



Benefits of a computerized integrated system for taxation: iTax case study

a handbook for practitioners based on
GIZ tax sector experience in Tanzania and the Philippines



Imprint

The International Tax Compact (ITC) is an international initiative to fight against tax evasion and inappropriate tax practices in developing countries. The German Federal Ministry for Economic Cooperation and Development (BMZ) has launched the initiative and commissioned GIZ and KfW to support the implementation.

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Glossary

BMZ	Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung – German Federal Ministry for Economic Cooperation and Development
DC	Developing Country
e-Government	the use of information and communication technology to provide and improve government administration services
FOSS	Free and open-source software
GFS System	Government Finance Statistics System, a specialized macroeconomic statistical system designed by the IMF to support fiscal analysis
GIS	Geographic Information System
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH – German Technical Cooperation, now: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
IC	Industrialized Country
IMF	International Monetary Fund
IRA	Internal Revenue Allotment (transfer payments of the Philippine national government to LGUs)
iTAX	integrated Tax Administration System
iTAX^{LGU}	iTAX implemented for regional/local tax administrations (i.e. in LGUs in the Philippines)
iTAX^{NAT}	iTAX implemented for national tax administrations (i.e. in Tanzania)
Large Taxpayer Department	organizational structure within the revenue authority which manages the tax administration of major taxpayers
LGU	Local Government Unit (in the Philippines), i.e. a province, city, municipality

Tax culture in Ghana – a GTZ workshop on improving tax compliance brings together traditional chiefs (Photo: GTZ)



One-stop-shop	tax office that offers all services related to taxation under one roof, making it possible for a taxpayer to deal with all his tax matters at one place
PAYE	Pay-As-You-Earn, a withholding tax that is deducted from the employee's income and paid directly to the tax authority by the employer
RDBMS	Relational Database Management System, a database in which data is stored in the form of tables and the relationship among the data is also stored in the form of tables
RPT	Real Property Tax
Self-assessed tax	the taxpayer is responsible for accurately computing and reporting his or her tax liability to the revenue authority
Source code	the set of instructions, written out as ordinary text in a programming language, that make up a computer programme
(Technical) table	structures in a database that hold values and parameters and define rules for computations done on the contents
TRA	Tanzania Revenue Authority
VAT	Value Added Tax
Withholding tax	an amount withheld by the party making a payment to a third party and paid to the taxation authorities. The purpose of withholding tax is to facilitate or accelerate collection, by collecting tax from payers rather than a much greater number of payees

1.0 About this brochure

Taxation is often the most important source of state revenue. However, many developing countries lack effective tax administration structures and processes. Technological innovations have not filtered through to the daily working reality of tax officials. Paperwork and loose leaf systems still dominate tax administration and prevent more effective tax processes. As a consequence, some developing countries capture as little as 40% of their tax potential.

Over the past 20 years, global tax issues, such as inter-state tax competition, tax havens, and the case for “global taxes“ have been receiving more attention than ever. The Monterrey Consensus (UN Conference on Financing for Development, 2002) highlighted the importance of mobilizing domestic financial resources in order to “eradicate poverty, achieve sustained economic growth and promote sustainable development.“

Government legitimacy and the need to finance public functions and responsibilities lie ultimately at the heart of taxation. Applying criteria of efficiency, effectiveness and fairness, not only to the tax system but also to the use of government resources, can create a virtuous cycle of improving fiscal performance, good governance, proper and fair delivery and distribution of public goods and services and ultimately strengthen state legitimacy.

The four “R’s“ – taxation has four main purposes or effects:

- **Revenue** - to raise money for government functions
- **Redistribution** - to reduce inequality
- **Repricing** - to address externalities in order to reflect social costs and benefits
- **Representation** - to stimulate accountability among citizens

Computerization of tax and revenue authorities can contribute to reaching the goal of good (financial) governance. It improves accountability and transparency of the revenue authorities. Nevertheless, while reforming and modernizing the tax system is an essential part of improving domestic resource mobilization, such a reform will be sustainable only in conjunction with more profound changes in the administrative and political structure of a state. Based on the case study of iTAX, this handbook provides detail on the process involved in designing and implementing an IT based system for taxation. Still, it is not an exhaustive technical manual on how to design a system, nor is it a comprehensive review of the two projects in Tanzania and the Philippines where the iTAX system is in use. The objective of this handbook is to make practical information available that enables authority officials and decision-makers as well as taxation experts to plan and implement comparable systems or elements thereof in other countries.

The iTAX system is used as a model in this handbook. iTAX stands for “integrated tax administration software for assessment and collection“. It is an integrated system that allows the administration of all taxes, on a national as well as a local level.

iTAX has been initially developed in a cooperation project between the Tanzanian Revenue Authority (TRA) and Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH. Tanzania by now has introduced iTAX nationwide and starting in 2007, iTAX has been adapted to the needs of local government units in the Philippines.

iTAX is therefore a software solution specifically designed for a developing country context. It is constantly improved, notably through South-South cooperation between the Philippines and Tanzania.

Benefits of a computerized integrated system for taxation such as iTAX:

- **it simplifies tax management:**
only one system is needed to handle all types of taxes, locally as well as nationwide
- **iTAX is cost effective:** there is no licensing fee and it uses free and open source software
- **iTAX is already fully developed and can be implemented rapidly:**
(customization of the software is however possible)
- **a computerized system can be adapted to the specific needs of a country's tax administration system**
- **it can handle large case numbers:** in the Philippines, iTAX successfully manages more than 400.000 taxpayer accounts in two pilot provinces
- **iTAX is a modular system and can easily be extended to cover newly arising needs and to offer new functionalities**
- **it speeds up tax assessment and service delivery:**
in the Philippines, the waiting period for a taxpayer for information on his individual account was reduced from about four hours to only three minutes
- **it makes a country's tax administration more effective, leading to significant increases of tax revenues:** in Tanzania: increase of collected taxes from US\$25Mio/month in 1996 to US\$300Mio/month in 2007; in the Philippines/Province La Union: increase in real property tax of more than 80% after the introduction of iTAX in the province
- **it offers opportunities for local capacity development,** as local IT service providers and IT staff take part in the development, customization, and maintenance of the system
- **iTAX is a sustainable, ‘future proof’ system:**
new technological developments can easily be incorporated into the system, as already realized with the introduction of a geographic information system into iTAX

Taxation is ...

the foundation of good governance and a key to the wealth of a nation.

It serves as the financial basis for all state functions like education, infrastructure, healthcare, or social security.

Tax revenue is a keystone for sustainable development. Financial sustainability is a prerequisite to ensuring government investments and the development of a prosperous society.

2.0 Introduction

2.1 Government, public resources, and taxation

Governments and public authorities in general have to act on behalf of society at large, notably in providing key public services. These include education, roads, health and social security, defence, and civil order forces. Public services are primarily financed through tax revenue, especially where a country does not have major natural resources at its disposal.

The responsibility of the government to finance public services lies therefore at the heart of taxation. Applying criteria of efficiency, fairness, and transparency to tax systems and the spending of government resources creates a virtuous circle of improving fiscal performance, good governance, fair distribution of public goods and services, and ultimately strengthens state legitimacy.

The main components and processes of tax administration:

- **Registration:** to properly identify and register all (legal) taxpayers/tax subjects and objects
- **Assessment:** to verify taxpayer data, cross-check and assess tax liabilities
- **Collection:** to collect taxes due and receive payments
- **Payment:** to enter payments in the taxpayer account and balance payments with debits
- **Enforcement:** to identify defaulters and organize a systematic sanction/enforcement/collection process
- **Auditing:** to audit tax declarations based on a fair and sound selection system
- **Reporting:** to provide analytical reports regarding revenue assessed and collected

Over the past years, there has been a growing recognition of the relevance of taxation among multilateral and bilateral donors as well as in developing regions. A modern, efficient, and transparent tax administration is one of the keys to overall state performance. A tax system should be based on the principles of equity, progressivity, simplicity and efficiency.

Efficient internal revenue collection is a major step towards self-sufficiency and independence. To realize this goal, Developing Countries (DC) have a difficult starting position. Industrialized Countries (IC) are organizationally and technologically better equipped and thus better placed to utilize their (tax) resources more efficiently. Whereas ICs generally manage to capture about 90% of the given tax potential, in DCs this can be as little as around 40%.

2.2 e-Government strategy

IT supported administration systems (“e-Government“) play an increasingly important role. Without computerization and administrative reforms, the development gap between ICs and DCs is likely to increase further, leaving DCs still farther behind.

There are various cost saving and service improvement effects induced by e-Government. Nevertheless, the use of ICT in government’s authorities should not be an end in itself. The final goal of computerization efforts must be to achieve better public service delivery. To achieve this goal, appropriate technology is necessary but not sufficient. Amongst other activities, long-term political commitment and ongoing monitoring and evaluation are of fundamental importance. Besides, effective plans need to be in place for capacity development and the improvement of technical infrastructure. Committed public administration staff has to be involved in the implementation process to ensure lasting success.

Indeed, understanding user demand is important to finding an adequate technical solution. Top-down approaches in e-Government strategies were frequently resulting in early failures. Resistance from civil servants is probably the biggest challenge to successful e-Government implementations. High involvement of public authority staff will ensure a sustained administration effort for modernization. Hence, capacity development within the government is an important step for e-Government and its effective implementation. With the establishment of well-structured plans that embrace employee participation throughout all stages of the process, civil servants will become key stakeholders of the reform.

There is no “one-size-fits-all“ model for e-Government development. Each country needs to devise its own e-Government strategy and programme, taking into consideration its political, economic and social priorities and its financial, human and technological capacities. The key to effective e-Government implementation is a multi-pronged approach based on technology as well as human development.

e-Government...

means the use of information and communication technology to provide and improve government administration services, like transactions and interactions with citizens, businesses or other government branches.

(For more information, see the report on the 2008 BMZ Conference “e-Government for Development: The promise and the practice“: <http://www2.gtz.de/dokumente/bib/gtz2009-0504en-e-governmentconference.pdf>)

2.3 Benefits of implementing an IT-based tax administration system

The price for existing commercial tax administration software is based almost exclusively on IC price levels. Such solutions are too costly for most governments in DCs. As a consequence, most tax computation, assessment, and accounting in DCs is still done manually, using various loose leaf systems, index cards or folios. This neither enhances administrative transparency nor does it promote tax payer compliance.

