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Strengthening IT Systems for Property Tax Reform

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Introduction

The introduction of improved IT systems has long been hailed as a powerful – potentially transformative – tool for strengthening local property taxes. Yet in practice this promise has rarely been achieved on a sustainable basis in Africa, despite significant investment. The challenge lies in understanding why new IT systems have failed to deliver promised benefits, and in devising more effective systems and strategies moving forward.

The Potential of IT Solutions

In principle, there are powerful reasons to believe that improved IT systems may dramatically improve property tax administration. This is not to say that manual systems are impossible: many countries outside Africa have historically operated successful property tax systems without strong IT systems. However, the potential for IT systems to help overcome capacity constraints, improve data management, streamline administrative efficiency, reduce corruption and improve transparency is substantial.

At the core of effective property taxation is building and maintaining a property tax registry. This requires processes to quickly identify and value newly-identified properties, and to update the value of existing properties. This is a repetitive process that can be accelerated by new technology, to facilitate computer assisted mass appraisal (CAMA) – the use of technology to automate aspects of property identification, data collection and the production (and verification) of property values based on that underlying information. This can, in turn, also systematise the revaluation of properties over time, and monitor potential failures to do so. In contexts in which local property numbering and local maps are often inadequate, systems integrated with Geographic Information Systems (GIS) – or simple GPS

African Property Tax Initiative (APTI) – supporting robust, policy-relevant research to boost wider use of more effective property tax systems in Africa

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coordinates – can simplify identification of new properties and generate property maps with broader value for local governments.

Once properties are valued, the key tasks facing administrations lie in ensuring consistent tax billing, recording payments made, and tracking tax defaulters. Again, IT systems have a powerful potential. Tax bills can be automatically generated for all properties, payments (whether direct or through third parties) easily recorded, and tax defaulters automatically identified and tracked. Basic data on tax collection, missing revenue, tax arrears and the like can be generated automatically – this may, in turn, facilitate enforcement and generate internal and external pressure for public action. This automation can substantially simplify the system for both administrators and taxpayers.

New IT systems can also improve the monitoring of potential abuses and increase public confidence in property tax systems. Automated property registries can automatically identify properties for which values have not been recently updated, or appear undervalued or overvalued. IT systems can track data entry in order to flag any changes to valuation or payment data, and identify abuses. By automatically identifying defaulters, such systems can increase pressure for uniform enforcement of property taxes – perhaps the greatest challenge facing existing systems. And in all these ways the greater transparency of IT systems can potentially expand public trust in the fairness of tax collection.

Critically, these potential gains are not merely theoretical. There are some existing examples – from Sierra Leone, Malawi and Lagos State, Nigeria among others – of rapid improvements in administration and revenue where such systems have been successfully implemented.

Why IT Solutions So Often Fail to Deliver

However, while improved IT systems have sometimes been successful, it appears that IT reform initiatives have more often failed. This failure has taken many forms: (a) reluctance to implement new systems, (b) failed attempts at implementation, and (c) implementation that has begun successfully, but been eroded over time. These failures have been driven by a series of relatively common factors.

Politics

The reform of IT systems is fundamentally political. Initial enthusiasm for tax reform, driven by the promise of new revenue, can give way to increasingly organised opposition from those threatened by reform – most notably among larger property owners, but also smaller property owners who fail to see public benefits from property tax revenue.[1] Key gains may be eroded: weakened valuation processes, the elimination of transparency, the removal of data controls, and the undermining of procedures for identifying non-compliers. In more extreme cases reform may never begin at all, as senior government officials fail to see a sufficient political pay-off from challenging property-owning interests. Meanwhile, in some cases central governments may intentionally or unintentionally undermine political support for reform – they may be resistant to expanded local fiscal autonomy, while poorly-designed systems

[1] Prichard, W. (2017) *Linking Property Tax Revenue and Public Services*, ICTD Summary Brief 13, Brighton: IDS.

of intergovernmental transfers may undermine incentives for local collection and reform.[2]

Inadequate systems

IT systems are only as good as the property tax system itself. An effective property tax system needs to successfully integrate a series of interconnected functions: at a minimum, identification of properties, assessment and valuation, billing, payments and monitoring compliance. Equally, it often needs to achieve effective coordination and cooperation between different agencies and levels of government.[3] Where existing systems are inadequate, IT systems are unlikely on their own to produce significant improvement. Yet anecdotal evidence suggests that the introduction of new IT systems is often undertaken without reforming broader systems, including excessively complex valuation processes, a lack of clarity about land tenure and ownership, inadequately trained valuation officers, problematic relations between central and local authorities, inefficient billing systems, and weak enforcement processes.

Complexity of IT systems

A defining feature of many property tax administrations is sharply limited capacity. This is particularly true where property taxes are administered by local government, which may have very limited IT skills. It may, however, remain relevant in many central government administrations as well, particularly among frequently manual valuation departments. IT systems – particularly when imported from abroad – may fail to reflect the needs of these end users.

> “reliance on IT solutions developed or maintained internationally, or with highly complex functionality, may simply exceed local affordability unless costs are shared widely.”

