

Country X

Tax Administration

**Information Technology Options
Plan**

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*This report contains 54 pages (some
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Contents

1	Introduction	2
1.1	Background	2
1.1.1	General Sales Tax	2
1.1.2	Income Tax	2
1.1.3	Large Taxpayer Unit	3
1.1.4	Other Reform Measures	3
1.2	Scope of this paper	3
2	Computerisation to date within Tax Administration	4
2.1	Existing Computer System	4
2.1.1	Problems Associated with the Existing Computer System	4
2.1.1.1	Database	4
2.1.1.2	Application	4
2.1.1.3	Reports	4
2.1.1.4	Network	4
2.1.1.5	Connectivity to other offices	4
2.2	Pilot Computer Project	5
2.3	Requirements of the Pilot Computer Project	5
2.4	Completion of Pilot Computer Project	5
3	Medium to long term business needs of the Tax Administration	7
3.1	Strategic objectives of the Tax Administration	7
3.1.1	Introduction of GST	7
3.1.1.1	Computerised identification of non-filers and stop-filers	7
3.1.1.2	Computerisation of revenue accounting	8
3.1.2	Establishment of Large Taxpayer Unit	8
3.1.2.1	Computerisation of other tax liabilities within LTU	8
3.1.3	Extension of self-assessment to Income Tax	8
3.1.4	Further reform of the income tax	9
3.1.5	Risks to pilot computer project	9
4	Options for meeting the business needs of the Tax Administration	10
4.1	'Option 1' Package	10
4.2	'OPTION 2' Package	10
4.2.1	Advantages of modular packages	11
4.2.1.1	Readily Available	11
4.2.1.2	Knowledge base	11

4.2.1.3	Modular	11
4.2.1.4	Database	11
4.2.1.5	Development Tools	11
4.2.1.6	Operating Systems	11
4.2.1.7	Parameterised	11
4.2.1.8	Coverage	11
5	Risks associated with further computerisation	13
5.1	Modules and GAP analysis	13
5.2	Package selection and implementation Costs	13
5.3	Arabisation	13
5.4	Hardware requirements	13
5.5	Available technical skills	14
5.6	Accommodation	14
6	Implementation	15
6.1	Implementation Strategy	15
6.1.1	Profile of Implementing Agent	15
6.1.2	Services to be provided by Implementing Agent	16
6.1.2.1	Outsourcing	16
6.1.2.2	Arabisation	16
6.1.2.3	Training and documentation	16
6.1.3	'Vertical' phasing of computerisation	16
6.1.4	'Horizontal' phasing of computerisation	17
6.1.5	Implementation period	17
6.1.6	Implementation milestones	17
6.1.6.1	Phase 1: Computerisation of GST operations	17
6.1.6.2	Phase 2: Extension of computerisation to remainder of LTU	18
6.1.6.3	Phase 3: Extension of computerisation to larger tax offices	18
6.1.6.4	Phase 4: Extension of computerisation to remaining tax offices	18
6.2	Implementation Schedule	18
6.3	Activities	18
7	Business Benefits	21
7.1	Introduction	21
7.2	Analysis of business benefits	21
7.2.1	Strategic level	21
7.2.2	Management level	22
7.2.3	Operational level	22
7.2.4	Financial benefits of computerisation	22

8	System Costings	23
8.1	Cost Breakdown	23
8.1.1	Hardware	23
8.1.2	Hardware costs.	24
8.1.3	Software costs	25
8.1.4	Package selection costs	25
8.1.5	Implementation Costs	25
8.1.6	Arabisation Costs	26
8.1.7	Training Costs	26
8.1.8	Total Project Cost	27
8.1.9	Justification for the investment	27
9	Bibliography	29
	Appendix A – Option 1 Outline	30
	Details removed	30
	Appendix B – OPTION 2 Outline	31
	Details removed	
	Appendix C – Current Skills Level	32
	Appendix D – TA Additional Training Requirements.	33

1 Introduction

1.1 Background

The Tax Administration (TA) in Country X has embarked on an ambitious tax reform programme supported by the 'A ORGANISATION', 'B ORGANISATION' and the 'C ORGANISATION' under the umbrella of the Country X Tax Reform Project.

The Tax Reform programme is guided by a Task Force of senior officials within the TA and is assisted by two advisers. The advisers are funded by 'C ORGANISATION' and are under the technical supervision of the 'B ORGANISATION'. A brief outline of the major components of the reform programme is provided below.

1.1.1 *General Sales Tax*

A new General Sales Tax law (GST) has been drafted, which will substantially replace the existing Tax on Production Consumption and Services (TPCS). The draft law has recently been approved by the Cabinet and will now be considered by the parliament. It is envisaged that the new law will be introduced 8 months after approval by the parliament. Parliamentary approval is anticipated in the third quarter of 2000.

A GST Implementation Committee has been established within the Tax Administration and a GST Implementation Timetable has been prepared.

The Tax Administration is undertaking a comprehensive survey of its tax files and customs importation documentation with a view to determining a realistic turnover limit for GST registration. This exercise will produce about 1,000 taxpayers that are liable for GST registration.

1.1.2 *Income Tax*

Reforms have also been undertaken in the area of income tax. A number of changes have been made by legislation and implementing orders including reform of the personal tax rates and threshold, a much simplified depreciation schedule, simplification of the appeals procedure and the creation of nominated officers with responsibility for the tax compliance obligations of companies.

In addition a thorough analysis of the existing Income Tax Law (Law No 31 of 1991) has been undertaken and this contained over 40 recommendations for change¹. This analysis has been approved by the Board of the TA and debated with representatives of the private sector.

