

USAID/Fiscal Reform Project
Workshop on IT Systems & Revenue Management in Developing and Transition Economies
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Workshop Proceedings Summary – Day 1

David Dod, Sr. Fiscal Advisor, USAID/EGAT – Introduction / Opening Comments

USAID grant-funding for customs/tax administration modernization has increased in recent years, and now runs at about \$20 million/year. This has been heavily concentrated in Kosovo, Afghan, and Iraq (our big state-building sites). Fiscal Reform is important as part of that state-building activity. I am recently back from Liberia, where it's certainly going to be part of our program.

USAID is a grant-making agency. In the fiscal area, USAID's focus has been on policy change and capacity building and funding for hardware and software has been relatively limited. The general objective has not been to raise revenues so much as to promote the efficiency and effectiveness of tax systems and ease the administrative and financial burden of the tax system on taxpayers. One reason for this is that the US is a low tax country and politically, it's unpopular for us to promote big government around the world, though USAID has no official policy on that issue. As a result and in recent years, most projects have been located in the transition countries of Europe and Eurasia, where the compliance burden has been especially severe.

USAID fiscal strengthening projects have had varying degrees of success. Two of the most successful, however, had major IT design/funding components. The first was in El Salvador, undertaken in the early 1990s (where Malcolm Lane, one of our speakers was integrally involved), which raised government revenues from 9% to 12% of GDP over four years. The second, in Kosovo, has helped the government there build a tax system from scratch and also has had significant impact on revenue performance. As a consequence, USAID is now paying closer attention to the IT side of tax reform projects as a key to success.

However, funding for economic growth programs has not been increasing a lot, so is there a reason why we should give more emphasis to this in future?

Globally, trends in government revenue performance suggest that we should place greater emphasis on tax reform and modernization in the future. Recent IMF-led research shows that trade liberalization over the past 25 years has led to a contraction in revenue mobilization. For instance, Keen and Baunsgaard (IMF, 2005) found that for low-income countries, as trade was liberalized and tariffs cut over that 25-year period, tax revenues fell from 13% to 10% of GDP. Upper middle income countries experienced similar declines, with revenues falling from 18% to 14% of GDP.

In light of these trends, are donors responding in the right amounts and ways to help partner countries rebuild/preserve their tax base? DFID, which used to be a major bilateral funder of tax programs, especially in Africa, has reduced assistance in this area. Other donors may need to pick up the slack. Among others, a number of MCC "Threshold" countries are now identifying fiscal problems and evaluating strategies for increasing revenue mobilization with MCC support.

Is Information Technology (IT) the ‘silver bullet’ to help accomplish this result? Prof. Graham Glenday’s recent research paper for the USAID Fiscal Reform Project on trade liberalization highlights 8 areas where tax administration systems need improvement—all include IT components:

- More effective identification of taxpayers;
- Less burdensome filing and payment requirements;
- Efficient audit selection;
- Competent & effective audits (Do IT systems help measure auditor performance?);
- Control of corruption;
- Efficient collection of tax arrears;
- Expanded use of computers in e-Gov techniques; and,
- Better monitoring of tax administration functions and collection costs.

**Sandra Hadler, Chief of Party, USAID/Fiscal Reform Project
IT Systems in Revenue Administrations – Past, Present and Future**

USAID has significant activities in customs and tax in some 35 countries, and smaller activities in many more. The US Treasury is working in similar countries and dealing with related issues. Among other donors, DFID is now focusing more on the other side of the budget - public financial management / public accountability; the EU is active, but focused more on harmonization programs for the new EU members; IDB is also active in revenue strengthening; World Bank has some 25 projects ongoing or in the pipeline (Russia and Ukraine are both around \$200 million) – with well over half to 2/3 of those costs for IT/BPR systems; and, the IMF has been a constant in all countries, and is giving increasing attention to IT, including a recent 13-day workshop in Rwanda.

Donors have been in this field for a long time. USAID has been in Egypt working on tax and customs for nearly 30 years. However, we have seen a change of focus: in the late 1980s, the focus was on tax policy; in the 1990s, focus shifted to administrative capability, including the concept of independent revenue administrations. In this decade, IT systems have become the focus.

Corresponding to the recent, gentler, kinder image of tax authorities, donors’ and governments’ objectives in tax/customs administration reform now center on: (i) Maximizing voluntary tax compliance - through improving quality of services to taxpayers; (ii) Minimizing non-compliance (avoidance/evasion) - through simplified procedures (rates/bands), audit, and enforcement. Both require strong IT systems – on the taxpayers side, through for instance, e-filing and websites; on the agencies side – the automation of core functions.

The way of the future is to have Ministry of Finance-wide systems in place for revenue.

It is amazing to look at the extent to which the U.S. tax system has become computerized. In 1987, roughly 13% of taxpayer returns were prepared on a computer; in 2003, this figure was at 85%. These trends can be seen even in non-OECD countries: Over 70% of returns in Singapore last year were filed electronically (using a wide range of incentives—volunteers to help with filing, discounts for online filing, etc.). In Chile, almost 100% of income tax returns are filed electronically.

In closing, IT in and of itself is not a panacea, and it has its consequences, including the impact on revenue administration personnel and their job security. However, IT also has clear benefits.