The benefits of using an IT system for tax administration are nevertheless apparent. Firstly, it has the potential to increase tax collection. For instance in the Philippines, the new IT system revealed in 11 pilot districts/cities a gap of non assessed tax liabilities of 3,2 Mio Euro.

Secondly, an IT system has the potential to help modernize the administrative processes. For example, in the Philippines, it may take up to four hours to inform a (waiting) tax payer about his tax bill. With the new IT system, this waiting period is reduced to 3 minutes, including issuing a proper tax or payment receipt.

The Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH – German Technical Cooperation, on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ), has successfully supported administration reforms in various countries. Examples include public finance reform projects in Tanzania and in the Philippines, which have developed and implemented the taxation software iTAX in close cooperation with the partner countries. iTAX is however more than a software: it is an integrated attempt to modernize revenue administration. The iTAX system is designed to comply with the client's requirements while considering the existing institutional framework.

Additionally, iTAX offers opportunities for the development of local ICT capacities that will in turn ensure the sustainability of the system. In order to comply with the need for cost effective solutions, the GTZ product predominantly uses open source software and focuses on their appropriate adaptation and implementation on the national and on the local community level.

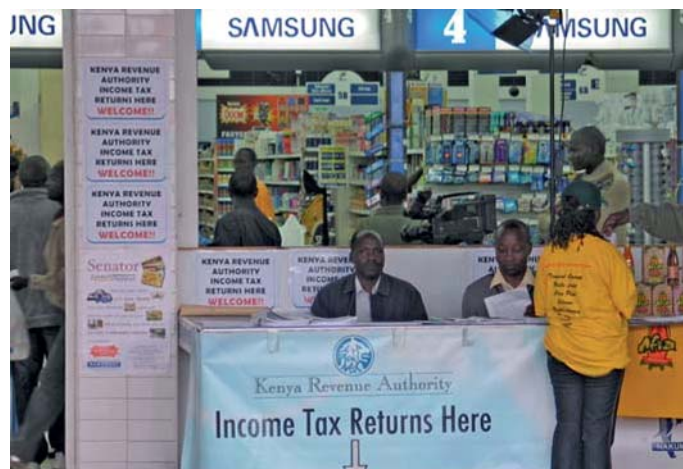
2.4 What is iTAX?

iTAX is a modern computer-based assessment and collection software used by (local) governments. It is a computing and accounting system for state revenues (levies, taxes) which stores all relevant (credit and debit) data in individual accounts in a data base, and thus helps monitor and control all tax transactions.

iTAX provides a convenient and efficient way to improve revenue collection, transparency in fiscal administration and management of local and national tax authorities. In conjunction with a personalized taxpayer identification number, the tax authority using iTAX can automate most of the levying processes and minimize the scope for tax fraud.

Technically, iTAX is a completely integrated modular system for taxation with an open source database, which can handle all types of taxes. iTAX supports the revenue authority in registration, assessment, collection, accounting, debt management, auditing, tax monitoring, and reporting.

Kenya - Income Tax Returns Here
Welcome! (Photo: GTZ)



3.0 Introducing an IT-based tax administration and information system

Checklist for a successful iTAX launch

To form steering committee and working groups: Establish political will and ownership by key players

To clearly define the objectives of the system

To analyse the problems, constraints, and possible resistance

To customize and optimize the software

To procure hardware and software, establish a stable system, prepare the data

To test the system and train staff

To start operation

To move from piloting to regular operation and implementation

iTAX is a comprehensive package, but any system needs customization and adjustments. This chapter describes what it takes to make iTAX successful and sustainable.

Making iTAX work includes those processes that establish the capabilities for change management, the necessary capacity development, and corresponding institutional reforms.

The actual approach to introducing a system like iTAX has to be based on the situation at hand. Therefore, any effort to “make iTAX work“ has to begin with an individual project design.

Based on the experience of implementing iTAX in Tanzania and the Philippines, the following chapter provides an overview of components and factors of the project that have to be taken into account to introduce iTAX and to make the transformation of tax collection and administration through iTAX sustainable. The basis for this overview is the assumption that iTAX is part of a comprehensive, integrated approach to institutional reform.

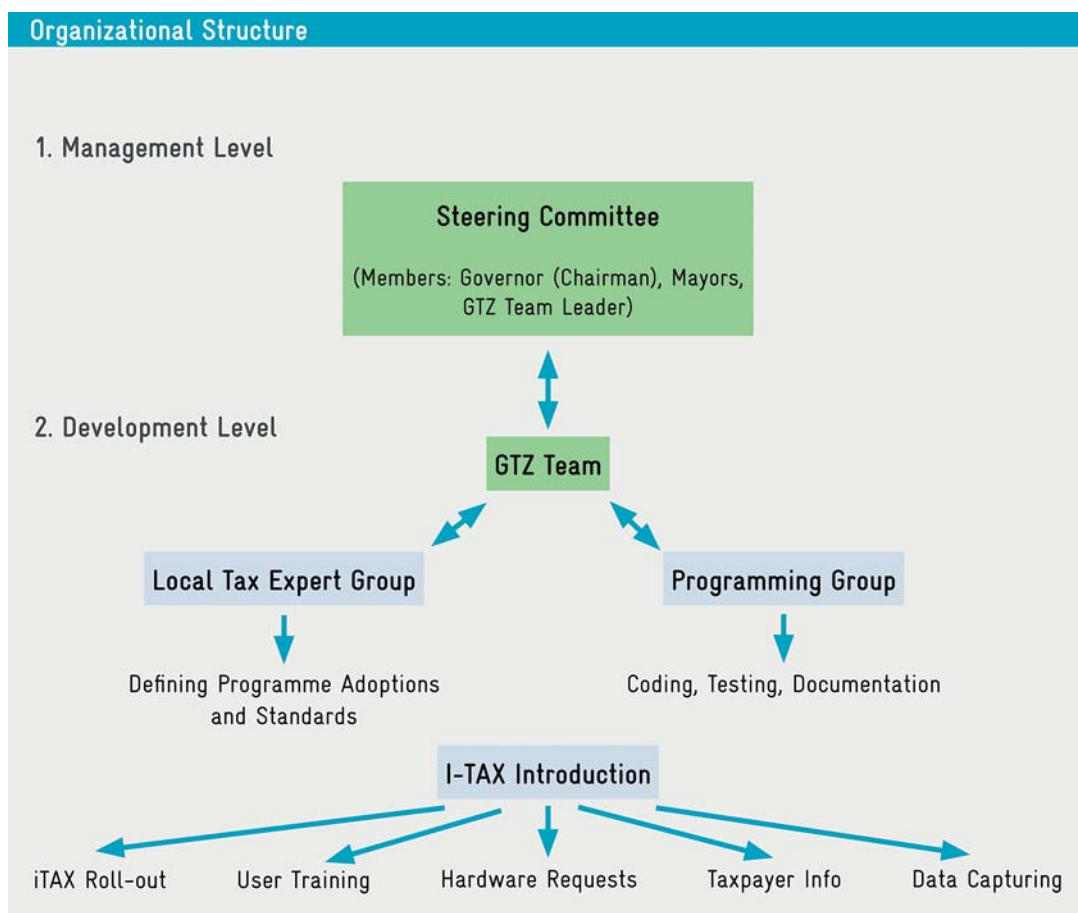
iTAX can be implemented as a pilot project, starting first in a special region/province or only for some specific taxes. It may also be tested first in an institutional pilot project, such as a Large Taxpayer Department. Depending on the IT infrastructure and the IT literacy of operators, piloting can be done within a time frame of about three months. Since the basic functionality of iTAX has already been developed, future implementations will mainly be limited to the customization of the software. This might further speed up the process.

The introduction of an IT solution in general and of iTAX in particular, as well as any related institutional and administrative reform, requires foremost political will. All relevant stakeholders have to be involved and should have an actual say in the process.

3.1 Step 1: To set up the organization and the project environment

As a very first step, a formal framework and an effective organization must be operational. Only with the participation of all relevant stakeholders can true ownership be established. So at first, a steering committee has to be formed, to ensure the proper environment and to establish the political will for change and reform. Depending on the organization of the national revenue authorities, this committee will include the director/commissioner for taxes, the head of internal revenue, the director/commissioner of the finance department, and the director of the IT department.

For implementation of iTAX in local government units (LGUs), the provincial level should be included. As an example see the following organizational chart for the launch of iTAX in the Philippines: The steering committee is headed by the governor, and mayors of all participating LGUs are members of the steering committee.



Organizational structure in Negros Oriental, Philippines

On a secondary level a “working group“ has to be established. This working group is a joint team of operational and IT staff who reports to the steering committee. Its responsibilities include deciding on priority areas for further developments, ensuring the quality of the overall product and its compliance with regulations, as well as making sure that the final system will actually be used in the day-to-day work of the tax administration. If there are several working groups, a coordinating unit and a core team will also be needed.

3.2 Step 2: To plan the collection of relevant data in compliance with local legislation

Legal considerations: The next step is to analyse the national rules and regulations regarding the handling of data. iTAX will need to conform to requirements for given standards of data entry and accounting as set up by the finance department or other relevant agencies.

Relevance of collected data: IT systems can store anything; they can provide an immense amount of data. But such data is only useful, if it is accurate, relevant and actually utilized. Often, too much data is collected which quickly becomes outdated, irrelevant or obsolete. In the Philippines for example the weight of a taxpayer is registered when he applies in his municipality for the community tax certificate. A better way to ensure the usefulness of the system is to collect only necessary and relevant data.

3.2.1 Registration of taxpayers

One of the critical areas is the registration of the taxpayer. In many cases communication data, like telephone numbers, fax connections and email addresses are part of the registration process. Since these details are prone to frequent changes, a convenient way to update such information should be planned. Therefore, changes to registration data that occur frequently should be keyed-in at the front desk, and not as back-office duty. This way, the taxpayer can immediately verify the accuracy of the data by inspecting a print-out.