One of the key recommendations for change within the income tax is the phased introduction of self-assessment, commencing with the largest taxpayers. Since the GST is a self-assessed tax this proposal, if accepted, will allow all large taxpayers to self-assess all taxes, thus providing compliance and administrative benefits for these taxpayers.

¹ Discussion document on further reform of the Income Tax Law and Procedures of Country X, prepared by Tax Reform Team, April 1999.

1.1.3 **Large Taxpayer Unit**

As part of the preparations for the new GST law, the Tax Administration is establishing a Large Taxpayer Unit (LTU). The LTU will handle all the tax affairs (GST, income tax and employee withholding tax) of the 1,000 taxpayers that will be registered for the new GST law. A detailed implementation plan for the establishment of the LTU has been drawn up².

The Tax Administration perceives the establishment of a Large Taxpayer Unit to have the following organisational advantages: -

- efficiency (a small number of large taxpayers pays the greatest share of the tax collected and the Tax Administration should concentrate its resources where the greatest return will be),
- specialisation (large taxpayers are more sophisticated in their operations and require a specialised response from the TA), and
- revenue enhancement (by applying modern methods of tax collection to a small number of large taxpayers the TA can effectively boost its tax collection figures with little additional resources).

Furthermore, the proposed Large Taxpayer Unit would act as a vehicle for trying out new methods and procedures which, when judged successful, could then be applied to the Tax Administration as a whole.

1.1.4 **Other Reform Measures**

Other reform measures have been undertaken. These include: -

- the establishment of a Taxpayer Services Unit (TSU) within the Tax Administration. It is envisaged that the TSU will provide clear, comprehensive and speedy information to taxpayers regarding changes in laws and procedures.
- training in audit procedures, employee withholding and management techniques,
- the production in English and Arabic of an audit manual.
- the production in English and Arabic of an Employer Withholding Guide with withholding tax tables,
- simplification of many forms and procedures, and
- the drafting of a public information dissemination strategy.

1.2 **Scope of this paper**

The following pages set out the experience of computerisation to date within the TA, the detailed business needs of the TA and the means by which further computerisation may assist the TA in meeting those needs. The paper also attempts to set out the benefits of further computerisation, and an estimate of the costs involved. Finally a draft implementation timetable is provided.

² Large Taxpayer Unit Inception Plan prepared by Tax Reform Team, November 1999.

2 Computerisation to date within Tax Administration

2.1 Existing Computer System

Up until late 1999 the computing requirements of the Tax Administration were provided by two 486 servers each with 16 mgs of ram and 1.2 gig hard drives. There were eight additional computers, each with 8 mgs of memory. The hardware is mostly very old, dating back to 1993.

The software used on these machines was Fox Pro, Access, Word and Excel. The computers were used primarily for running the taxpayer database and assigning unique taxpayer identification numbers to taxpayers.

2.1.1 ***Problems Associated with the Existing Computer System***

There are many problems associated with the existing computer system and these are outlined in paragraphs 2.1.1.1 to 2.1.1.5 below.

2.1.1.1 *Database*

The data is stored in a XX database, which is not a relational database, and is not suitable for the efficient storage and retrieval of data.

2.1.1.2 *Application*

The application is developed in YY. The current application works with practically a single screen. All activities are done manually by the IT department by opening the tables and applying corrections directly to the tables. In this scenario no validation is possible. This lack of validation has lead to serious problems of data corruption.

2.1.1.3 *Reports*

The system works with no readily available reports. Ad hoc reports are generated in YY Reports Designer and discarded on completion of the report. Report generation is very slow and cumbersome.

2.1.1.4 *Network*

Although the system is supposed to be networked it in fact operates on stand-alone PCs. The application and database is stored in a single PC and this prohibits the use of the application in a multi-user environment.

2.1.1.5 *Connectivity to other offices*

The existing system is neither directly nor indirectly connected to the tax offices. Taxpayer registrations are either faxed or carried by hand to headquarters and the headquarters user enters the registration data for all tax offices and branches of tax offices.

2.2 Pilot Computer Project

To overcome the problems outlined in 2.1.1 above a Pilot Computer Project was commenced in December 1999. The stated objective of the Pilot Computer Project is: -

“The system must enable the Tax Administration headquarters to issue unique Taxpayer Identification Numbers (TINs) to taxpayers while allowing five tax offices to input data electronically and send this information to headquarters.”³

The proposed solution (to be known as AAAA) is being developed in Developer 2000 and the database used is Oracle 8.0. The database may reside in a Windows NT server and clients will use Microsoft Windows (Windows 95/98 or NT).

The system will run on a HP Net Server LH4 (1mb cache PIII 550 (Xeon), 512 mb, 27.3 GB HS) linked to 10 HP Vectra Vei8 PIII 500 workstations. Printing will be done to HP laser jet printers.

2.3 Requirements of the Pilot Computer Project

The Pilot Computer Project has the following requirements⁴: -

- i) headquarters must be allowed to enter the data directly to the system with all possible validations,
- ii) electronic collection of taxpayer registration information from the 5 pilot tax offices,
- iii) prompt electronic transfer of data between the branch offices and the headquarters (the system must enable the validation of such transferred data),
- iv) the headquarters office shall be allowed to issue a unique TIN for each valid application,
- v) the headquarters office shall be allowed to produce periodic reports, both routine and exceptional,
- vi) the system must be fully Y2K compliant,
- vii) the proposed system must be flexible and detailed, and
- viii) the system shall be capable of generating reports as specified

In addition the proposed solution must be flexible enough to incorporate the future requirements of the Tax Administration. The database shall be capable of growing to meet the long-term needs of the Tax Administration.