Richard Ainsworth, Boston University and General Counsel, Taxware
The Digital Ellipse: IT Systems & Tax Administration

Given the predominance of computer-generated and digitally-stored data worldwide, we now face the opportunity and challenge of finding digital solutions to tax problems. Traditionally, we have tended to visualize the tax process as *linear*: With the tax administration at one end; businesses in the middle (as withholding agents and taxpayers); and, individuals at the far end. In this linear relationship, businesses have been the main conduit for remitting taxes to government.

Should tax administrations automate only along *linear* lines? No! We need an *elliptical* vision. Tax data mainly flows between the tax administration, on the one hand, and businesses on the other. The goal should be to certify the software that allows this elliptical data flow. In this data exchange, the individual is primarily in a commercial relationship—as a purchaser of good and services, or as an employee of the business. The data that the tax administration wants to capture and be assured of its accuracy is in large measure coming only indirectly from the individual. The key (as a first measure) is to be assured that businesses data is accurate. If business is automated, the government should be highly involved in offering businesses relief from compliance burdens in exchange for their adoption of “government tested,” certified software products operating through proven secured facilities.

Consider the business point of view: A single business selling only in the US and Brazilian markets needs to deal with 13,176 taxing jurisdictions. In the USA alone, there are 7,588 retail sales taxes (46 states, 1,732 counties, etc.); in Brazil, the situation is similar. Businesses are highly motivated toward automation. Tax administrations should also be highly motivated to be certify that the automated business systems are accurate. The individual is the only one that is not necessarily motivated to automate, and automated processes for individual compliance have as a result have proven to be the most costly and difficult to implement. Businesses on the other had are anxious to participate today, and do so globally.

IT Decision Matrix: When a country is considering automating the tax administration and the elliptical data flows in Customs, VAT and Income Tax, each box of the following decision (cost-benefit) matrix must be considered.

	Tax Office	Taxpayer Interface	Taxpayer’s Software
Customs			1
VAT (RST)			
Income Tax	9		

From the perspective of IT and Tax Administrations, you probably want to be in all 9 boxes. The strategic question however is, if you cannot be in all boxes immediately, which box should we be in first? We need to segment the thought process. This matrix is arranged financially, running from top-to-bottom, and from right-to-left, from least expensive to most expensive. Thus, certifying business software in customs is the least expensive of the 9 boxes for a government to undertake whereas the most expensive would be the automation of a fully operational income tax department. An elliptical solution in a particular tax type however, would require the automation of all the boxes across that line.

Regressivity and the VAT: Governments typically respond to the perceived regressivity of VAT/Retail Sales Tax (RST) with “zero-rating,” exemptions - or other forms of tax relief. The regressivity question is involved with surgically allowing relief to the needy individual and not for example allowing it to, say, Bill Gates.

To accomplish this with current technology, we need to revisualize the problem. We are trying to adjust the relationship between the individual/purchaser and the business. However, VAT/RST information flow is primarily between the tax administration and the business. Thus, our goal is to selectively favor certain businesses-individual relationships. But our challenge is to find a mechanism that ensures revenue authorities that the business / individual relationship is effectively regulated. To this end, tax administrations must have effective audit control over the businesses systems that interface with individuals as well as effectively regulate taxpayer identification systems. Both systems are needed to ensure that only the poor person, and not Bill Gates, gets the exemption.

The issue is one of trust. Are we willing to trust that the business systems are determining, collecting and remitting the right amount of tax? Are we able to trust the individual identification systems that will determine who qualifies for an exemption? And finally are we able to trust how both parts work together to assure that the individual who qualifies for the exemption gets it?

Solution – Digital IDs: One option is to use national ID “smart” cards with biometrics. The functionality of the card would include qualification for “zero-rating” of selected transactions (by product code) with maximum monthly exemption amounts for basic foodstuffs, medical goods & services, clothing, etc.

National “Smart” ID cards of this type are already in place in several countries, including Italy (2001), Malaysia (2001), and Finland (1999). France, Germany, and the U.S. are scheduled to introduce these cards within the next two years, with potential functionality that goes far beyond identification.

These smart cards are used for much more than identification today. In Malaysia, they use a 32K chip; in Hong Kong they use a 64K chip to permit all kinds of verification functions from qualification for government provided health care to passports to parking permits. There is plenty of room on these chips for other functions as well—why not add a consumption tax attribute for the poor?

Why the growth in digital IDs? The trend is largely driven by post-9/11 security, not tax, concerns. After 10/26/05, newly issued passports have had to have biometrics (digital photos). However, why not put tax information there, too? Why not use this digital solution to administer targeted consumption tax exemptions for the poor?

Problems with Digital IDs: There are some security problems with the digital IDs. Radio frequency IDs (FRID) can be read from 22 feet away. Passport databases also still have some security problems. Additionally, some handicapped groups see the digital ID as a barrier to access. There can be fingerprint biometric distortions (e.g. from leukemia and breast cancer or cleaning materials). Weight gain and athletic activity can also throw off biometrics. However, unless the 9-11 type security concerns go away, it is reasonably certain that these issues will be addressed and resolved to everyone’s satisfaction.