3.2.2 Streamlining of the reporting of data

Many bureaucracies rely on a tremendous amount of official and informal reports. The working groups must collect all these reports and decide on how to reduce their numbers. iTAX is designed to facilitate reporting. Many different reports can be generated ad-hoc by using different query parameters. Experience shows that in some cases the possibility to save and export data for later analysis is very useful.

3.2.3 Tax receipts

Forms and receipts are another area that needs analysis and streamlining. The receipt plays an important role because it is the only evidence for a taxpayer to prove that he has made a payment. Here approval by an authority outside the revenue agency may be required. For instance, regulations on how many copies must be generated or what kind of security features must be incorporated in a receipt need to be complied with.

To enter tax receipts properly, some countries use codes from the Government Finance Statistics (GFS) system; a standard supported by the International Monetary Fund (IMF). To include these standardized codes in the IT system will enhance its worldwide compatibility and may increase its sustainability. However, it needs to be checked whether the codes should be further adjusted and refined to comply with local regulations.

3.3 Step 3: To assess available resources

Before any new system can be implemented, a realistic assessment of the available resources has to be conducted. Implementation costs will depend on the level of computerization, the training, and the skills of available personnel. Furthermore, the timeframe for a successful operation will largely depend on the availability and quality of the data.

3.3.1 Available technology

A review of existing systems available in the tax department should be undertaken. Indeed, computerization, also in DCs, started in the 1990s. Rudimentary tax systems – in many cases as technological islands – continue to exist. The given hardware must be analysed to check whether it complies with minimum standard requirements. However, in most cases it will not be worthwhile to include outdated equipment in new operations.

Tax departments should not be considered in isolation. The computer systems and digitizing efforts of other departments such as the finance department (budget, custom, treasury) should be taken into account. It is very important to establish communications between these departments to avoid technological islands and the need for costly and cumbersome interfaces.

Special attention should always be given to the software used by the finance department, since usually all tax data must eventually be provided to and processed by this department. Though two parallel systems may continue to exist, experience has shown that in most cases the use of an integrated system will be far superior and generate more benefits.

If other systems, for example for registration, are already in use, it must be evaluated whether those can be terminated and if the data can be imported. Integration with other systems is however possible if they use the same database management system (although there might be resistance by the 'owners' of these systems to reveal relevant structures or codes).

3.3.2 Infrastructure constraints

The lack of adequate electricity supply is a widespread infrastructure constraint in many DCs. Power cuts may result in breakdowns or downtime of the system. In remote locations, it should be considered whether independent power generation, for example through solar power, is feasible.

The other limitation is the available telecommunication bandwidth (in cases where communication between the local office and the centre is needed). Limited bandwidth will increase the response time of the system, and thus adversely affect its functioning. There may be large differences as to available network technology between tax offices of the national revenue and the regional/local system. National tax offices might be connected internally already through a Local Area Network (LAN), but this should not be expected among Local Government Units.

Taking into account the severe problems with connectivity and bandwidth, the original position of iTAX was (and still is) that tax revenue authorities in DCs should opt for 'classical' Client/Server solutions, i.e. data are stored locally while the central database is only updated periodically (e.g. once a week) to minimize the need for prolonged connections and communications between the local client and the central server.

3.3.3 Human resource constraints

Developing countries suffer from a brain drain of qualified IT personnel. It is still difficult to find qualified local staff with sufficient experience in managing projects of high complexity. The use of foreign consultants for knowledge transfer and customization or optimization of the system is therefore almost inevitable in most DCs.

In the project team, there should be a mixture of short-term (two to three weeks for specified assignments) and long-term expertise (for the overall project management and learning on the job). In cases where local consultants are available, a foreign professional is at least called for to evaluate the quality of these consultants and to assist in the selection, recruitment, and training process.

The minimum IT staff requirement for an initial iTAX project team is four members, all of them allocated full-time to the project. To lower the risk of staff fluctuation and knowledge loss as far as possible, all tasks should be shared

among the team members. At least for each area of competence another staff member should be qualified as a back-up person. Functions and responsibilities are generally divided into: software development, database administration, and 'test and quality assurance'. For instance, software development is an ongoing process to enhance the functionality of iTAX and to adapt to new requirements of the tax authority, while database administrators have to ensure safe storage of data including backup and manage the user accounts. 'Test and quality assurance' staff is responsible for the testing of new features, release management, and second level support as well as for the supervision and development of training activities. If there is no IT infrastructure available, overall systems maintenance and the responsibility for the network must be added to the task of database administration.

After the pilot phase, the IT staff must increase in order to support the nationwide implementation of the new system. Sooner or later a decision is needed whether to start outsourcing certain functions and extensions and keep a relatively small IT unit or to increase the overall size of iTAX staff. It is crucial for the sustainability of the development of the new system to consider these changes at an early stage. To counter the risk of growth limitations, enough qualified personnel has to be trained and/or hired to be available for the project in the long run.

Long-term planning also means that the "working group" should compile user manuals and documentation. A sufficient number of skilled staff must be assigned for this task.

Generally speaking, as knowledge in administration of the database system and the software development environment is generally low, training is mandatory. Here, classroom training is not recommended, as it is quite expensive and not always effective. Rather, training is best done on the job where learning curves are much steeper and knowledge is more efficiently put into practice.

3.3.4 To start the implementation process

One of the questions to be settled is whether the system should be based on a centralized or a decentralized approach. There are indeed several ways to set up a professional system. Processing and storing the data at a local/regional level and just replicating and dispatching differences in data to the central level appears to be a good solution (as opposed to a fully centralized approach).

The proposal to use decentralized storage as much as possible, while the central server should be used for security purposes, however implies the need for regular backups and a sound management information system. For the pilot phase this is not a crucial question, as iTAX can operate under both systems. However, decentralized systems tend to be more reliable and sustainable.

3.4 Step 4: To develop the software and set up the system

Software development can start parallel to initiating working structures. As soon as the hardware installation has been done, setting up the development unit may not take longer than a week. This will include the set-up of a database for development activities (without the need to input actual data), a software development environment, and to get the staff acquainted with the environment.

It is important to define the 'technical environment' in which the system will operate. This should be based on the 'needs' of the system, i.e. minimum requirements – not on the latest technology or the preferences of the programmers. To minimize costs, free and open source software (FOSS) should be used whenever possible (i.e. for the database and the operating system).

The software development unit can be set up very rapidly, whereas the pilot project needs more intensive preparation. Site inspections are needed to compile checklists for a smooth installation, including adequate chairs and desks, a sufficient number of power outlets, planning of the LAN wiring or a tender for equipment. It is strongly recommended to check all equipment purchased, whether it complies with the tender specifications and whether all licences purchased are provided. Hardware and licence procurement should include service contracts that guarantee hardware maintenance and the update of development tools.

Small but important things should not be overlooked. Virus protection is frequently underestimated, or firewall protection between the computers and the Internet is forgotten. Parallel to procurement and office installations, the necessary customization of the software can be developed, tested and implemented for limited functionality within a timeframe of six to eight weeks.

Free Open Source Software (FOSS)

FOSS is distributed under a free licence that permits the users to copy, alter and redistribute the software without restrictions. The source code – the set of instructions that make up a computer programme – is made publicly available. Using FOSS has many advantages, it reduces for example the dependency on expensive proprietary technology, enables knowledge sharing and local capacity development, and promotes the establishment of local IT service providers.

3.5 Step 5: Data preparation, collection and initialization

Software cannot work without data. The necessary next step is to organize the process of gathering, processing and refining them. A concept of how to archive data and store them outside the 'living' system must be planned at the start of a project. Legal restrictions – how long data are allowed or required to be stored – should be evaluated and complied with.

The project team must decide how to include historical data (i.e. data on taxpayers that was collected prior to the implementation of iTAX). If a complete history of the taxpayer needs to be available (for legal or for statistical purposes), ways must be found to utilize the taxpayers files that already exist on paper or electronically. As older IT systems might contain inaccurate data, it should however be carefully analyzed whether an attempt to recapture the data while ensuring maximum data quality is worthwhile. Instead of entering the whole history of all taxpayers, it might be sufficient to record delinquent taxpayers only.

Data entry can be accelerated by hiring staff from outside the tax authority specifically for this task. For example, in the Philippines twenty students were hired to register all necessary real property data before the system was implemented.

Setting up a database is done in three steps. In the first step the database management system is installed, in the second step structures (tables) that will hold the data and parameters/rules for data computations are generated, and in the third step these tables are filled in with actual values and parameters. This process should be followed closely by the working group, as some tax or assessment rates might (sometimes unexpectedly) differ from region to region.

The different types of data necessary to start the system are:

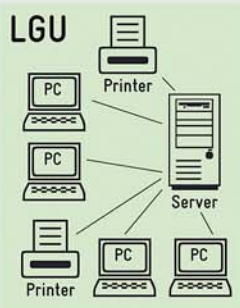
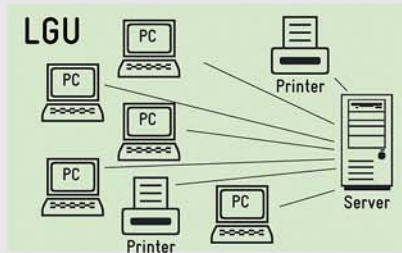
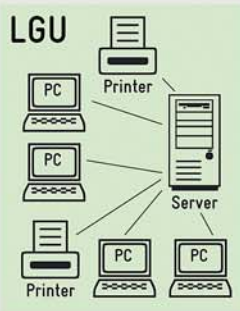
- data of the taxpayer and of his assessments and payments
- tables for parameters that change according to laws and regulations (e.g. rates for employment taxes, assessment levels)
- technical tables with parameters that do not change but use permanent demographic or geographical data from cities, regions, municipalities

The size of the databases will remain relatively small. For example, after almost five years of operation, the database in Tanzania (a Relational Database Management System – RDBMS) covered about 300.000 active taxpayers with a storage space of less than 20 GB.