2.4 Completion of Pilot Computer Project

Following the completion of the user manuals, the migration of data and the training of users, the Pilot Computer Project will be completed and handed over to the Tax Administration by the end of June 2000. The warranty of the new

³ System Specifications Document. The tax offices referred to are the main tax offices in Country X and are the City 1 Capital Office, City 1 Corporation Tax Office, City 2, City 3 and City 4.

⁴ System Study Document prepared by consultants as part of the Pilot Computer Project.

system will run until 31 August 2000 after which the Tax Administration will finally sign off the system.

3 Medium to long term business needs of the Tax Administration

The Pilot Computer Project will deliver a much improved database management system to the Tax Administration. The new system will allow for the speedy registration of taxpayers and the production of detailed management information on the database. While it is clear that the Pilot Computer Project will produce significant benefits for the Tax Administration it is equally clear that further investment in computerisation will be required to meet the medium and long-term business needs of the Tax Administration.

The medium and long-term business needs of the TA may be summarised as follows: -

- Developing and maintaining modern tax systems and promoting an attractive business development environment so as to attract more investment in Country X, and
- Developing simplified systems thereby reducing barriers to business in Country X.

3.1 Strategic objectives of the Tax Administration

During the next two to three years the Tax Administration proposes to meet the following strategic objectives.

3.1.1 *Introduction of GST*

The introduction of the new GST is clearly the single most important strategic objective of the TA for the year 2000 and many of the other strategic objectives are designed to support its effective implementation. The GST law is currently before Parliament and scheduled for passage in the third quarter of 2000.

Initially it is likely that approximately the largest 1,000 traders in Country X will be registered under the GST. Given that the GST is a self-assessed tax it is crucial for the TA to have speedy and accurate information regarding the level of compliance of these traders. GST is payable monthly and this means that at least 12,000 GST returns will have to be closely monitored and appropriate enforcement or audit action taken as quickly as possible.

A modern computer system would assist the TA meet its GST business needs in the first instance as outlined in paragraphs 3.1.1.1 and 3.1.1.2 below.

3.1.1.1 *Computerised identification of non-filers and stop-filers*

Under a GST it is crucial to be able to identify taxpayers who fail to file returns or who stop filing returns for whatever reason, particularly within the first six months after implementation of the tax. Experience in other countries has shown that where no action is taken against such traders, tax revenues decrease rapidly as other traders become aware of the lack of action against defaulters. The incidence of delinquency also increases.

A computerised system will enable the speedy identification of non-filers and stop-filers and allow for the automatic production of reminder notices and, where appropriate, the issue of notices of assessment or summons.

3.1.1.2 *Computerisation of revenue accounting*

Currently revenue accounting is performed manually. A computerised system would allow for the TA to record electronically the GST liabilities and payments of each taxpayer and identify quickly overdue account balances. The system would also be able to calculate penalties and interest due on overdue accounts.

The system would be capable of producing revenue reports for management purposes at both the headquarters and tax office levels i.e. total revenue collected from GST for budget performance purposes and revenue comparisons within particular trade sectors for risk-based audit purposes.

3.1.2 *Establishment of Large Taxpayer Unit*

A key recommendation prior to the commencement of the GST is the establishment of a Large Taxpayer Unit (LTU). The LTU will contain all the GST registered taxpayers and in addition will be responsible for all of the tax affairs of these taxpayers including their income tax and employee withholding tax liabilities. Given that each taxpayer is obliged to file a monthly return in respect of employee withholding and an annual income tax return, the LTU will be monitoring a further 13,000 returns making 25,000 returns in total each year.

3.1.2.1 *Computerisation of other tax liabilities within LTU*

Once GST operations are computerised a logical extension of the computerisation process is to extend the system to the income tax and employee withholding tax liabilities of the large taxpayers. This will enable the speedy identification of non-filers and stop-filers within these taxes and allow for the automatic production of reminder notices and, where appropriate, the issue of notices of assessment or summons as for the GST.

3.1.3 *Extension of self-assessment to Income Tax*

GST is a self-assessed tax and it is recognised that self-assessment contains administrative and tax compliance benefits. Since the management of the new LTU will be by function and not by tax type, there will only be one tax file for each taxpayer with all tax returns held within this file. In order to streamline the procedures across tax types it will be necessary to introduce self-assessment for income tax as well as for GST. Proposals currently under consideration by the TA incorporate a phased introduction of self-assessment, beginning with the largest taxpayers.

3.1.4 ***Further reform of the income tax***

The Board of the Tax Administration has approved a document containing over forty proposals for reform of the income tax law⁵. It is likely that many of the proposals contained in this document will form the basis for a substantial amendment to the income tax law in the near future.

While it is not practical to summarise all the recommendations here it should be noted that many of the proposals will lend themselves readily to computerisation, particularly those relating to the imposition of final withholding taxes on payments to non-residents, the creation of a comprehensive penalties regime and the improvement of the employee withholding tax system.

3.1.5 ***Risks to pilot computer project***

The TA has a real and pressing need for further computerisation to meet its business needs and help it achieve its strategic objectives. If the issue of computerisation is not grasped quickly then this could lead to inappropriate use of the pilot computer project. The pilot computer project is for taxpayer registration but, in the absence of a well thought out computer strategy and additional computing resources, other parts of the TA may want to use the data to do things for which the system was not designed e.g. to define audit programmes. This could pose a significant threat to the taxpayer registration system and undermine the pilot computer project.