Tax application: These digital IDs can be used to exempt the poor and simultaneously, make the VAT more progressive. The key is to ensure that the holder of the card is the same person to whom the card

was issued. This can be achieved through biometrics: digital photos, fingerprints, etc. US campuses use it today in dining halls, labs, libraries, etc.; the cost is only \$30-\$40/student.

Case in point: The Louisiana Government announced a statewide tax holiday from Dec 16th-18th 2005 to provide RST relief to Hurricane Katrina victims. The holiday applied to all consumer purchases totaling less than \$2500, excluding cars and restaurant meals. RST was also refunded for destroyed cars, agricultural and manufacturing equipment, and FEMA/Red Cross purchases. The relief was needed, for sure. The question is, was the relief too broadly given? Should all residents of Louisiana get a tax holiday because those in New Orleans desperately deserved it? With digital IDs, Louisiana could have better targeted the needy, and given **ONLY** them the tax break. With the money saved, it could have allowed more relief to be channeled to the needy, increasing the holiday limit for example above the \$2500 limit. A digital solution would be able to distinguish geographically and economically among people impacted, and effectively identify those who qualify for the relief. You could identify goods and services by product code for exemption.

Can consumption tax be an efficient instrument of social policy? When we adopt a *linear* vision, the answer is NO. When we adopt an *elliptical* vision (with a digital application), the answer becomes YES.

Discussion

Q/ The case for coping with individuals makes sense, but I worry with the RST about corrupt business abusing the system.

A/ There are two parts to the equation. First, you need to identify the poor person, because s/he qualifies for the exemption. Second, you need certified systems (between the poor person and the business—say, Walmart). If the tax administration sees that Walmart does not have a trusted system, it will not allow Walmart to zero-rate the transaction. If Walmart's system is certified, however, it gets the ability to provide the exemption.

Q/ The application of this model to developing countries is problematic, because you assume you can provide this automation to large retailers. That runs contrary to the objective of SME development, which is an important aspect of social policy in many developing countries. Unless you can find a way to engage small business in the system, you will eventually have to go back to the blanket exemption. Furthermore, the cost factor of implementing such a system in developing countries can be significant: Digital IDs would cost 8 billion South African Rand (2.5% of the country's revenue stream). That kind of bill is simply out of the question, even in a country which is relatively wealthy.

A/ SMEs do not have to bear the cost of this type of system. The state will pay (under the model used in the US Streamlined Sales Tax), assuming the SME can afford a laptop or a credit card swipe machine. If Digital IDs are coming, the chip has the capacity to add in the poor person's exemption. If the chips are there, you can use them at almost no cost..

Q/ In Guatemala, the tax administration has developed a system that allows diplomats to use a tax-exempted credit card. You can use the card at virtually any store, and it will be automatically exempt.

A/ That's good, it is exactly what we are proposing, although this system would work with cash transactions as well.

Q/ My first question is about ubiquity: we need a system with similar capabilities across the whole community. It needs to transcend the world, because systems will be cross-border and cross-country. My second question is one of maintainability: a taxpayer's status can change instantly; if those changes are not reflected immediately, the validity of the system is challenged.

A/ The poor person would have to go into the relief-determining agency system and update his/her qualification status on a monthly basis (much like is done today in the US for food stamps or unemployment compensation. This should be triggered against the transaction as the merchant system data-bases would be updated each month. It would be much like making sure your credit card was not overdrawn or expired.

Q/ That does not necessarily mean that the poor person is consuming what he purchases. We are talking about separate systems. Would the benefits be overwhelmed by a two-system situation?

A/ Right. The poor person could be buying stuff for Bill Gates, but some of this seems unlikely. We are talking about an exemption of 10 to 15% on the purchase of normally low cost basic necessities, health care products or other targeted relief items. The system would be capable of providing upper limits on exemption amounts (per month, per product type, etc.) if that was deemed necessary.

**Malcolm Lane, Professor and Department Chair of Computer Science at James Madison University, and Executive Director, BearingPoint
Improving the Efficiency of Tax Administration through the Effective Use of IT**

What should IT systems do?

- increase tax administration efficiency;
- provide better taxpayer service;
- improve compliance; and,
- increase revenue.

While IT is not the sole answer to tax reform problems, it is a critical component of the reform process. In projects USAID is involved with, we typically have the vision of where we want to go, but sometimes just having power, a telephone, and a clean room to run a computer can make or break a system. One example of where effective IT solutions have a huge impact is the California Franchise Tax Board Integrated Non-Filer Compliance (INC) System, where within a year, the entire cost was recovered.

Tax Modernization (Reform) vs. IT

- Economists: “It’s about tax reform, not IT”
- Techies: “But without IT, tax reform can’t succeed!”

Truth? It’s kind of like money—IT is not necessarily the most important thing, but it’s at least second to whatever is in place.

Tax Agencies: Are they different or similar?

Tax administrations are similar. One thing is for sure: there are significant challenges and problems in implementing effective software solutions for tax administrations. History can help determine best course of action. But for now, solutions need to be scaled to suit the situation at hand.