This includes the need for simplified systems and interfaces, and for hands-on training programmes that are tailored to the learning styles and needs of local staff. Tax officials and valuation officers with limited education and IT skills can learn to operate local IT systems – but only if systems and training are tailored to their needs, and reflect basic infrastructural limitations of many local government settings, including intermittent electricity, basic and unreliable computer hardware, and weak internet connectivity.

High costs

Property taxes in Africa, with the partial exception of capital cities, are generally defined by limited revenue potential owing to the low incomes of taxpayers. Even relatively effective property tax systems are unlikely to generate more than 1 per cent of GDP in revenue – often only $5 per capita or less outside capital cities in many countries. As such, reliance on IT solutions developed or maintained internationally, or with highly complex functionality, may simply exceed local affordability unless costs are shared widely.

[2] Goodfellow, T. (2017) *Central-Local Government Roles and Relationships in Property Taxation*, ICTD Summary Brief 12, Brighton: IDS.

[3] Ibid.

Sustainability

Even where these challenges are overcome in the short term, reform programmes may prove unsustainable over time. This may take several forms:

- Political resistance to reform efforts may crystallise – and become mobilised – as the cost to taxpayers of improved collection becomes clear.
- Complex systems may be viable in the short term while extensive external technical support is available, but may collapse once that technical support is removed.
- High-cost systems may be manageable in the short term thanks to donor support, but the cost of maintaining those systems may be prohibitive once donor support disappears.
- External providers of technology may lose interest in projects yielding limited revenue, leaving local governments without a means to support and update existing systems. This can be particularly debilitating when underlying source code is inaccessible to governments.

In all cases the cost can be enormous, as governments are left with expensive and ineffective IT systems, and broader trust in the potential for reform is eroded.

Coordination

IT reform efforts have often been hurt by a lack of coordination and support at the national level where property taxes are administered by local government. Central government may, ideally, facilitate sharing experience and common action across localities, offer financial and technical support, and seek to enable local authorities to make necessary process changes. The absence of such support appears likely to contribute to higher costs, a lack of sustainable technical

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support, limited oversight and political support, implementation bottlenecks and difficulty in identifying appropriate systems. This is not to say that reform needs to be driven from the national level: the quest for a single IT solution, adopted at the national level and deployed universally, can lead to endless delays. Instead, the challenge lies in offering coherent support for local initiatives, and scope to extend benefits to a wider range of localities when successful initiatives are identified. Notably, uncertain donor support can exacerbate these problems – anecdotal evidence suggests that in at least some cases donors have supported small pilot programmes, only weakly coordinated with central government or other localities, while they have lacked the long-term focus needed to scale up local successes. One consequence of this lack of coordination can be the emergence of systems that cannot ‘speak’ to one another within and across levels of government, complicating efforts to share data.

Imperfect implementation

Even where systems are well designed, fit for purpose and enjoy political support, they may be undermined by poor implementation. A particular concern is reform programmes that do not allow adequate time for reform to be implemented, do

not provide for hands-on training of staff, or do not respond to local constraints. For example, successful implementation is likely to require beta testing at the local level and some initial iterative learning, with a corresponding need for multiple minor amendments to software functionality over time. Likewise, while reform programmes often provide extensive technical documentation and formal training sessions, officials with limited IT expertise generally most need continuous on-the-job training, which is both longer-term and labour-intensive. Where IT reform is happening alongside broader reform of property tax systems it may be necessary to phase in elements of the IT platform, accompanied by recurrent training and adjustments. It may also be necessary to phase in IT systems in ways that reflect local capacity and local political constraints. Finally, a key test of new IT systems may occur when initial staff move to new roles, with a corresponding need for reform programmes to maintain support for long enough to support these transitions.

What Can Be Done?

While there is no magic bullet for achieving successful IT reform, it is possible to point towards useful lessons for reformers.

Link IT reform to broader reform

IT reform is unlikely to yield meaningful and sustainable gains unless it is accompanied by a rationalisation of broader systems for managing the entire process of property tax collection. Among them:

- Implementing low-cost, rapid valuation processes. Even where property taxes are centrally administered, building local valuation capacity, linked to new IT systems, may be valuable.[4]

> “A focus on simplicity and local appropriateness is critical, reflecting the limits of local capacity and resources.”

- Putting in place clear data management protocols, predictable billing practices and effective enforcement mechanisms.
- Generating clearer links between revenue and spending can be critical in building a long-term political basis for reform.[5]

IT reform can be a catalyst for broader system-wide reforms, but is unlikely to be successful without these broader reform efforts.

Simplicity and local appropriateness

A focus on simplicity and local appropriateness is critical, reflecting the limits of local capacity and resources.

- This may, again, require the simplification of valuation systems that often appear too complex for local implementation, resulting in incomplete and out-of-date property rolls. IT systems can facilitate computer assisted mass appraisal by incorporating GIS functions, automating simple formulas for valuing properties based on their measurable characteristics, and generating billing information.
- It equally requires simplified IT systems. Anecdotal evidence suggests that many

[4] Zebong, N., Fish, P. and Prichard, W. (2017) *Valuation for Property Tax Purposes*, ICTD Summary Brief 10, Brighton: IDS.