⁵ Discussion document on further reform of the Income Tax Law and Procedures of Country X, prepared by Tax Reform Team, April 1999.

4 Options for meeting the business needs of the Tax Administration

The options for meeting the business needs of the TA boil down to either writing a unique tax programme or purchasing an “off-the-shelf” package which can be tailored to the existing and future business needs of the TA. Writing an individual ‘bespoke’ programme is not recommended as this is likely to prove costly both in terms of the actual cost of creating the programme together with the assoDDD agencyed (and possibly much greater) costs of testing, implementing and maintaining the new system.

Fortunately a number of good software packages that can be tailored to the requirements of the tax administration in Country X exist and are available in the market at reasonable cost.

Chief amongst these are the ‘Option 1’ and ‘OPTION 2’ packages and these are described below.

4.1 ‘Option 1’ Package

‘Option 1’ is a software package that has been developed by the DDD agency, a non-profit public international organisation dedicated to improving tax administration. Option 1 is a modern computerised system which is based on the experience DDD AGENCY has acquired through the development of tax modernisation projects in more than 20 countries. The system was designed to be used in different tax administrations having different legislation, forms and procedures.

The Option 1 package can be easily modified to suit the conditions in Country X. Full details of the Option 1 package are included as Appendix A.

4.2 ‘OPTION 2’ Package

The OPTION 2 package is broadly the same as the ‘Option 1’ package and also takes a modular approach which includes registration, assessment, collection accounting, collection, enforcement, and audit case selection modules.

OPTION 2 was developed with assistance from the EEE Agency . EEE AGENCY provides the licensing for OPTION 2, free of charge. However, OPTION 2 has to be developed (and adapted to the requirements of each country) by a specific firm.

This firm has worked in small countries in the Caribbean area, in M, and recently in B, and FFF. Since the FFF project OPTION 2 is now available in an Arabic version.

Full details of the ‘OPTION 2’ package are included in Appendix B.

4.2.1 ***Advantages of modular packages***

Both software packages are equally good and their advantages over specifically-written software are detailed in paragraphs 4.2.1.1 to 4.2.1.8 below.

4.2.1.1 *Readily Available*

As has been pointed out above the software is readily available and is already in use in many other countries. This produces a considerable advantage over specifically-written software which must be extensively tested before use.

4.2.1.2 *Knowledge base*

Since the software is in use in many countries it comes with an already significant knowledge base.

4.2.1.3 *Modular*

Both packages are modular systems. Additional modules can be seamlessly implemented even if the Tax Administration initially decides to install only the bare minimum of modules.

4.2.1.4 *Database*

Option 1 is available in the most popular database, Oracle and is therefore fully compatible with the database used within the Pilot Computer Project. Similarly OPTION 2 was written using modern relational database technology.

4.2.1.5 *Development Tools*

The software is developed in Developer 2000.

4.2.1.6 *Operating Systems*

Option 1 is available in the most popular and industry standard operating systems i.e. Unix and Windows NT. OPTION 2 will run on almost any hardware or software platform.

4.2.1.7 *Parameterised*

Both the Option 1 and OPTION 2 systems are parameterised which means that the varying characteristics of different tax administrations are not found in the system's programmes, but rather in tables that can be modified by specialised users without the participation of computer technicians.

4.2.1.8 *Coverage*

Both the Option 1 and OPTION 2 packages are capable of covering the entire activities of the Tax Administration and are also capable of meeting all of the future requirements of the Tax Administration.

5 Risks associated with further computerisation

The risks involved in a large scale computerisation of the TA are substantially reduced by the purchase of an “off-the-shelf” package and are reduced further given the modular nature of the packages under consideration combined with the proposal to introduce computerisation on a phased basis (see 6 below). Nevertheless significant risks will remain and these are considered below.

5.1 Modules and GAP analysis

The TA will need to decide at the outset what modules to implement as part of the basic package. A minimal starter package is suggested at 6.1.3 below which it is anticipated will meet the requirements for the computerisation of the GST and the LTU. A thorough ‘GAP’ analysis of tax legislation, procedures and forms in advance of the adaptation of the package for the tax system of Country X will be required.

5.2 Package selection and implementation Costs

A package selection process is a vital first step. Without proper up-front research the TA could find that its business is driven by the package whereas the package should be purchased for the business. And it must be remembered that undergoing a package selection process is only the beginning and not the end of the costs involved.

Even if a package is supplied free of charge there are likely to be substantial additional costs in implementation. Also implementation of this software is likely to be time consuming.

5.3 Arabisation

At present it does not appear that there is an Arabic version of ‘Option 1’ while apparently an Arabic version of OPTION 2 is in existence following the implementation of that system in FFF. Should ‘Option 1’ emerge as the preferred option then there are likely to be significant costs associated with the preparation of user screens and training and operating manuals in Arabic. Despite the fact that an Arabic version of OPTION 2 exists it cannot be assumed that there would be no additional costs in terms of local language support.

5.4 Hardware requirements

The packages under consideration will require high performance hardware to maximise their operations. It is likely that two servers will be required, one server for development and training and the other as the actual production server. Given the likely extended implementation time and localisation requirements a second server is a wise precaution.

As noted in Section 2 above the TA has to date used stand-alone computers. The Pilot Computer Project will introduce a networked taxpayer registration

system and this will provide experience to the TA in the operation of a network. However a well planned structured cabling network will be a prerequisite for the successful performance of a server-based application.