Quick overview of Evolution of Methodologies:

1965: In-house (silo) development
1981: Vendor customized
1988: Vendor (One-off) “reusable”
1998: COTS configurable
2002: ERP / CRM Based

Now: Prototyping rapid application development

Over the years, IT methodologies have evolved in response to innovations and to changing needs of tax administrations. From the early days of in-house silo development, we have moved from bespoke systems to Customized off-the-Shelf (COTS) and ERP/CRM-based solutions, and now prototyping rapid application development. In the early days, we needed to scale solutions to solve the most difficult problems. Yet despite constant innovation in IT arena, there remain significant challenges in implementing effective IT solutions for tax administrations. For example:

- “Pushing” technology: If you don’t meet the deadline, your credibility is lost (Indonesia).
- Too much, too soon syndrome: Managers set the bar too high, and the IT specialists work toward impossible targets (China).
- Limited funds, firm deadline (“short fuse”): Limited funds require the use of innovative solutions. (Malawi, Kenya, Egypt and El Salvador)
- Multiple attempts: Numerous donors try, but fail, to implement the “ideal” solution.
- “Guarantees for future failure”: When using proprietary systems, revenue administrations run the risk of undermining the system’s functionality by modifying source code on their own.

Sometimes, in order to overcome some of the above challenges, you need to be willing to scale down functionality. The tax authority may need taxpayer registration automated, but not collections right away. An audit system is great; but without automated data, it is useless. You can add functionality over time. To this end, you also need a project plan to determine the phasing of implementation. El Salvador is a good success case from the early 1990s.

Even where IT forms the main thrust of the project, tax specialists must be in the driving seat at all stages of design *and* implementation. If we are in it for IT’s sake, we will never have a successful tax administration. If the tax specialists cannot support the tax to be introduced or reformed, there is probably something wrong with the tax, and the problems will present themselves once implemented. Aside from this, information security is also far more important than it was a decade ago.

Building a Customized-Off-the-Shelf (COTS) system that is truly configurable poses additional challenges. Most projects begin with a single tax, developed with a particular customer, and funded by a particular project. Calling these systems ‘reusable’, does not mean they are easy to port to other taxes and jurisdictions. But, there are now cases of successful COTS solution implementations. We need to spend more time/money upfront making a prototype system totally configurable, starting by considering functions and then determining how to make the corresponding applications and translatable across systems.

What lessons have we learned?:

- Rapid application development can provide an initial (short-term) solution, particularly when a project budget is limited (could start with a previously developed solution). But, there must be a plan to migrate to the long-term solution. Integrated Tax Administration Information System projects are complex. It is best to avoid large-scale projects that are dominated by custom development or modifications.
- Use site visits or have solutions demonstrated prior to beginning an IT procurement or as part of the procurement process to validate each potential solution. Use PROVEN solutions. A

COTS approach is possible - recent history in the US easily leads one to believe that COTS solutions are available. But, subject matter specialists are needed.

- Don't implement a new tax if you can't support it. Otherwise, within two to three months, the publicity on the front page of the newspaper will be so embarrassing, it will undermine the whole process. If necessary, scale back functionality rather than deliver a flawed system.

In closing, one option that those in the Tax Administration/IT community could consider is developing a Tax Administration "Lite" solution – a system that supports a single tax; is simple; accommodates rapid implementation; provides desperately needed "front end" functionality for emerging market countries; and, can evolve to be incorporated into the solution provider's integrated tax solution.

Discussion

Q/ MCC is demanding tax system reforms in a 24-month timeframe. Where's the reality check?

A/ In Poland, the same thing was demanded (for IT systems) —only the deadline was 6 months. There are (IT) solutions in the US that have met this time schedule. If we had a good best practice model that could be used to get the practices into that country, perhaps you could meet the timetable. The key is to ensure that counterparts are motivated to meet these deadlines. Change management has to start from Day 1.

Comment: If you have functional systems in place, two years is possible. The Web-enabled cross-tax system (w/ a property tax module) in Rwanda may be worth modeling. The South African Revenue Authority has also made great strides in a short time span. In the case of some MCC countries, laws are archaic and need to be rewritten, so the tax reform timeline will be longer.

Q/ In Indonesia in the early 1990s, the US-IRS was there to support reforms to the tax system.

However, widespread corruption, and obstacles posed from within the tax administration itself, caused the project to fall well short of its objectives.

A/ In many countries, you're going to have intentional sabotage. Validation helps. When you can prove through the system that transactions were changed, it helps cut down on corruption.

Luc de Wulf, World Bank - The Use of ICT in Customs Administration

Reliance on ICT is not a choice but a necessity in the tax field. You need integrity, speed, and transparency. That said:

ICT should not lead reform: Implementation of ICT must follow process simplification. Starting out by building IT systems, without first considering the processes and functions of the organization, has delayed project completion in many countries and at high costs (e.g., Russia, \$170 million; Vietnam \$70 million). ICT people often have a vision, and know what ICT can do. But many times IT people don't understand nuances. The Steering committee may have IT people; but should never be led by them.

What are the benefits of using ICT for Customs? ICT is the handmaiden of customs modernization. No customs service or tax service can operate in a full manual manner. Some of the benefits of ICT include:

- Better control over international consignments: Customs may need to verify VAT rebates applicable to outgoing consignments, or check that they conform with customs regulations.