[5] Prichard, W. (2017) *Linking Property Tax Revenue and Public Services*, ICTD Summary Brief 13, Brighton: IDS.

proposed IT systems have functionality that significantly exceeds local needs. This may undermine reform by raising costs, increasing the risk of system failures and complicating the system for users. There may be a case for modular systems with a core functionality that handles only the essential needs of property tax administration, using highly simplified interfaces. These could then be extended with new modules as capacity develops, or in larger municipalities.

Cost-effective (and locally-managed) solutions

The cost of implementing *and maintaining* IT systems must be consistent with the long-term resources realistically available to governments. Even if software itself is costless, there are likely to be significant costs associated with training, updating and troubleshooting software, data hosting or other recurrent fees. Particularly where property taxes are administered locally, even $1,000 expenditure annually may be a meaningful share of available revenue.

Cost control is likely to have three parts:

- *Simplicity:* governments should avoid paying for complex systems that exceed local capacity or needs.
- *Local ownership:* reliance on local software providers where viable may reduce costs, while better tailoring support services to local needs. If governments rely on international software platforms, local firms may be contracted as partners to provide training, updating and troubleshooting support. More ambitiously, local software development may further reduce costs, as local IT capacity in Africa is expanding rapidly.

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- *Economies of scale:* national governments can play a key role in seeking to support the adoption of similar systems across localities to spread shared costs, through facilitating sharing experience, seed funding and technical support.

Emphasise sustainability

The sustainability of reform programmes may be threatened by both political and technical factors, requiring distinct but overlapping strategies.

- Politically, a conscious strategy to construct political support early on may prevent the progressive emergence of political opposition. This may be achieved, for example, by strengthening the links between revenue and spending, improving communication and transparency around tax payments, identifying strong reform champions locally and nationally, and by training local staff to implement the programme, rather than relying on external actors whose commitment may be temporary.
- Technically, sustainability may be threatened where systems are too complex or too expensive, as described above. Sustainability may also be threatened by staff turnover, or inadequate plans for long-term upgrading and maintenance. Training is not a one-off exercise, but must be continuous to build a cadre of trained

individuals who can step in as more senior staff move on. Meanwhile, clear plans need to be in place to manage upgrading and management of software over time. A particular risk is that governments may be 'locked in' by original software providers who lose interest, become unresponsive or raise prices. It is correspondingly important that governments have access to – and capacity for managing – underlying source code in the case that software providers withdraw.

Long-term, responsive and hands-on implementation

It is essential that implementation plans provide the necessary time and space for iterative learning and software updating, for phased implementation that fits local circumstances, and, perhaps above all, for hands-on training of local staff over time. This requires donors and government to avoid viewing IT reform as a simple process of providing software and moving on, but instead as an iterative process of implementing reformed systems and upgrading human resources and capacity.

Coordination across levels of government

Where property taxes are primarily the responsibility of local government, support from central government can play a critical role in reducing costs, improving technical support and training, supporting broader adoption, and ensuring sustainability. It can also ensure coordination between central and local agencies involved in property valuation and taxation, in order to avoid conflicts and delays. Where property taxes are managed primarily by central government, close cooperation with local offices can be critical to designing systems that are sustainable and consistent with local capacity and needs.

"With IT capacity expanding rapidly across Africa, local providers may – in at least some countries – be able to provide solutions that are technically robust, but also lower-cost and better-suited to local needs than those solutions provided by traditional providers."

The possibilities of local and open source software

Cutting across the challenges facing IT systems for property tax administration are potentially significant opportunities to rely on local software providers, using open source solutions. With IT capacity expanding rapidly across Africa, local providers may – in at least some countries – be able to provide solutions that are technically robust, but also lower-cost and better-suited to local needs than those solutions supplied by traditional providers. Where such solutions are built on open source platforms, they may in turn offer potential for learning across borders, while strengthening incentives for continuous training and support. Exploring these possibilities is a priority for the African Property Tax Initiative.[6]

[6] Prichard, W. (2014) *Using Local IT Solutions to Improve Local Government Tax Reform*, IDS Policy Briefing 58, Brighton: IDS.

Further reading

Goodfellow, T. (2017) *Central-Local Government Roles and Relationships in Property Taxation*, ICTD Summary Brief 12, Brighton: IDS

Jibao, S. and Prichard, W. (2016) *Rebuilding Local Government Finances After Conflict: Lessons from a Reform Program in Post-Conflict Sierra Leone*, Journal of Development Studies 52(12): 1759–1775

Prichard, W. (2017) *Linking Property Tax Revenue and Public Services*, ICTD Summary Brief 13, Brighton: IDS

Prichard, W. (2014) *Using Local IT Solutions to Improve Local Government Tax Reforms*, IDS Policy Briefing 58, Brighton: IDS

Zebong, N., Fish, P. and Prichard, W. (2017) *Valuation for Property Tax Purposes*, ICTD Summary Brief 10, Brighton: IDS

Credits

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