5.5 Available technical skills

It is recognised that at present the TA does not have the available technical skills to handle the implementation of large software and hardware. There will be a need for the introduction of additional skills (discussed under Implementation Strategy in Section 6 below) as well as the provision of additional training for the existing personnel. The proposed additional training needs are outlined in Appendix D.

5.6 Accommodation

The additional computers provided under the Pilot Computer Project will stretch the availability of accommodation at the TA headquarters to the limit. Fortunately the TA has anticipated this requirement and a new building is under construction at headquarters. It is anticipated that the new building will be ready for occupation in late July 2000.

While the new building will ease the accommodation difficulties at headquarters there is a risk that suitable accommodation for computer users will not be available at the level of the local tax offices. This is an issue that will have to be addressed by the Tax Administration.

The Tax Administration will also need to consider the need for air-conditioned computer rooms for certain tax offices. Under Phase 3 (see 6.1.4 below) this will be particularly relevant for the tax offices in City 2, City 4 and City 3 where humidity levels are very high, particularly during the summer months. City 2 and City 4 already have some air-conditioned rooms though not necessarily computer rooms. The TA will need to prepare a list of other offices under Phase 4 where air-conditioned computer rooms will be required.

6 Implementation

6.1 Implementation Strategy

As can be seen in section 2 above the degree of computerisation within the TA has to date been quite low and the policy adopted with the Pilot Computer Project has been to advocate a limited and steady progression towards further computerisation. It is proposed to continue this policy as to attempt to do otherwise is likely to produce significant implementation and absorbency problems.

An implementation strategy must address the risks identified in Section 5 above. Given the fact that both packages have already been tested extensively in other countries, the primary risk for Country X has to be the lack of available technical skills required to implement the package and train the users.

Therefore it is strongly suggested that the TA forge a strategic alliance with a local or regional software company that would function as an implementing agent. Such a company should be well experienced in the implementation of large software, be strong enough to last throughout the entire implementation cycle and have sufficient levels of skilled and dedicated manpower, having knowledge of Arabic. A profile of the type of company needed is provided at 6.1.1 below and a list of the services that could be provided by such a company is provided at 6.1.2 below.

In addition it is proposed that computerisation would be phased in both vertically i.e. by selecting 'core' modules that meet the basic business needs of the TA and horizontally by commencing with the major strategic objective, the computerisation of GST. Once GST operations have been successfully computerised the next steps would be to computerise the remaining taxes dealt with by the LTU, then the larger tax offices and, finally, the remaining tax offices. The phasing-in process is described in more detail in paragraphs 6.1.2 and 6.1.3 below.

6.1.1 *Profile of Implementing Agent*

An implementing company should be selected with the various issues involved in a successful implementation in mind. A successful implementation of a large system such as is proposed for the TA should consider the following issues: -

- Sufficient adequate skilled manpower available with the implementing agent to carry out the modifications required by the TA, including Arabisation of the package as well as preparation of the user and training manuals.
- Financial strength of the organisation to sustain the entire life cycle of the implementation, which is likely to be a minimum of three years.
- Strength and technical skills of the Arabic members of the implementing agent.

- Time required for the successful implementation and hand over of the system to the TA.
- Looking at the current technical skills of the TA, it is envisaged that the implementing agent provides training to the TA for a sustained period of time. This is possible only if the implementing agent is locally or regionally located.
- A locally or regionally based implementing agent would obviously be less costly than sourcing an implementing agent from outside the region.
- Availability of the implementing agent in case the TA would like to retain the implementing agent even after the implementation. This may be a very important factor again bearing in mind the technical skills currently available within the TA.

6.1.2 ***Services to be provided by Implementing Agent***

The services that could be provided by the Implementing Agent are as follows: -

6.1.2.1 ***Outsourcing***

The implementing agent would outsource the package from the licensing authority. This will be beneficial for the TA since the company, and not the TA, would then assume all the risks of implementation.

6.1.2.2 ***Arabisation***

The company selected would have a strong team of professional Arabic staff capable of preparing the user screens and manuals in Arabic.

6.1.2.3 ***Training and documentation***

The company selected would have a strong team of professional Arabic staff capable of providing all necessary training courses and user manuals.

6.1.3 ***'Vertical' phasing of computerisation***

Bearing in mind the horizontal phasing suggested in 6.1.4 below it is envisaged that the following modules would be selected as the minimum required for the initial installation.

If Option 1 were selected then it is suggested that the initial installation would commence with the following modules: -

- Returns processing module (beginning with GST returns only)
- Taxpayer current account module
- Control of non filers and stop filers module
- Control of delinquent taxpayers module
- Credit/Debit compensation control module

- Instalment payment management module

If OPTION 2 were selected then it is suggested that the initial installation would commence with the following modules: -

- Declarations (beginning with GST returns only)
- Tax Account Management
- Reminders and letters
- Collection
- Payment Agreements
- Instalment Management

Of course the computer pilot project will have already provided the necessary taxpayer registration (AAAA). However it will be necessary to develop an interface between AAAA and Option 1 or OPTION 2.

6.1.4 ***'Horizontal' phasing of computerisation***

A horizontal phasing of computerisation would proceed along the following lines:

-

- Phase 1. Computerisation of GST operations.
- Phase 2. Extension of computerisation to other taxes within LTU (income tax and wages withholding tax)
- Phase 3. Extension of computerisation (i.e. Phases 1 and 2) to larger tax offices in City 1, City 2, City 3 and City 4,
- Phase 4. Extension of computerisation to remaining tax offices

6.1.5 ***Implementation period***

It is suggested that a period of between 30 and 36 months be allocated for the implementation of all 4 phases. It is likely that the implementation gap between phases 1 and 2 would be quite short (6 months or less) in view of the relatively low number of taxpayers dealt with by the LTU.