System Architecture

Local Level

(Each LGU with iTAX Computer System has 1 Server, 4 – 10 Workstations (PCs), and 2 – 4 Printers)



Provincial Level

(One Data Processing Centre per Province)

Province
Data Processing
Centre

Distribution of Daily Tasks

In each LGU

- Data Entry
- Processing
- Data File
- Account Statements
- Reminders
- Reports

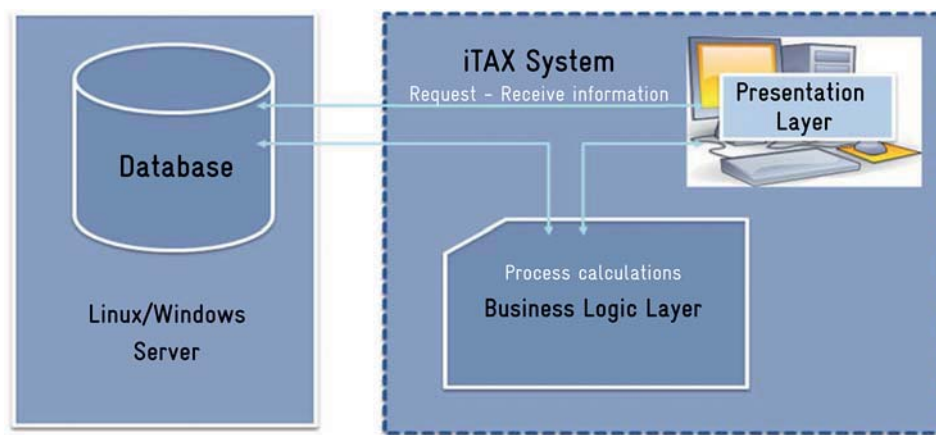
At Provincial Level

- User Help Desk
- Data Transmission
- Centralized Printouts
- iTAX Development
- Data Backup
- Programme Backup
- System Assistance

3.6 Required technical platforms and cost estimates

In general, different operating systems, databases, and development tools can be chosen. The picture below shows a classical design for a client-server solution and a 3-tier architecture.

A first estimate of the overall project costs (manpower, hardware, software, implementation, and maintenance) can only be done through a feasibility study. Costs for the investments in change management and business process optimization should also be included.



Client/Server-Approach

The following table lists the costs to be included in the planning of the project:

		Initial investment	Recurring costs
Software	Software development tools	Licences for GUI development, database development and documentation, documentation tools	10-20% of the original costs
	Tax administration software	In the case of iTAX there are no licensing costs, initial costs for customization can be found under Human Resources/Software Development	./.
Hardware	Workstations	Standard workstations are sufficient	Replacement every four to five years, additional maintenance for special conditions
	Infrastructure	Includes independent power supply, networking and routers or switches, as well as air conditioning and protection for the server	Replacement of the hardware components every four to five years, service costs for batteries in independent power supply units
	Server	Depending on the size of the project, includes storage material (external hard discs) and backup infrastructure	Replacement depending on the growth of the data, every four to five years
Human Resources	Project management	Three months international expertise to coordinate the project start	Gradually decreasing supervision and assistance over a period that depends on the results reached
	Documentation and business process analysis	Working groups for management of the software throughout the project; Initial training of at least two weeks by an international expert	Follow up training of up to five days per year
	Software development	Customization of iTAX Initial training on the job for at least three months by an iTAX software expert	Supervision of the software developers and the database administrator depending on success
	Maintenance	Identification and training of staff, in the beginning 'train the trainers' under the assistance of iTAX experts	Training of operating staff as an ongoing issue

4.0 Benefits of iTAX: the experience in Tanzania and the Philippines

iTAX is able to link local and national tax administration systems. It is adjustable and flexible to meet the needs of centralized and decentralized structures. There is evidence from two countries (Tanzania and the Philippines) that iTAX operates reliably in a local network as well as in a wide area network.

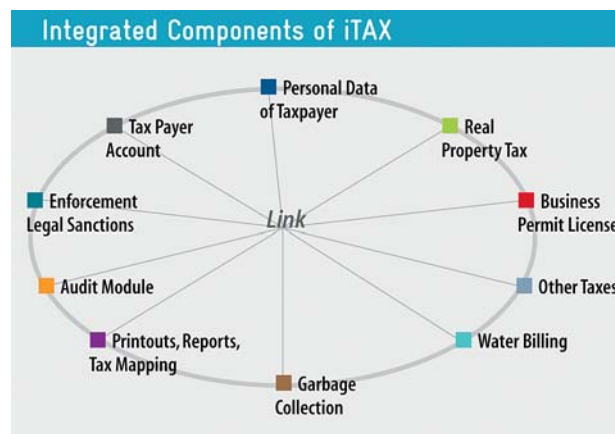
iTAX stands for the integrated tax administration system in general, whereas iTAX^{NAT} refers to iTAX used for national tax authorities (i.e. in Tanzania) and iTAX^{LGU} to the version for Local Government Units (i.e. in the Philippines).

Very large numbers of taxpayer accounts (e.g. in the Philippines there are more than 400,000 taxpayers registered in the iTAX system in the two provinces La Union and Negros Oriental alone) or registered real properties (e.g. in the province of La Union 243,096 and in the province Negros Oriental 446,458 properties) can be easily managed within the iTAX system.

Using iTAX results in reduced bureaucracy and accounting efforts. It greatly simplifies and facilitates data processing. Data security is much higher and tax data is more reliable. This, in turn, helps to improve acceptance by taxpayers.

An integrated tax administration system therefore results in the following improvements:

- better Tax compliance and lower compliance cost
- reduced administrative and collection costs, decreased need for personnel
- time savings for taxpayers
- transparency in assessment, collection, and related processes.



The establishment of a “one-stop-shop“ (all tax affairs under one roof) for taxpayers will again greatly enhance these benefits. The population’s regard of and trust in involved tax institutions will improve.

4.1 The Tanzania experience

“iTAX contributes to improved taxation by speeding up administrative processes, timely monitoring of taxpayers and their penalties and its interests, and increase of revenue and income. In 1996, TRA used to collect US\$ 25 million per month but this 2007, it collects US\$300 million per month. These figures show the significant increase of revenues. iTAX also enhanced efficiency, data security and even transparency of processes, release of staff from unproductive work, and possibility of electronic transfer and exchange of data with government and non-governmental institutions (e-government). Through iTAX, there’s a promotion of equity, communication with taxpayers, preventive impact on corruption and bribery, and impediment on tax avoidance and tax evasion. So, iTAX contributes to fair, effective and efficient taxation and increase on revenue, basically the TRA mission statement. Aside from this, iTAX supports TRA’s vision of becoming a modern tax administration.”

Ms. Christine Shekidele, on behalf of the Commissioner General, TRA Dar es Salaam, Tanzania (First international conference on Local Tax Administration, October 2007, Dumaguete, Philippines).

4.1.1 Project structure

Political will is an indispensable prerequisite for the sustainability of any reform. In the case of the iTAX implementation in Tanzania, the success was in part due to the inclusion of important political decision makers in the project. The steering committee (called “project board“ in Tanzania) is headed by the Commissioner of Income Tax (who later became the Commissioner of the Large Taxpayer Department). All other relevant stakeholders, i.e. the Commissioner of Finance and the Director for IT, are members of the board. The project board meets every two months.

A Kernel Team, as the mediator between the board and the working groups, meets more frequently. Members are selected by function and position and include regional managers (formerly Regional Revenue Officers), heads of the sections for accounting, assessment and collection, and the team leader of the IT development group. The working groups are divided into registration, assessment, and accounting teams.

The implementation of iTAX^{NAT} for all tax types in 2004 allowed the establishment of One-Stop-Shop tax offices. Within the regional offices, major taxpayers, who together contribute 70% of tax revenue, are combined into a large taxpayer unit, the Large Taxpayer Department. Other taxpayers are organized by blocks.

After the completion of the GTZ cooperation project in 2007, TRA has continued to use iTAX and to allocate resources for major improvements and additional modules of the package. Updating the software and infrastructure is an ongoing process. iTAX is regarded as one of the key elements in the establishment of a modern tax administration in Tanzania.

4.1.2 Financial benefits

In Tanzania, the Tanzania Revenue Authority (TRA) as the main tax authority is responsible for the assessment and collection of all inland taxes, such as:

- Value Added Tax (VAT)
- Salaries tax: Pay As You Earn (PAYE)
- Income tax
- Withholding taxes on interest, rent, gambling etc.
- Motor Vehicle Registration

Indirect taxes on goods and services are the major revenue base in Tanzania and comprise over 50% of the total tax revenue. Direct taxes on income and wealth are equally important, as they generate almost 40% of the total tax revenue. In total, taxes and duties collected by the TRA are the major source of government revenue in Tanzania (in 1996, they accounted for 85% of Tanzanian government revenue).