- Controls over exemptions and duty suspension: Major revenue leaks are difficult to control unless you can automate Customs data.
- Reduced cargo release times: The World Bank Doing Business report indicates that release times can be very long. While these figures may not always be wholly accurate, it does take too long to release cargo. ICT can help streamline the flow of documentation, make inspections more transparent, etc.
- Closer cooperation with other border agencies: A single-window is the ideal.
- Better risk management. ICT allows the trader, commodity, and tariff profiles to be recorded and monitored. Even a trader that does not pay his VAT can be tracked.
- ICT also improves non-core functions, including human resources, financial and technical resources.

These are all benefits, but not all countries are fully capitalizing on the potential benefits of an integrated ICT system.

ICT use evolves with customs practices: There are 4 stages of ICT use:

- ICT replicates manual processes;
- Risk management becomes part of customs management; information on trade facilitation is collected; and some information is exchanged with other government agencies;
- Heavy reliance on ICT; “authorized” traders input and self-assess; and,
- Customs are part of full trade logistics chain with trading community connected in an electronic network; single-window may be adopted, (Customs is seen as one agency at the border – immigration, health services, veterinary services, standards can all pull together, as in Singapore, Mauritius, Ghana).

Implementing ICT requires a Strategy: This strategy must reflect a desire / need to change. Good ICT implementation must be complemented by associated changes to legislation; a review of organizational structure, personnel needs and management policies; revised cargo clearance policies; and, enhanced operational procedures. Given the change management requirements of any customs modernization, it becomes clear why ICT specialists should not steer the reform process.

A Steering Committee can provide leadership and responsibility for the reform. The MOF should be part of the Committee, and operational staff should be at core of committee. The Steering Committee will oversee strategic planning for the reform, to include defining objectives; undertaking a gap analysis (not only for IT, but also HR, business processes, etc.) to consider the needs of the whole operation; and, defining a strategy to fill the gap.

Once the strategy is defined, project planning is key to the success of the reform process. You need to identify who is responsible and accountable; procurement mechanisms and procedures need to be in place; and, the timetable needs to be realistic. The Ghana single window took two years to implement. Had it been subject to a tighter deadline, it would not have worked.

Does one use a pilot basis? Morocco and Ghana both did the airport first, then the border posts. Pilots may be good for small systems.

Build your own or off-the-shelf?: Build-your-own systems are feasible and expensive - Morocco and Senegal are good examples. In older systems, source code was not made available, so institutions were dependent on vendor providers. Moreover, build-your-own solutions are often developed by IT people in isolation, without intimate contact with operations people.

COTS solutions are attractive for a number of reasons. There is portability. Systems are largely the same from one country to the next. Usability is explained in a systematic manner. Many come with ongoing support services. But, COTS systems do have their disadvantages. For one, they are not as cheap as they appear to be, and implementation is still expensive. Maintenance and assistance can be slow and costly. Source code not always provided. And, certain systems don't have all the modules that countries need, leading to additional costs when those modules must be custom designed. For example, Bangladesh adopted the ASYCUDA system, but the risk management system was not adequate for their anti-corruption needs, nor did the drawback or temporary admission systems meet the necessary standards.

Finally, evaluation is critical in project implementation. During the process of developing and deploying the system, you need an effective monitoring system.

Selecting an IT system is a difficult task. How does one evaluate different systems? The World Bank has developed a strategy for evaluation that it can disseminate to determine an appropriate IT solution, based on intensive questionnaires and interviews with solution providers. The evaluation criteria include implementation, software, costs, resources, architecture and other issues.

Conclusions: First, ICT is costly. We cannot overestimate the needs for life cycle budgeting. Often, it is a four-year program and that is it. For a few years, the system will work. After three to four years, the system breaks down or fails, and it becomes a major maintenance problem. A few countries charge an IT service fee to cope with the cost of maintenance, but even when this exists, there is the risk that the MOF will see that pot of money and divert it to other uses.

Second, ICT is too important to be left to technicians alone. Building effective systems is both a technological challenge as well as a management challenge. Customs will only be as good as its human resources. But, to be able to attract top talent, we must be able to pay them.

Discussion

Q/ I have a concern about the “single window” in the context of developing countries. It is all very well to use the example of Singapore; but in reality, the single window requires an infrastructure and buy-in from many stakeholders that is difficult in most countries. What is the view of the Bank in terms of financial resources required for a single window? Who owns it: the banks, the stakeholders, the shippers, the carriers, etc? Who should own it, and how does that financial model work? And, is it right to have a charge a fee for upkeep?

A/ Ghana wanted to be the “single window” for West Africa, thinking that if we are not playing this role, we will be overtaken by other ports. Customs was not very efficient at that time, and they had no vision. They created a corporation with SGS holding a 55% share; banks got 15%; the port got 15%; and, traders got 15%. They appointed a manager, got World Bank money, and SGS put in money as well. They also charged a fee. Still, Customs was in desperate need of modernization. They did put a customs management system in, but the HR resources were still not there. This was a \$5 million project over 10 years, but still there is more work to be done.