6.1.6 ***Implementation milestones***

The project will deliver specific outputs to the TA at each phase of its implementation. These are described in more detail in paragraphs 6.1.6.1 to 6.1.6.4 below.

6.1.6.1 ***Phase 1: Computerisation of GST operations***

This phase will be complete when the system is able to provide the following reports:

- List of GST stop filers and non filers and generation of reminder notices to defaulters,

- Record of GST payments and updates of trader ledger files,
- Exception reports for risk-based auditing purposes, and
- Detailed GST revenue reports for headquarters.

6.1.6.2 **Phase 2: Extension of computerisation to remainder of LTU**

This phase will be complete when the system is able to provide the following reports in addition to the reports provided under Phase 1.

- List of Income Tax and wages withholding stop filers and non filers and generation of reminder notices to defaulters,
- Record of Income Tax and Employee Withholding payments and updates of trader ledger files,
- Exception reports for risk-based auditing purposes in respect of traders' own tax returns and Employee Withholding returns, and
- Detailed Income Tax and Employee Withholding tax reports for headquarters.

6.1.6.3 **Phase 3: Extension of computerisation to larger tax offices**

This phase will be complete when the system is able to provide the reports mentioned in Phases 1 and 2 in the City 1 Capital Tax Office, City 2, City 3 and City 4.

6.1.6.4 **Phase 4: Extension of computerisation to remaining tax offices**

This phase will be complete when the system is able to provide the reports mentioned in Phases 1 and 2 in the remaining tax offices.

6.2 **Implementation Schedule**

6.3 **Activities**

The activities required to proceed with the computerisation of the Tax Administration are considered below, along with suggestions as to the persons or organisations responsible for taking matters forward.

This timetable deals only with the activities required to implement Phases 1 and 2 but the implementing agent would be required to produce a plan for the implementation of all four phases.

Task	Responsibility	Date by
Computer Options Plan approved.	TA Task Force	June 2000
Establish small Computerisation Evaluation Committee (CEC) to evaluate software packages.	Chairman, TA	June 2000

Task	Responsibility	Date by
Submit Computer Options Plan to donors/funding agents for consideration.	Ministry of Finance Ministry of Planning	July 2000
Provide sufficient funding to CEC to evaluate both software packages and select one for implementation.	Ministry of Finance	July 2000
Select software package	CEC	August 2000
Prepare short list of potential implementing agents	CEC	August 2000
Invite potential implementing agents to submit bids/plan for implementing the new IT system	TA	August 2000
Select Implementing Agent	TA	September 2000
Decide on minimum number of modules for immediate installation.	Task Force assisted by Implementing Agent	September 2000
Prepare GAP analysis	Implementing Agent	September 2000
Prepare plan for Arabisation of screens and manuals	Implementing Agent	September 2000
Define hardware needs for all phases	Implementing Agent	October 2000
Review computerisation training plan and amend as necessary. Programme training needs for all phases	Implementing Agent	October 2000
Order hardware for Phases 1 and 2	Implementing Agent	October 2000
Install hardware	Implementing Agent/TA	November 2000
Install software	Implementing Agent	November 2000
Conduct Arabisation activities	Implementing Agent	November 2000
Test system	Implementing agent	December 2000

Task	Responsibility	Date by
Train staff in package architecture and package use	Package vendor and Implementing Agent	January 2001
Hand system over to TA ⁶	Implementing Agent	February 2001

⁶ Note that full Arabisation will not be completed by this time.

7 Business Benefits

7.1 Introduction

The selection, acquisition, adaptation and implementation of an information technology system represents a significant investment. Sound business practice dictates that any investment should be analysed on the basis of the benefits and returns that the investment will be likely to generate in relation to the costs of that investment.

The further computerisation of the TA is therefore business driven, although some benefits are more easily quantified than others. It is argued that the implementation of computerisation is essential for the TA to attain its business objectives.

This section will look at the benefits to be obtained and the following section will analyse the costs of computerisation.

7.2 Analysis of business benefits

Computerising the operations of the TA will strengthen the operational efficiency, effectiveness and performance of the TA. It will assist in the implementation of the GST, the establishment of the LTU and allow for the introduction of an organisational structure driven by function rather than by tax. The introduction of computers will build ownership towards reform within the TA and will focus on users and performance. The result will be better and speedier management information, better services to taxpayers and improved revenue collection. The system will altogether be more transparent and will assist the TA in its stated aim of reducing the opportunities for interaction between taxpayers and tax officials.

The benefits of computerisation will be realised at three main levels and these are: -

- Strategic,
- Management, and
- Operational.

7.2.1 *Strategic level*

At the strategic level the TA would be aiming for a number of benefits such as: -

- Assisting with the effective implementation of GST
- Assisting with the establishment of the LTU and the move to an organisational structure based on function,
- Allowing for the introduction of self assessment for companies, and
- Assisting with the further reform of the income tax.

7.2.2 **Management level**

At the managerial level the TA would be aiming for a number of benefits such as:

-

- More timely, accurate and reliable information
- Better control over revenue accounting function
- Improved planning, monitoring and control

7.2.3 **Operational level**

At the operational level the TA would be aiming for a number of benefits such as:

-

- Systems will be fully integrated, thereby reducing many of the current inefficiencies
- More operational support
- More effective sharing of information within subsystems
- Job enrichment, specialisation, etc leading to an increase in motivation and commitment to the reform process.