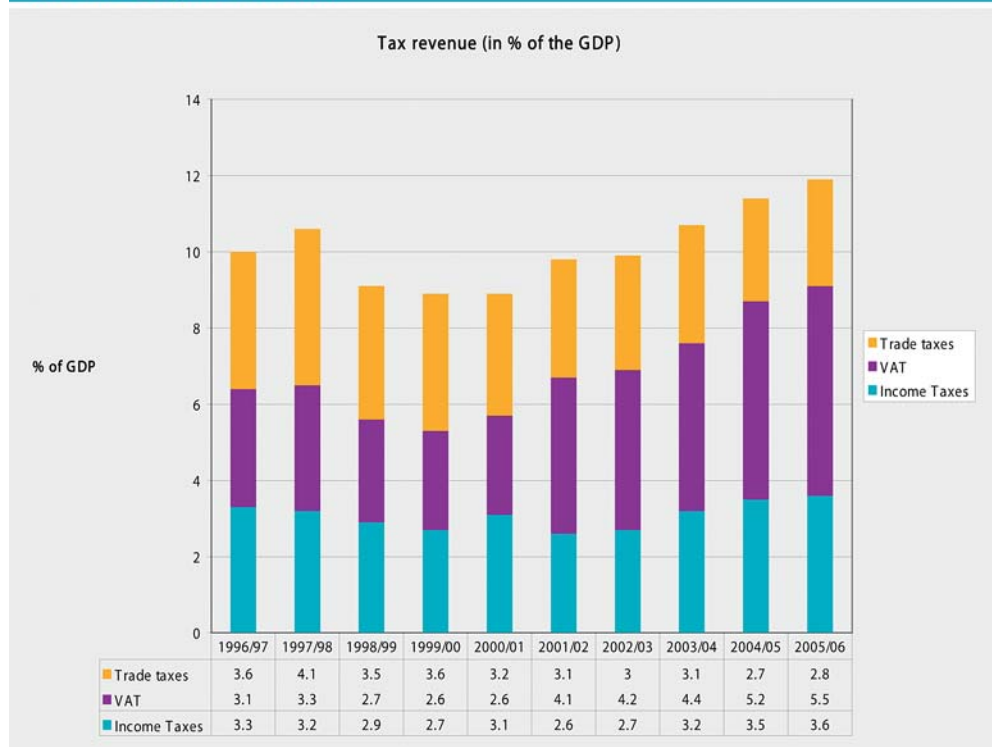
The TRA was established in 1996 as the successor of the former inefficient customs and tax administration. Although initially some progress towards a more efficient tax administration was made, shortcomings in the capacity and performance of the TRA soon became apparent. There has been an increase and stabilization of revenue, which was however predominantly due to improved tax collection and enforcement in the previously registered sector rather than to an expansion of the tax coverage to formerly unregistered businesses.

To address these shortcomings, GTZ supported the TRA from 1998 until 2007 in the development of more efficient, effective, and equitable tax administration processes. The introduction of an IT-based management system was seen as a key element for progress in this area.

iTAX^{NAT} was installed for Employment Taxes in 2002, in the Large Taxpayer Department in 2004, and implemented nationwide from 2004 onwards. Starting in 2004, VAT and other taxes were integrated into the iTAX^{NAT} system.

This integration and computerization of taxes enabled more efficient tax collection and enforcement processes. For example, the TRA was able to introduce computer assisted cross-checking of VAT receipts. Tax compliance increased considerably as

Tax revenue (in % of the GDP)



¹In the figures presented no information about local taxes is included. Figures are in percent of GDP. Tanzania's tax year begins on 1 July and ends on 30 June. Trade taxes include excise taxes. Data for 2005/06 are projected.

Sources:

1996/97–1999/00:

Fjeldstad (2003, 166);

2001/02–2002/03:

IMF

(2004b, 21; 2004a, 25);

2003/04–2005/06:

IMF (2006, 25).

Revenue Performance Indicators Tanzania, 1996/97 until 2005/06¹

taxpayers were informed of the TRA's ability to cross-check irregularities and to impose penalties in case of fraud. This led to a considerable jump of the VAT/GDP ratio from 4.4% in 2003/04 to 5.5% in 2005/06.

However, the number of taxpayers in absolute and relative numbers is still low in Tanzania. With a population of over 36 million in 2005, just 2% were registered as taxpayers under a taxpayer identification number (TIN). Of these roughly 600,000 registered taxpayers, a high percentage has obtained a TIN only for the sake of motor vehicle registration (which is only possible with a TIN). The number of actual and active income taxpayers is estimated at little over 300,000 in 2008.

4.1.3 Sustainability of the system

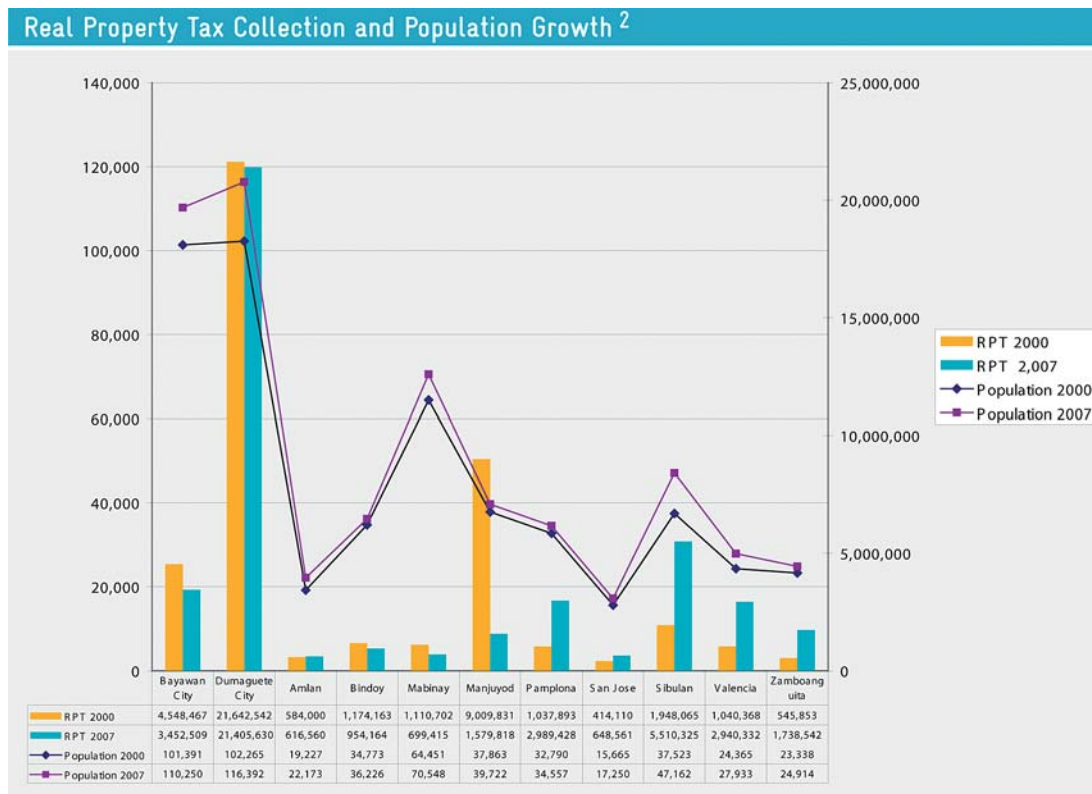
One of the successes of the iTAX^{NAT} project is that the developers and users within the TRA generally see themselves as “owners“ of the system. The working groups for the iTAX^{NAT} development still meet regularly and supervise the performance and future development of the system.

By now, iTAX^{NAT} is integrated into the training process of TRA. It is part of the curriculum of the Tax Institute, so introductions to the application of iTAX are available for the TRA staff. The use of iTAX^{NAT} has become standard in the offices.

4.2 iTAX in the Philippines

4.2.1 Local tax administration and the implementation of iTAX^{LGU} in the Philippines

In 1991, the Philippines began the process of establishing a modern decentralized administrative government structure. The objective was to create regional and local government units (LGUs) equipped with adequate revenue sources – especially through local levies such as the Real Property Tax or the tax on business licence permits. The existence and operability of these new administrative structures was supported and ensured by transfer payments from the national government. The transfer payments called IRA (Internal Revenue Allotment) initially constituted more than 90% of total local/regional revenue. After a certain transition period, local governments were meant to gain more financial independence. However, IRA, though originally considered as limited start-up finance, continued to become the dominant revenue source during the past fifteen years for most LGU budgets.



Part of a decentralization strategy has been to replace IRA by tapping the full tax potential of cities and municipalities. In most cases the Real Property Tax (RPT) has been the strongest source of internal revenue, but the collection rate is poor.

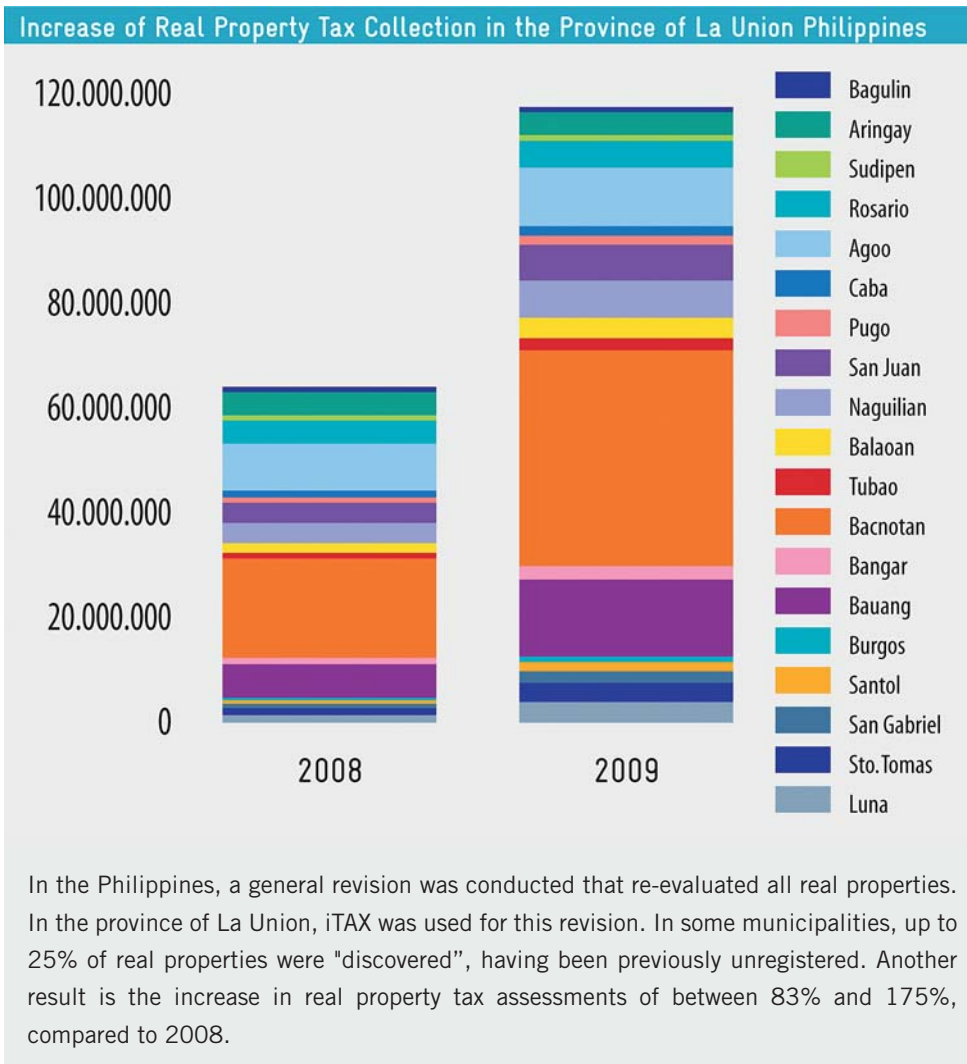
In the seven years before the introduction of iTAX, the collection of real property taxes in the province Negros Oriental showed almost no improvement. On the contrary, taking into account the inflation rate (of almost 40% in seven years) and the population growth (of up to 10%), in most municipalities and cities the revenue yields have decreased.