Q/ Under what circumstances does the Bank allow sole-source (not tendering)?

A/ We have to jump through legal hoops, but Bank money has been used on a sole source basis. ASYCUDA was created over 20 years ago, and was the first system to run on microcomputers. Since ASYCUDA is not a commercial operation—it is run through the United Nations—it is in no position to run for tenders, so they must have a direct contract from the Bank.

Bear in mind, though, that ASYCUDA is simply a tool. When you install it, it can give outstanding results in some cases, poor results in others. One third of the 90 countries have produced very good results; one third are not too sure the results are there. It is not the system, but the political will behind the system that determines its success.

Q/ The issue for most developing countries is not with technology. Skills and governance are often the key missing components. This is often a severe challenge even in middle income countries. In some cases, you may be better off with an old manual system because of the skill deficit. Meanwhile, at the procurement end, there can be major problems as well. At least in South Africa (SARS), IT vendors have been integral in some of the biggest corruption scams in the country. Given security and other concerns, you therefore end up with very long and torturous procurement process. SARS is now entering the final stages of a major scanner tender, which due to security and corruption concerns, has taken 2.5 years. By the time the scanners are finally deployed and on-line, it will be 3-3.5 years. That is how long it takes if you go the correct procurement route.

A/ The tender you refer to is part of a \$500 million project—so no small deal. South Africa is a model for ensuring value for money. They're slow, but they're doing it well.

<p>David Hesketh, Director, Business Development, Crown Agents – Capacity Building in Customs Modernization</p>
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This presentation focuses on the capacity building aspects of customs, particularly as the role of customs shifts away from revenue collection as trade liberalization lowers duties around the world. Here we take the view of the Director General—a strategic management perspective. While IT is not the focus here, the case for better strategic planning and organizational development necessarily includes IT.

In the early 1990s, an evaluation of international training in customs found that virtually all of the training was worthless. Why? The requirement for training/IT should be generated from the organization itself, yet customs administrations were not actually performing as organizations. There was no strategic management. There was no business sense. Around the same time, customs modernization programs began to develop—in line with World Customs Organization (WCO) standards—now focusing more heavily on capacity building, organizational development, institutional development, and the role of senior management in running the organization.

Strategic Development Model: Customs must be driven by government policy. Ministers must understand this, as should heads of customs, tax, health, etc. Out of 166 WCO members, 130 countries have severe problems with this. Governments must also grapple with external demands that put a strain on customs operations. For example, WTO requirements are totally unrealistic for many cash-based developing economies where there is no capacity to undertake sophisticated post-clearance audits.

Overall Operational Strategy: Customs will contribute to macroeconomic growth and stability by:

- Facilitating compliant trade;
- Collecting optimum revenue;
- Tackling non-compliant trade;
- Assisting with national and international trade security; and,
- Providing timely and accurate management information such as trade statistics.

Overall development strategy: You cannot do everything with the resources you have at hand.

Lessons learned:

- No capacity building project will work without leadership and management.
- Need to identify problems and analyze them against strategic priorities.
- People matter: It's about changing institutional, social behavior and building commitment. Managers and staff alike must be prepared to make and maintain their investment.
- External stakeholders are key drivers. If you can convince shipping agents that you can cut clearance time from 7 days to 7 hours, you will get their buy-in.
- High-level political commitment should also be regarded as an essential external "driver."
- You cannot reform customs successfully on a narrow technical or single-issue basis.
- Nothing will work unless you get the right financial and human resources.
- Management plans and other project management tools are essential to successful reform.

Wendy Osmond, Vice President, IT Products and Marc Kamel, Director, Business Computing, CRC Sogema
SIGTAS: Standard Integrated Government Tax Administration System

CRC SOGEMA began working with fiscal reform projects some 20 years ago, in Haiti in 1987. In working with revenue agencies, they adopt a complete reengineering approach addressing fiscal reform, institutional reform, legislative and regulatory review, automation, redesign of administrative systems, organizational reform, training, and communication.

Their system, SIGTAS, was designed and built in 1995-1996 for the members of the Organization of Eastern Caribbean States. A team of local and Canadian experts first pilot tested in Dominica in 1996. In 1999, a multi-lingual version of SIGTAS was produced for Mali and in 2004, the first web-based version was produced. Currently, SIGTAS has been implemented in Grenada (1999); Belize (2000); Kosovo (2001); East Timor (2002); Ethiopia, for VAT (2004, now implementing for all taxes); and, Madagascar (2005). Rwanda's SIGTAS system is presently in the implementation phase, while Senegal's is at the specification stage.

SIGTAS is a fully integrated, comprehensive, and centralized management tool for tax administration. It is designed to increase operational efficiency, enhance taxpayer service, ensure data integrity with data validation and a solid database design; restrict sensitive transactions, optimize decision-making, and, integrate seamlessly with other mission critical-government systems and statistical sampling tools. It is customized for each country.

SIGTAS uses the Oracle platform, but also works in Linux and Windows. It is customized for each country. It is scaleable. It supports all tax types. It supports multiple tax centers. It supports up to three languages at the same time for tax officers and an unlimited number of languages for the taxpayer. It supports most tax law changes (penalties, interest, tax periods) with few or no programming changes. It has a user friendly interface with a standard look and feel.