7.2.4 **Financial benefits of computerisation**

Since computerisation is essential to the introduction of the GST then the benefits from the GST in terms of increased revenues will be at stake if computerisation is not introduced.

As can be seen from paragraphs 7.2.1. to 7.2.3 above, a computerised system will produce enormous benefits in terms of returns processing, revenue accounting, the detection of stop filers and delinquent accounts, management information, matching information and support for the risk based audit function.

Currently the existing TPCS tax yields about ** 10 billion per annum. This yield arises from about 600 registered taxpayers with an average compliance rate of about 20%. The new GST will substantially increase the tax yield due to its base broadening measures and reduced exemptions. Since the new LTU will have about 1,000 registered taxpayers it can be seen that the tax yield is likely to increase substantially due to a higher number of complying taxpayers being taxed within a more efficient tax system. It can be anticipated therefore that a tax yield of some ** 20 billion could in fact be conservatively estimated. Without the benefits of computerisation this yield will be substantially at risk as the TA will be less able to detect non-compliance and enforce revenue collection. In fact the entire benefits of the introduction of GST and the establishment of the LTU could be put at risk without an effective computer system. It is likely therefore that a minimum financial estimate of the benefits of computerisation is likely to be in the order of ** 10 billion (\$** million).

It should be noted that this estimate is for GST alone and does not include any similar benefits that will arise from income tax or employee withholding tax due to increased efficiencies.

8 System Costings

It is suggested that the system be developed utilising the following hardware and software: -

Computer equipment	Networked personal computers
Operating System	
Database management system	
Programming language	

8.1 Cost Breakdown

The following is an estimate of the total cost of selecting, purchasing, and installing the hardware and software and tailoring the system to the requirements of the tax system of Country X.

8.1.1 *Hardware*

It is suggested that the server is located at the headquarters and users would be directly connected to the headquarters through telephone lines. The server suggested for headquarters is a GGG cluster server. A cluster configuration is typically designed with two high-end servers sharing the same set of hard disks and each hard disk is mirrored to a different hard disk. The advantage of such a configuration is that in case one server fails the other server automatically takes charge of the situation.

If there is a failure of one of the hard disks, then the server takes the data from the mirrored hard disk and the user is not even aware of the hard disk failure. When the failed hard disk is replaced the server takes care of updating the hard disk from the mirrored one. There is of course a cost disadvantage to this as for every hard disk one needs to have another disk for mirroring. However the advantage is that data security is very high since clustered servers combined with hard disk mirroring will eliminate all chances of data being lost or corrupted due to hardware failure.

A GGG terminal server is suggested for the speedy operation of the system vis a vis the various tax offices.

Headquarters should have a structured network. All the hubs and routers should be located centrally along with the server. The cables to be used should be capable of transferring data up to 100 Mbps.

The workstations to be installed should be the latest PCs available at the time of ordering. Each PC should have at least 128 MB ram and a minimum 4 GB hard disk with colour monitors. Each PC should have an ethernet card of 10/100 Mbps.

Each Tax Office would have a small Local Area Network (LAN) connecting it to its constituent branches and capable of becoming a part of the entire network through the telephone lines. The headquarters LAN must be designed to connect to the remote LANs and, of course, each tax office must have the resources to connect to the headquarters network.

8.1.2 **Hardware costs.**

An estimate of the costs of hardware is as follows:

Equipment	Where located	Cost	Implementation Phase (see 6.1.3 above)
Cluster servers (2)	Headquarters		1
Terminal server	Headquarters		1
Hub	Headquarters		1
Router	Headquarters		1
Switch	Headquarters		1
Workstations	Headquarters		1
	Total for headquarters (say)	200,000	1
Router	Large Taxpayer Unit		1 and 2
Hub	Large Taxpayer Unit		1 and 2
Workstations	Large Taxpayer Unit		1 and 2
	Total for LTU (say)	20,000	1 and 2
Router	In each of the largest tax offices i.e. City 1 Capital Office, City 2, City 3 and City 4 including branches of each.		3
Hub			3
Workstations			3
	Total for larger tax offices (say)	80,000	3
Router	In each of the remaining tax offices i.e. etc including branches of each.		4
Hub			4
Workstations			4
	Total for remaining tax offices (say)	150,000	4

8.1.3 **Software costs**

Software to be developed under HHH engine with II. II is a product developed by GGG for the cluster platform. In the event of failure of one server the user just needs to reconnect to continue the work.

The OPTION 2 software is provided free by the CCC Government. Option 1 is not provided free and the initial cost will depend on the number of core modules chosen. However the actual cost of the software is probably insignificant compared to the costs of programming changes, adaptation to the Country X tax system and installation costs. An estimate of the costs of the software packages, following a minimum installation of each and including programming, adaptation and training in the package is \$XXX,000.

8.1.4 **Package selection costs**

The TA will need to decide between the competing software packages, Option 1 and OPTION 2. This can best be achieved either by a team of TA officials making site visits to B and C or by the TA receiving delegations from the organisations concerned who would come to City 1 to present their packages.

On the face of it the latter option would appear to be the most cost-effective as presentations done in City 1 would obviously reach a greater number of officials. However there is in fact no substitute for seeing the packages in operation in a real working environment. In fact having the packages presented to a large number of officials in City 1 could prove counterproductive as a larger less-informed group would find it more difficult to reach consensus than a smaller relatively more-informed group.

The TA would do well to consider the appointment of a small, dedicated group of tax officials charged with the task of selecting the appropriate software package and having some IT technical assistance at their disposal. The officials chosen should possess strong expertise and experience in tax administration and should be few in number, certainly no more than four individuals.