In this context, GTZ started a cooperation project with Negros Oriental to implement iTAX for tax administration in the province. The iTAX project helps improve revenue collection by facilitating tax assessment in general and by making it easier to determine delinquent taxpayers, to discover previously unassessed properties, and to control actual tax collection.

Software development began in February 2007. The system became operational in ten pilot municipalities between late 2007 and mid-2008. In July 2008, a second batch of municipalities in Negros Oriental joined the project. By now, all but one municipality of Negros Oriental are using iTAX and more than 400,000 real property units are registered in the database.

Several other provinces expressed their interest to engage in transfer projects (and Negros Oriental supports them in the implementation of the iTAX system). As the first such transfer project, the province La Union has almost completed data entry and iTAX is implemented and will be fully operational by the end of 2009. Other transfer projects in the provinces Misamis Occidental and Lanao del Norte have successfully begun. A business model for the offering of support to other provinces wishing to implement iTAX is under development.

² From: "Revenue Generating For Local Governments", Dumaguete, June 2008
by Ernst-Dieter Fuchs, Charmae Bajamunde, Jürgen Seelmann, Jerson Sala, Milwinda Guevara



4.2.2 Special characteristics of local tax administrations


Tax systems where tax authority and administration is distributed among regional or local governments require more attention. Therefore, IT-based tax administration systems like iTAX face additional challenges at the local level. For example, government responsibilities are often shared among different authorities on the state, province, and municipality levels. iTAX has to be adjusted to reflect these organizational differences.

As part of a GTZ program to support decentralization in the Philippines, iTAX^{LGU} was customized to fit the needs of local government units (LGU, i.e. provinces, cities, and municipalities) in the assessment, accounting, and collection of local taxes, fees, and service charges. These include:

- Real Property Tax (RPT)
- Business Licence Permits
- Citizen Tax Certificates

iTAX^{LGU} also helps in the streamlining of other processes. In the Philippines, the organization of electricity, water and garbage fees is quite complicated. Electricity supply has mostly been privatized and is generally handled by private companies. Water supply is managed either by the municipalities, by cooperatives, or in some cases by the province. Sometimes, the fees for water supply are even the major revenue position in a municipality. If garbage fees are charged at all, they may be charged by the municipality or by private companies.

iTAX^{LGU} is therefore available with additional modules beyond tax administration. It is able to handle accounting and collecting of fees for:

- 
- Water supply
 - Garbage collection
 - Mayors Permit

As an example, the water module can handle all processes related to the water supply like the administration of water ordinances, water supply contracts, registration for water meters, and billing for water consumption.

Another special feature of iTAX^{LGU} is the integration of a Geographical Information System (GIS). The mapping of taxpayers, or in this context the mapping of citizens, to geographical locations offers a wide range of additional possibilities for purposes like the planning of schools, health services etc.

4.2.3 Communications between local and central tax administration authorities

The integration of tax systems and the exchange of information between the different tax authorities by using the iTAX system streamlines processes and facilitates the creation of one-stop-shops for matters where both local and national authorities are involved, like the renewal of a business licence or the sale of a property. This not only creates benefits for the local and national tax administrations, but also for the individual taxpayer.

There is a particular demand for IT solutions for tax administration at the local level. Following the experience of the Philippines, the TRA in Tanzania has expressed interest to enter into a dialogue with their Philippine counterparts about the development of iTAX on the local level.

The integration of GIS into iTAX as implemented in iTAX^{LGU} is also an interesting area for further development and cooperation between the two countries and possible future partners.

5.0 The iTAX system and its main components

This chapter will concentrate on the iTAX components that are common to iTAX^{NAT} (in Tanzania) and iTAX^{LGU} (in the Philippines). Additionally, iTAX^{LGU} offers features specific to the needs of local tax administration and a Geographic Information System (GIS). This latter component will also be analyzed.

iTAX is centred on the taxpayer who is identified by a unique taxpayer ID (Taxpayer Identification Number = TIN). If the system is used for Local Government Units there might be the need for a local identification number (LTIN). For cross-checking purposes the national identification number is recorded in the local system.

5.1 Functions and components of iTAX

Unlike many traditional tax administrative systems that are based on a specific type of tax – which leads to many different systems for different taxes, resulting in data duplication and inconsistency – iTAX is an integrated system which can be customized to cover any tax and fee. It uses a function oriented approach which means it employs taxpayer oriented units that include all taxes (e.g. one assessment module for all taxes) rather than using separate units for different taxes.

The iTAX software is organized in modules in line with its basic functions.

These include:

- Registration of the taxpayer
- Assessment of his/her liabilities, processing of self assessments, verification of information
- Debit of those liabilities to his/her account
- Processing of payments
- Booking of payments to the taxpayer's account and balancing of payments with debits
- Identification of defaulters and organization of a systematic collection process
- Compilation of reports on revenue
- Preparation of documentation for legal enforcement
- Issuing of taxpayer information letters

To make iTAX function effectively, there are two important additional modules:

- Security Administration
- Parameter Administration (impact of legal and administrative changes)

Furthermore, the following secondary or support functions are available:

- Selection of audit cases, management of audits, and review of audit results and performance
- Handling of objections and appeals
- Electronic document and file handling as a movement towards paperless processing
- Taxpayer services (official tax forms are available for download on the Internet; electronic submission of these forms is possible)

Next, the different iTAX modules will be presented individually in greater detail.

5.1.1 Taxpayer registration

The registration module is used to register companies and individuals based on unique identification numbers. The registration module must be the first module in operation and taxpayer registration is the first process that should become operational. As explained, the gathering of data should be limited as much as possible and the update and verification of information must be possible from any module in the system.

Registration is facing at least three major problem areas:

- **Multiple registrations of the same taxpayer**

Multiple registrations are caused by negligence or by intent. Some taxes are related to thresholds or tax brackets, creating an incentive to minimize taxes by splitting some big businesses into several smaller units. Many tax authorities request that for motor vehicle registration the holder is registered under a TIN. This increases the number of registered persons tremendously and endangers the data quality, because the person concerned might register only with the intent of completing the motor vehicle registration and might register for another business separately with different data.

Negligence will also create a lot of obstacles for accurate, usable data. The composition of names, consisting of first, middle and last name causes erroneous entries; missing birth dates (for example, by default many people have July 1st as date of birth in Tanzania) make it difficult to differentiate between taxpayers with the same name. Tanzania intends to implement biometric methods to identify the taxpayer by his or her fingerprint, and hopes to decrease double entries in this way.

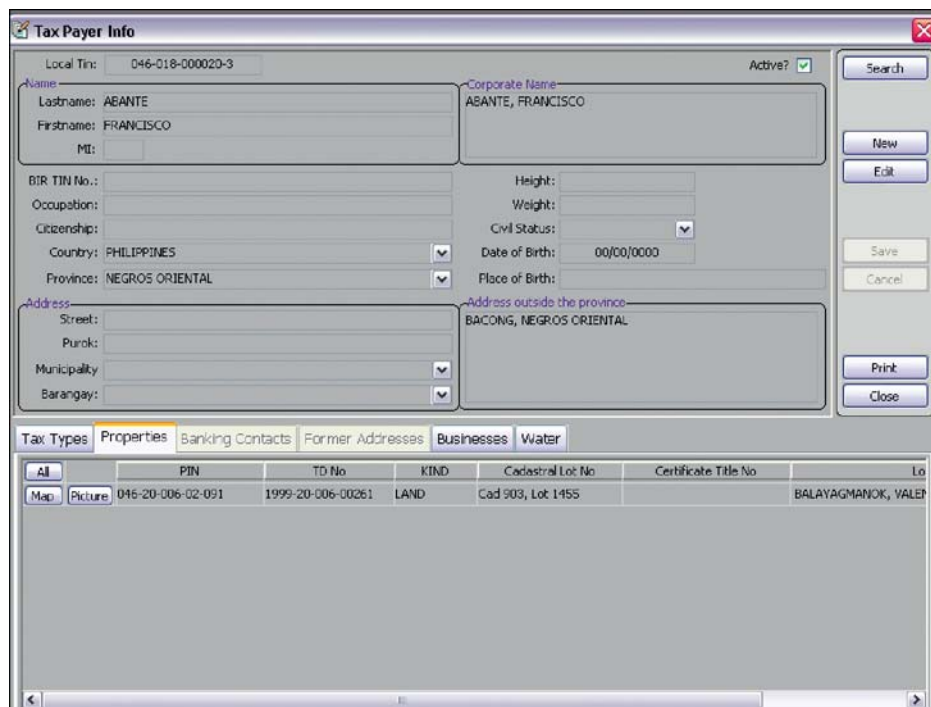
- **No registration information available for the taxpayer**

No registration for a centrally issued identification number is especially found in Local Government Units. The goal of iTAX is the registration of all taxpayers in the national database and the issuing of a national TIN for everybody. However, in the Philippines, only 20% of local taxpayers obtain a national taxpayer identification number from the Bureau of Internal Revenue (BIR). If the political will exists that all taxpayers or even all citizens should be registered under national TINs, incentives have to be created to encourage people to register with the national tax authorities.

Also, many tax authorities do not register employees, because the salary tax (“Pay as You Earn“ = PAYE) is a withholding tax paid by the employer. Normally, the employee then will not have the possibility to submit a tax declaration at the end of the year to claim back taxes.