SIGTAS' functionality covers several modules, including:

- Tax roll: unique ID, handles individual and business; stores current and past information on taxpayers.
- Assessment: allows printing of tax assessments; automated calculation of payment and interest; etc.
- Cashing: captures payments and produces receipts; does automatic distribution; generates bank deposit slips, etc.
- Collection: case management, arrears management; identifies non-filers and late-payers; sends automatic notifications, etc.
- Audit: audit selection criteria based on risk, ratios, return data, enterprise type, random, date of last audit, etc.; set-up and follow audit plans; open, close and track audit cases; capture and analyze financial statements.
- Objections (appeals): captures objection details; track steps of objection; records the result; monitors impact and efficiency of objection activities.
- Physical files & document handling: all documents and files have unique numbers and barcodes; file monitoring system, etc.
- Reporting: generates reports for all modules; allows varied selection criteria; generates special management reports.
- External System Integration: working mostly with ASYCUDA. Customs, government accounting systems, TIN systems, banks, external collection systems, etc.
- System Administration: set-up for base tables, tax forms, and tax period calculation rules; security and role set-up; penalty and interest set-up and calculation rules.
- Accounting: tracks and records all transactions (payments, debits); tracks budgets; handles refunds, etc.

Specialized modules include:

- VAT: enables automated carry-forward VAT credits; refunds; etc.
- Property Tax: property and owner registration; property valuation; links with GIS systems for valuation data; tax assessment and notice production.
- Driver's license and vehicle registration: tracking fees, transfers and miscellaneous fees, etc.
- E-filing: View liabilities and payments on Internet; file online; view returns online; update registration information, etc.

SIGTAS Implementation Methodology: SIGTAS implementation abides by the widely accepted software implementation cycle, beginning with analysis of requirements before proceeding to design, development, and implementation. The analysis phase (Phase 1) encompasses a review of current laws and policies, organizational structure, business processes, existing hardware and software, and the

client's automation objectives. From this analysis, a project charter is developed, outlining the scope of customization (required adaptations to SIGTAS), plan and milestones, equipment acquisition strategy, required training, and organizational change requirements. This phase generally involves three weeks on-site, then report drafting and presentation, and requires a team of consultants including a legal expert, business analyst, system analyst, hardware and communications expert, and a database administrator.

The design, development, and implementation phase (Phase 2) encompasses typically requires 12 to 24 months (depending on scope), and includes: detailed functional and technical specifications; newly designed operational manuals; training (programming staff, tax officers, etc.); programming and testing; implementation; user documentation; and help desk setup. The fully customize and installed SIGTAS system is then pilot tested before deployment countrywide.

Discussion

Q/ 40% of revenue is coming from customs; 55% from VAT and corporate and personal income tax from large employers. The rest comes from other taxes. What is the scalability of SIGTAS? Can the system be scaled up?

A/ Ethiopia is perhaps an example of a “large” country, relative to others, where SIGTAS has been implemented. You need to look at the country as a whole. Is the architecture appropriate for a small decentralized country, but not for a country that has decentralized regions? It is not about making one database very big; but about how functionally you administer taxes.

Q/ External system integration: Have any countries used your system to tax movable property?

A/ Nobody has asked for this, but it is probably possible.

Gilles Brault, Rwanda Revenue Authority, IT Advisor, on behalf of Rwanda SIGTAS Implementation in Rwanda

In 1998, the Rwandan Government established a semi-autonomous revenue agency – the Rwanda Revenue Authority (RRA) – to assume responsibility for assessment and collection of all taxes and customs duties. Solid government support, committed and focused leadership, clear business objectives and preparedness to change as well as cooperation from key stakeholders, coupled with flexible and focused assistance from DFID, were all contributing factors to the success of the new agency.

Since its inception, the RRA has sustained strong revenue performance despite consistent reductions in duty and tax rates. It successfully managed the introduction of VAT in 2001; decentralization of certain tax revenues in 2002; and, shifting of the payment function to commercial banks. Over the years, the RRA also managed the move from a “tax head” to a functional organization approach, established a Large Taxpayers Department, and improved partnership with all stakeholders. The agency continues to focus on building staff capacity, and to this end has taken steps to set up a tax training institute. Since 2004, RRA has been implementing ASYCUDA++ for customs management with a planned roll out to key border stations in the near future. For the border stations, many of which

lack electricity and basic communications infrastructure, they are implementing satellite communications and solar power to compensate. RRA has implemented SAGE since 2003 for finance and administrative matters (HR, payroll, finance, etc.); implemented e-doc software; developed specialized audit software; developed new processes for computerized systems; and, overhauled tax legislation. In the process, it has increased imports and improved clearance rates. From 1996 to 2006, tax revenue as a percentage of GDP grew from 10% to 14.9%; and, from 1998 to 2006, revenue per employee doubled.

A key lesson learned in Rwanda is that software itself is not enough. In fact, software solutions have only recently been introduced as part of the modernization process. Major efficiency gains were already being realized prior to the IT work as business processes and capacity were systematically enhanced. With the new IT systems coming on line, further major efficiency gains are now anticipated.