An estimate of the cost of such a delegation making site visits to view both packages in one trip, including airfares and per diems but excluding salary costs is \$XX,000.

8.1.5 **Implementation Costs**

At this point in time it is very difficult to precisely estimate the costs of implementation as it is not totally clear what activities would be undertaken along with the purchase of the package and what activities would be the responsibility of the TA working with the implementing agent.

Some of the activities that will have to be carried out by the implementing agent could include: -

- Analysis of tax legislation, procedures and forms currently in use including those proposed under the new GST law and the proposed forthcoming income tax reform.
- Comparing the above with what is available under the package and exploring how the package can be adapted for Country X.
- Prepare a Gap Analysis Document which will highlight those procedures which can be addressed by the package and those which cannot. Some specific modules will then have to be adapted to the TA's requirements and this will have to be planned for as will the amount of Arabisation that is needed.
- Based on the above the implementing agent could then set up the system in a phased manner as suggested in paragraph 6.1 above.
- The implementation approach would be two-phased, first in English, then in Arabic.

Depending on the activities that will fall to the package vendor and those that will be the responsibility of the implementing agent it is possible that the costs of implementation could be as high as \$X,XXX over all four phases of the project.

8.1.6 **Arabisation Costs**

At this stage before the evaluation of the packages it is very difficult to estimate the costs of Arabisation. While it is fair to assume that the product which already has an Arabic version (OPTION 2) must come with a distinct cost advantage it cannot be assumed that there will be no costs under this heading if the OPTION 2 product were selected. This is because the modules to be selected and the degree of customisation needed will undoubtedly be different than elsewhere.

The extent of the Arabisation costs will depend on the number of screens and reports that need to be converted into Arabic and the extent to which the package needs to be customised.

At a very rough guess it could take up to 18 months to Arabise a package at a cost of up to \$XXX,000.

8.1.7 **Training Costs**

Details of the training to be provided are contained in Appendix D. This training is available locally from Microsoft and Oracle certified training companies and it is not necessary therefore to incur the expense of sending trainees abroad to receive this training.

An estimate of the cost of this training based on local charges is set out below.

Course	Cost
AA courses	xx,xxx
BB courses	xx,x00
Computer basics and CC courses	xx,000
Total	xx,xxx

It is again stressed that the above training cost does not include the cost of training on the Option 1 or OPTION 2 architecture or of training staff to use the product(s) as it is expected that these costs would be included in the proposals made by the vendors.

8.1.8 Total Project Cost

An estimate for the total cost of the project is as follows: -

Cost	\$
Hardware costs	Details removed
Software costs	Details removed
Package selection costs	Details removed
Implementation costs	Details removed
Arabisation costs	Details removed
Training costs	Details removed
Total cost of project	Details removed

The financing of this project may be of interest to aid donors with projects in Country X e.g. Phase 3 of the project for KKKKKK in Country X, which is almost finalised. The Tax Administration could consider making a request for funding to this or other projects, using this plan as the basis for the bid.

8.1.9 Justification for the investment

It can be seen therefore that an investment of some \$xxx could produce a minimum return of some \$yyyyy per annum (para 7.2.4) which is a return of at least 2000% per annum. On economic grounds the investment is therefore well worth proceeding with. The investment is also justified in terms of the increased efficiency and effectiveness that it will provide to the TA and in terms of the improved services that the TA can offer to taxpayers.

The most important parts of the investment are the selection of the appropriate software package and the selection of a suitable implementation agent. Great care should be taken in these two areas. Expense should not be a major consideration, especially when deciding on the software package. Selection of

the most appropriate software package is vital to the success of the project and it is essential that the software packages be viewed in a working environment.

As outlined in paragraph 3.1.1. above the successful introduction of the new GST law is the primary strategic objective of the Tax Administration. A properly functioning computerised system is a prerequisite for the success of the GST. Since computerisation needs to be introduced in time to support the successful implementation of the GST, it is essential that funding be provided as quickly as possible for the primary task of software package evaluation.

9 Bibliography

The following documents are required reading as background material to this report.

1. Further Reform of the Income Tax law and Procedures of Country X, prepared by Tax Reform Team, April 1999.
2. Large Taxpayer Unit Inception Plan, prepared by Tax Reform Team, November 1999.
3. Pilot Computer System Specifications Document, July 1999
4. System Study document prepared by LLL, 1999

Appendix A – Option 1 Outline

Option 1

Details removed

Appendix B – OPTION 2 Outline

OPTION 2 is an integrated package with all modules necessary to manage all your taxes and licenses:

Details removed

Appendix C – Current Skills Level

Personnel in the TA's IT department along with their computer qualifications are shown in the tables below. Another 10 data entry officers are under recruitment, two for each of the five branches affected by the Computer Pilot project.

As can be seen the IT skills level is quite basic underscoring the need for implementation assistance as proposed in section 6 above. A training plan aimed at raising the level of IT skills in line with the computerisation strategy of the TA is set out in Appendix D.

Table 1 Programmers

Name	Qualifications	School	Country	Year Graduated
Details removed				

Table 2 System Operators

Name	Qualifications	Training received to date
Details removed		

Table 3 Data Entry Personnel

Name	Qualifications	Training received to date
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Appendix D – TA Additional Training Requirements.

It is suggested that training as set out below would be undertaken with effect from June 2000. This training is suggested bearing in mind the current skills level and the expected requirements of the Tax Administration as it prepares to embark on its computerisation strategy.

Details removed