- **After initial registration the information is not updated**

“Dead“ registration is keeping records of taxpayers in the system that are no longer active or are not any longer liable to pay taxes.



Taxpayer Registration: Screenshot from iTAX^{LGU}

5.1.2 Assessment, return processing

The assessment module provides a set of tools for

- Processing tax returns/ tax amendments for all domestic taxes
- Processing estimated assessments
- Processing all VAT returns and trader returns

Most of the assessments are Self Assessments where the return by the tax payer is accepted as official assessment. This applies for Value Added Tax (VAT), Pay As You Earn (PAYE), and withholding taxes on rent, capital gains, and dividends. Companies with a small profit or turnover are also subject to self-assessment. If a return is not submitted, an official estimated assessment will be issued by the system after due date. The assessment can be modified or amended in case of changes during a tax year or based on new findings about the business of the taxpayer.

The screenshot displays the iTAX software interface for a VAT declaration. The window title is "iTAX - [Value Added Tax Return]". The menu bar includes System, Cashier, Collection, Assessment, Audit, Taxpayer, Verifications, Reports, Accounting, Refund, Property Rate, Window, and Help. The form contains the following fields:

- TIN: 101-644-222
- VRN: 16-012152-J
- Year of Income/Assessment: 2007
- Taxpayer Name: RAFIKI (COFFEE) LTD
- Trading Name: [Empty]
- Branch: MAIN / HEADQUARTERS
- Tax Region: Kilimanjaro
- VRN Status: Active

Below these fields is a table with the following data:

Month	Amount	Amount Assessed	Declarator	Submission date	Status	Debit No
DECEMBER	6,954,282.20	6,954,282.20	WILLIAM MTANI	31-Jan-2007	Authorised entry	#20451266
NOVEMBER	8,792,718.99	8,792,718.99	WILLIAM MTANI	22-Dec-2006	Saved entry	

The VAT declaration table is divided into two sections:

VAT Declaration - Supplies of goods and/or Services

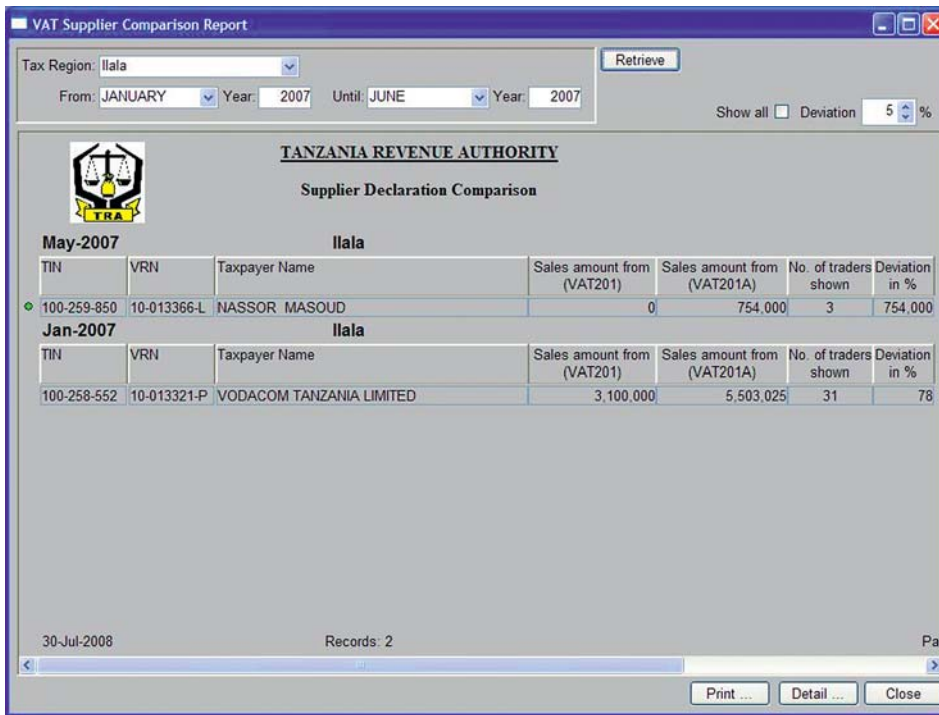
Supplies of goods and/or Services	Value (Excl. VAT)	VAT Rate assessed	VAT Amount assessed	Official VAT Rate	Official VAT Amount
Standard rated supplies	35,871,411.01	20.00	7,174,282.20	20.00	7,174,282.20
Zero rated supplies		0.00			0.00
Exempt Supplies		0.00			0.00
Special relief supplies		0.00			0.00
Total Output Tax			7,174,282.20		7,174,282.20

VAT Declaration - Purchases (Inputs)

Purchases (Inputs)	Value (Excluding VAT)	VAT Rate	VAT Amount	Official VAT Rate	Official VAT Amount
Exempt purchases		0.00			0.00
Non-Creditable purchases		0.00			0.00
VAT deferred purchases		0.00			0.00
Standard rated purchases	1,100,000.00	20.00	220,000.00	20.00	220,000.00
Taxable Imports		20.00			20.00
Total Input Tax			220,000.00		220,000.00

VAT declaration

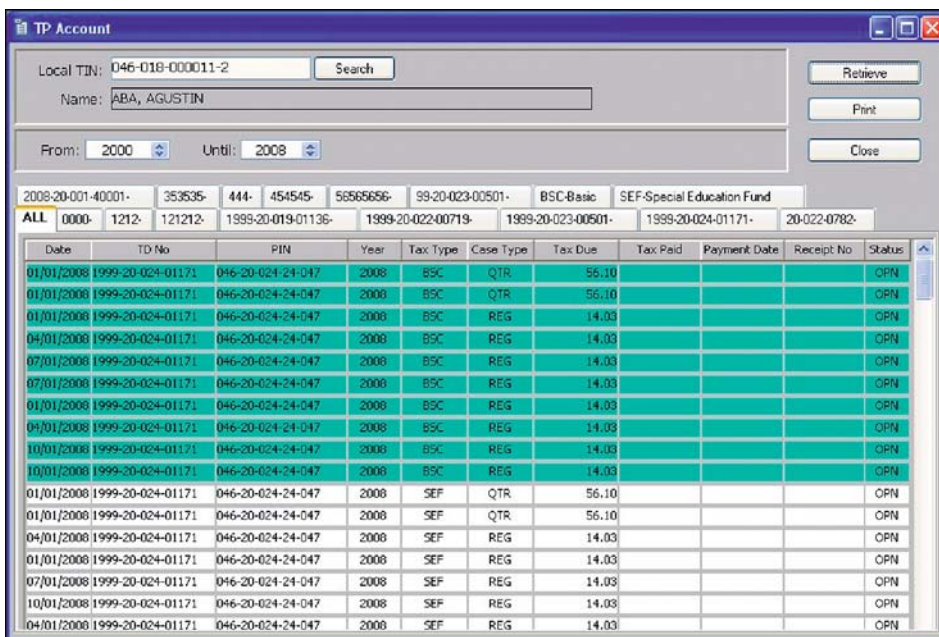
The form above shows the VAT return, which after authorization becomes the official VAT assessment. iTAX also offers the possibility to compare the tax submitted to TRA from the company which issued the invoice to the tax that was deducted by the recipient of the invoice.



VAT Comparison of Suppliers

5.1.3 Taxpayer account

The taxpayer account is the core of the system. In the window, shown below for the Philippines, comprehensive information about all tax payer activities is displayed.



Taxpayer account: Screenshot from iTAX^{LGU}

Additionally, specific taxes can be seen on separate tab folders. The time period to be displayed can be set, to allow customized printing of the account statement. The status of payments is indicated, so it can easily be observed which taxes have been paid and which payments are still missing.

Also available are a revenue control account and a general ledger. These additional displays are necessary to comply with the control requests of the Finance Departments.

5.1.4 Payments

Traditionally, taxes and fees are paid and collected in the revenue or treasury offices of the revenue authority. The cashier has to register the payment, the purpose of the payment and to issue a receipt. Payments are made using a pay-in-slip, which carries the necessary information to book the payment against outstanding debits.

In many countries, there is a tendency to abolish cash transactions and cashiers and to move all payment processes to commercial banks. At the commercial banks, the taxpayer pays cash to a specific account of the revenue authority. The drawback of this process are the complicated and error prone communication procedures between the taxpayer, the commercial banks, and the tax authority.

CNL	Payment Date	Amount	Value Date	Taxpayer
<input type="checkbox"/>	7/18/2008	54.40	7/18/2008	
<input type="checkbox"/>	7/18/2008	62.10	7/18/2008	
<input type="checkbox"/>	7/18/2008	130.00	7/18/2008	

Tax Year	Tax Dec. No.	Type	Tax Due	Pen/Disc	Total Due
2008	2001-20-010-00898	BSC	31.00	0.00	31.00
2008	2001-20-010-00898	SEF	31.00	0.00	31.00
2008	2001-20-010-00899	BSC	34.00	0.00	34.00
2008	2001-20-010-00899	SEF	34.00	0.00	34.00

TOTAL: 130.00

Entry of payments: Screenshot from iTAX^{LGU}

Within iTAX, these communications are greatly facilitated by using the same “Payment Posting” screen, as shown below, for payments at the cashier and for payments at the commercial bank.

One of the future areas for further development of iTAX will be the integration of a mobile payment service in cooperation with mobile service providers. Taxpayers will then be able to effect payments (especially small amounts) through their mobile phones.

5.1.5 Collection/Enforcement

Primarily, this module reconciles payments with assessment debits. After reconciliation has been completed, processes can be run to identify defaulters. “Defaulting” applies in cases of no submission of a return, late submission of a return, no payment, or late payment.

The system will issue reminder letters, demand notices, and propose additional enforcement actions. Fines and interest for late and non-payment are also computed and charged to the defaulter’s account. The rules for imposing interest and penalties do not require adjustment in coding, but simply customization of parameters.

The module includes functions for write-offs, if there is no way to recover tax arrears. iTAX also offers features to arrange for payment through instalments.

5.1.6 Reporting and statistics

The iTAX reporting module offers standardized reporting on a weekly, monthly, quarterly and yearly basis. Additional reports are available to compare actual tax collection with the revenue targets.