There were also significant hurdles along the way. Bringing stakeholders on board was a challenge, as was the presence of a large and growing informal sector. Strengthening the audit and investigation functions presented additional challenges, as these functions rely heavily on data, which had to first be collected for at least a full year before they could be used effectively. And, economic integration and fiscal decentralization posed further challenges.

**Luc Pugliatti, IT R&D Director, Crown Agents -
TRIPS: Total Revenue Integrity for Customs Modernization**

Crown Agents comes to software not from the perspective of a technology supplier, but as an international development firm. All work is with the public sector, all clients are governments. In fact, Crown Agents first entered the software development realm through its projects in customs and tax modernization. Still, software is usually not the primary component of its work, but a part of the process of capacity building.

The TRIPS (Total Revenue Integrated Processing System) platform includes TIMS, I-Seal, VIPS, and CS-DRMS. TRIPS integrates customs and revenue systems and leverages the integration of information to improve voluntary compliance, reduce non-compliance, and enhance service delivery of the revenue authorities.

The TRIPS system provides a tool to assist in the process of transition, using technology that can be implemented in a phased process. TRIPS can use information from a legacy system, but also serves as a platform on which to build the new, integrated system.

TRIPS assumes that IT should support the process of the business change, not the other way around. It is a multi-language system, and can be implemented in both centralized and decentralized systems.

TRIPS is built on an Oracle platform, through which it can integrate with the full expenditure, budget and forecasting system. The system supports multiple languages, is fully scalable to support small and large taxpayer bases, and can be implemented in both centralized and decentralized systems. TRIPS is also web-enabled in areas where it can be used to provide citizen/taxpayer services. Taxpayers can have access to the integrated system without the need for face-to-face contact with the tax administration. Through Oracle, TRIPS can integrate with the full expenditure, budget and forecasting system.

How TRIPS works in practice (system demonstration): TRIPS uses the TIN (taxpayer ID number) as the key instrument of taxpayer identification control, but is flexible enough to allow for use of other taxpayer identifiers (e.g., tax-specific ID numbers) until the revenue authority transitions to a single-TIN system.

All information is brought together in a single environment, whereby the entire revenue authority and the taxpayer population have relevant information at their fingertips through that single system. So, for example, a tax or customs officer anywhere in the country can view tax transactions and other taxpayer information and send periodic / ad hoc notifications to taxpayers, and taxpayers can easily access information concerning their tax standing through web-based facilities, at any time.

The system has built in risk management criteria that focus revenue authority resources on revenue-maximizing, compliance-enhancing efforts. On the customs side, the system is designed to follow the customs taxpayer / filer through the sequence of events involved in a customs transaction (from point of origin to import and delivery to domestic destination). The system also includes applications for intelligence gathering, management and communication. All relevant information is made available in easy-to-access format so that tax or customs officer can do his/her job better.

TRIPS is designed to be flexible and customizable for each country in which it is implemented, without the need to re-program the entire system. In that sense, the system is “COTS”, but rather than building a *customized* off the shelf system, the system is developed with a maximum of local configuration to meet the needs of the local institutions.

Discussion:

Q/ Can you drill down in the system to identify the individual performance of, e.g., a tax auditor?

A/ Yes. The system can capture all such information.

Q/ Is the intelligence system purely a profiling system, or does it have risk rules behind it to help you to target cases?

A/ The intelligence system does allow you to build in risk rules which can be triggered, and will send instructions to the responsible office to take action as needed.

Q/ Which countries have implemented the system you have presented today?

A/ The current version of the system was brought out toward the end of 2004. Different combinations of this version have now been operating in three countries—St. Kitts, Ghana, and Lesotho—and Crown Agents is beginning to deploy the system in Guyana now as well.

Q/ What is the average time it takes to get the first tax “live”? And, then, how long does it take to get the second tax up and running? Bear in mind that donors work within short time frames and often under severe budget constraints.

A/ The process ranges from Gap Analysis to development of implementation plan to deployment and pilot rollout. It depends on the complexity of the transition, the policy change / legislation needed, change management requirements, etc. It is impossible, from a “standing start,” to implement such a system in a year or less.

Q/ Do the COTS vendors that have presented today hand over the source code for the systems that they help implement? And, if the domestic revenue authority subsequently modifies the system and changes the code, does this jeopardize their ability to upgrade to a newer version of the system in future w/out starting from scratch?

A/ CRC Sogema does hand over the source code, with the caveat that the client is not permitted to give or sell it to any other party. Crown Agents is more wary of handing over source code, but will in some circumstances put the source code in escrow for the client to access in case of need. Among the vendors, there is no definitive position on whether modifying the code will jeopardize upgradeability down the line. But, it is clear that ownership and sustainability of the IT systems and their functionality hinge on this issue. If it is not about building up the local skill and know-how, then “the rest” will never materialize. Senior management plays a critical role in this regard..

Q/ If the systems work and they generate revenues, then why don't the revenue administrations place more emphasis on maintaining the systems?

A/ Any country has huge pressures on its fiscal resources. Money will always go to where the political priorities lie. Given this, it is very difficult to choose between paying an IT company for a service contract, on the one hand, and investing in new schools or hospitals on the other.