of their time gathering and compiling data, leaving very little time for analysis. By automating routine processing, TABUCS will reduce the routine workload and create more time for higher value added processes, such as analysis and research.

Way Forward

1. Share concept note with key stakeholders to build consensus.
2. Seek DFID's in-principle approval for the concept note implementation.
3. Convene a meeting of the Financial Management Strengthening Committee and formally mandate it with the task of acting as the TABUCS Task Force (TTF) responsible for all operational and policy decision making for TABUCS design and implementation.
4. Identify and recruit a national consultant to work on TABUCS under the overall guidance and supervision of an International PFM consultant and the TTF.
5. The TTF to commence work on the preparation of a TABUCS Design Document, which will define the key functionalities, business and technical requirements expected to be met by TABUCS solution.
6. Carry out a rapid field survey (through a structured questionnaire and telephone calls to all spending units) to gather details about the ICT infrastructure currently available. This will identify the ICT infrastructure funding needs.
7. Prepare a funding requirements plan for the TABUCS piloting and rollout.
8. Engage with DFID to seek technical assistance funding for TABUCS piloting and rollout across the country.
9. Finalise the TABUCS Implementation Strategy, based upon the funding available.
10. Organise a national workshop on TABUCS to build ownership and contribute to the TABUCS Design Document prepared by TTF.
11. Finalise procurement process modalities for TABUCS solution provider.
12. Initiate TABUCS procurement process.

Annex 1: Persons met

Name of key informants	Position/Office
Dr. Bal Krishna Suvedi	Chief of PPICD
Mr. Padam Raj Bhatta	Chief of HR and FM division
Mr. Shiva Simkhada	Chief of Finance section
Mr. Ram Chandra Man Singh	NHSSP
Dr. Laxmi Raj Pathak	NHSSP
Mr. Sanjaya Manandhar	IT consultant/FCGO
Mr. Harihar Acharya	Accounts Officer /MoHP
Account section	Account assistant/DHO Kavre
Planning section	Statistical assistant/ DHO Kavre
PHC- Dhulikhel	Health assistant
Mr. Megh Raj Pokharel	Head of DTCO/ Kavre
Mr. Ram Prasad Sapkot	Accountant/Kavre
Mr. Bigyan Pradhan	World Bank, Nepal Country office
Mr. Matt Gordon	DFID, Nepal Country office
Mr. Gopi Bhandari	A.O Dons