A detailed collection report shows collection in each tax region for any given period. For further analysis of the reconciled revenue, receipts are broken down according to tax codes.

Collection Report - Detailed

Tax Region: Ilala

Report Type: Custom Monthly Annual

Month: May Year: 2008

Retrieve Print ... Export Close

Show Performance Report Only
 Show Analysis Only (with title)
 Executive Summary

TANZANIA REVENUE AUTHORITY
DOMESTIC REVENUE DEPARTMENT
Ilala Tax Region

DETAILED MONTHLY COLLECTION FOR MAY 2008

B: PAYMENT THROUGH BANK (RECONCILED REVENUE)

1 COLLECTION ON OUR BEHALF

999999	WH (Capital Gain)		73,988,289.00
10202	Corporate Tax	Corporate Tax	2,564,420,459.80
50502	Excise Duty (Cigarette:		14,700,000.00
50409	Excise Duty Spirits	ED(Spirits)	255,872,654.00
10208	WH(Gaming Tax)	WH (Shipping)	237,016,463.48
10302	WH (Goods and Servic	WH (Goods and Services)	63,725,576.50
10303	WH(Insurance Commis	WH (Insurance Commissi	2,104,365.67
10304	WH(Bank Interest)		13,840,423.16
10301	WH (IRDM)	WH (IRDM)	69,976,955.70
50911	Motor Vehicle Annual F		242,795,000.00
50902	Motor Vehicle Driving L		55,558,320.33
50910	Motor Vehicle Fines an		2,312,750.00
50909	Motor Vehicle Plate Nu		482,000.00
40402	Motor Vehicle Transfer		43,910,361.03
50901	Motor Vehicle Tax		1,788,469,585.34
10101	PAYE	Government	2,325,289,200.20
10102	PAYE	Parastatal	428,108,478.95

Revenue reconciliation

5.1.7 Security administration

Certain iTAX modules are accessible only to specific security level groups. Each user belongs to a group that has a particular access level with permission to view or edit different data. Each group member may only use the files or displays associated with his or her work and capacity.

This security concept can be modified to be more refined if needed, including the possibility to write-protect or display only certain input fields, depending on the security status.

Security clearance is organized according to official capacity (e.g. manager, assessor, accountant). Managers will have reading access only, assessors will only be able to enter and edit data in their field of activity, accountants will be able to monitor and supervise all payment activities.

In addition to limiting possible user actions, all user activity is traced and logged for security audit purposes.

5.1.8 Parameter administration

Tax rates and regulations change frequently, for example to compensate for inflation. The iTAX module is designed in a way that legal tax changes and amendments can easily be incorporated into the system without having to change the program code.

Additionally, the database stores the history of tax legislation. Thus, values and key variables of new tax laws can be integrated even before the new legislation comes into effect, without interfering with previous and ongoing computation functions.

The example below shows how tax brackets changed over the years (top part) and which tax rates are applicable for the selected timeframe (bottom part).

The screenshot shows a software window titled "Tax Rates" with two main data tables. The top table lists tax parameters for "PAY PAYE" across various time periods. The bottom table lists tax brackets with support points, rates, and other details.

Tax Type	Valid From	Valid To	Firstyear-months	Secondyear-months	Decimals	Rounding Flag	Minimum-threshold	Basepoints No	Entrydate
PAY PAYE	01-Jul-1996	30-Jun-1999	6	12	2	0	20,000.00		11-10-May-2005
PAY PAYE	01-Jul-2007		6	12	2	0	80,000.00		5-27-Aug-2007
PAY PAYE	01-Jul-2004	30-Jun-2005	6	12	2	0	.00		12-06-Dec-2005
PAY PAYE	01-Jul-2005	30-Jun-2007	6	12	2	0	.00		12-27-Aug-2007
PAY PAYE	01-Jul-1992	30-Jun-1995	6	12	2	0	3,250.00		7-10-May-2005
PAY PAYE	01-Jul-2002	30-Jun-2004	6	12	2	0	50,000.00		5-10-May-2005
PAY PAYE	01-Jul-1999	30-Jun-2002	6	12	2	0	45,000.00		5-10-May-2005

Lower Support Point	Upper Support Point	Tax Rate (%)	Tax For Lower Sp	Region City	Country	Resident	Desc
0	80000	0.00	0.00	<no value>	Select Country	<no value>	
80000.01	180000	15.00	0.00	<no value>	Select Country	<no value>	
180000.01	360000	20.00	15,000.00	<no value>	Select Country	<no value>	
360000.01	540000	25.00	51,000.00	<no value>	Select Country	<no value>	
540000.01		30.00	96,000.00	<no value>	Select Country	<no value>	

Overview of changes in tax rates/brackets

5.1.9 Audit

The iTAX module for audit and risk analysis supports the selection of audit cases by generating a list of taxpayers, sorted by risk allocation. Additionally, it supports generating the audit business plan. The system prepares a notice to the taxpayer and records the time needed for the audit as well as the audit results. To each audit a narrative audit report can be attached. It also allows allocating human resources to audit cases.

Final audit reports summarize the findings of an audit, including revenue retrieved, and show the time needed to resolve a case.

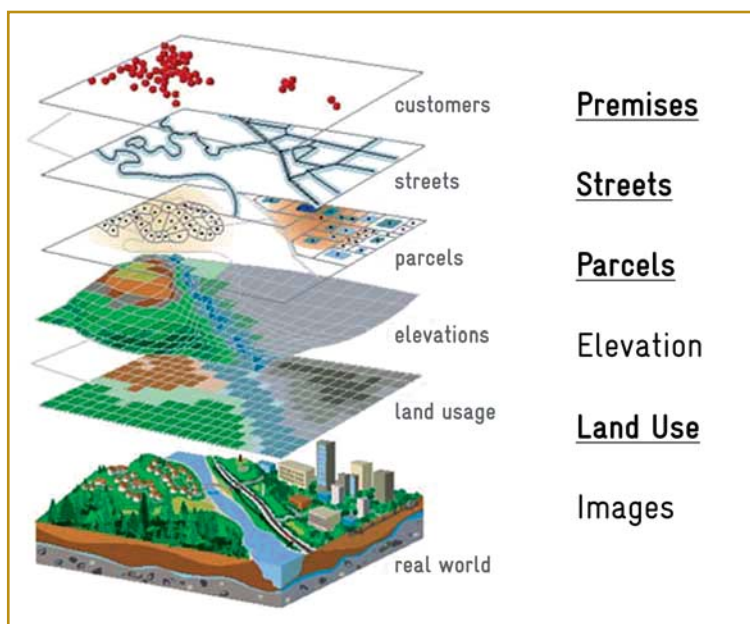
5.1.10 Objections and appeals

The ability to handle objection and appeal cases is a useful function for an integrated tax administration system. However, this module is not yet implemented. In Tanzania, where the number of objection and appeal cases is around fifty per year, the development of an objection and appeal module is included in the plan for the period 2008/2013.

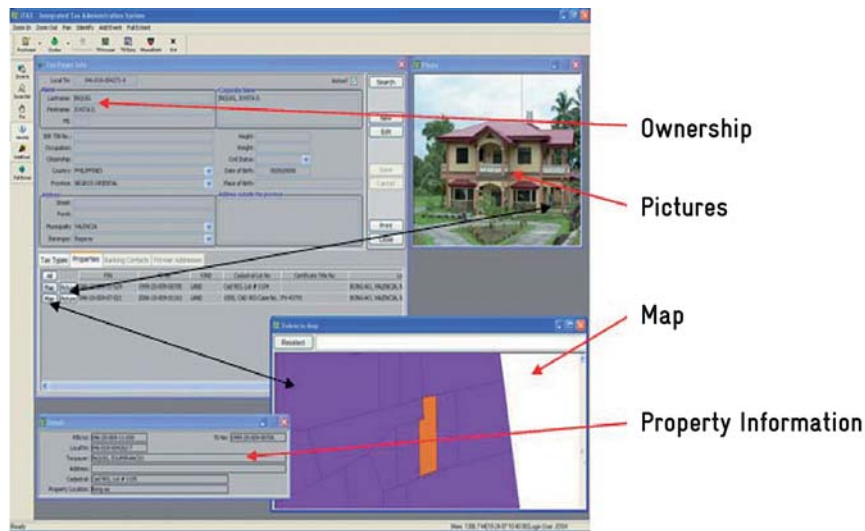
5.1.11 Geographic information system

Geographic information systems (GIS) integrate computer hardware, software and data for capturing, managing, analyzing and displaying all forms of geographically related information. “Tax mapping“ is implemented in iTAXLGU. It presents the tax payment data and transactions in graphical form, based on cadastral map print outs.

GIS differentiates six levels as shown in the figure below. In iTAXLGU, the levels for physical elevation and images are not used.



It is possible to generate special maps which show the type of land use as well as tax data (for example for the property tax). This way, the transparency of the valuation process of real property is enhanced and can be visualized. The use of GIS within iTAXLGU provides an integrated view of the taxpayer and his properties and leads to a more effective and transparent tax administration.



GIS used in the iTAX^{LGU} system: linking property, map and pictures

5.2 Copyright licence structure of iTAX

iTAX^{NAT} is a shared property of the Tanzania Revenue Authority and GTZ. TRA is entitled through a memorandum of understanding to install and distribute iTAX^{NAT} free of charge to any other country. GTZ is entitled to use iTAX^{NAT} worldwide. Both partners agreed to inform each other about any plans for implementation.

The customized software iTAX^{LGU} in the Philippines is a shared property of the Philippines and GTZ. Again both partners are entitled to use the software in a non commercial context. The cooperation project is on-going and iTAX development will continue. The Province of Negros Oriental will take the lead for further improvements and extensions and offer support for other provinces in the Philippines.

iTAX is a 'living' product. Copyright of extensions of iTAX should always be in the hands of both partners. Agreements should be prepared to make those extensions available for all iTAX community members, thus increasing the use of successful developments and multiplying benefits for all sides.



international tax compact

initiative to strengthen international cooperation with developing countries to fight tax evasion and tax avoidance