

CHAPTER 3

DEVELOPMENT LOGIC and WHERE THE “SYSTEM” of LAND ADMINISTRATION FITS in

3.0 Introduction

3.1 Common ways of showing development logic

3.1.1 The Logframe

3.1.2 The Theory of Change

3.2 Assumptions (Explicit and Implicit) in LA Projects

3.3 Indicative Inputs, Activities, Outputs, Major Assumptions & Outcomes for each LA Operational Entity

3.4 Where the “System” of LA fits into the development logic of the logframe

3.6 Key Points

Tables

3.1 Some characteristics, examples, and consequences of a “system”

3.2 An illustrative logframe for the IDA task of removing a backlog in the LR and keeping it low

Figures

3.1 Example of a logframe template

3.2a Another representation of the development logic

3.2b A high level example from Land Administration

3.3 Where the “system” of LA “fits” into the development logic of the logframe.

3.4 Illustrating feedback loops within the system & between outputs, the system, outcomes and impacts.

Annexes

A Example of part of a logframe for a LA IDA project

B Example of part of a Theory of Change diagram

C Shows many of the (implicit) assumptions underlying the development logic

D Illustrative examples of inputs, activities, outputs, outcomes, impacts and major assumptions for each LA operational entity. Parts that comprise Annex D-

- A - First Recording of Private Land/Property Rights (FRR) into a Government Land Registry (LR)
- B1 -Improve the operations of an LR
- B2 - Develop an LIS (land Information System)
- C - Implement/ improve a LVTS (land valuation & land tax system)
- D - Implement/improve a LURMS (Land Use Regulatory and Management System)
- E - Implement/ improve a MIS (Municipal Information System)
- F1 - Implement/improve a RGL (Registry of Government land)
- F2 - Implement/ improve LVRS (land valuation, land & land rent system (for Government Land))

E Abbreviations used

CHAPTER 3

DEVELOPMENT LOGIC and WHERE THE “SYSTEM” of LAND ADMINISTRATION FITS in

3.0 Introduction

In Chapter 2 it was noted that there are a number of operational entities in LA (land administration) and that IDA (international development assistance) has been provided to improve particular aspects in most LA operational entities.

The *purpose of this chapter* is to: -

- Briefly indicate the common way of showing development logic
- Show typical examples of activities, outputs, outcomes, impacts, and assumptions for each of the operational LA entities
- Indicate where the “system” of LA fits into IDA project development logic, and the characteristics and consequences of including the LA “system” into the development logic
- To introduce feedback loops

It is not the purpose of this chapter to provide an in depth treatment of development logic as much literature exists.

3.1 Common ways of showing development logic

Two common ways of showing development logic are the Logframe (logical framework matrix), and the Theory of Change.

3.1.1 The Logframe

Many IDA donors and development banks use the logframe as part of the design process and project documentation. Jensen (2013) provides an easy to read guide.

A logframe concisely summarises: - *inputs* into a project (human, financial etc.); *activities* to be undertaken; results expected and how measured; *assumptions* made. Jensen (2013) provides an example of a logframe template as shown in Figure 3.1.

Figure 3.1

1. Intervention Logic	2. Objectively Verifiable Indicators	3. Sources and Means of Verification	4. Assumptions
1. Overall Objectives/ Impact			
2. Specific Objective/ Outcome			
3. Expected Results/ Outputs			
4. Activities (and processes)	Means/inputs		

Red shows UK (DFID) terminology, while blue is that of EC.

Figure 3.2a shows another representation of the development logic (Warren K (2017)), and in Figure 3.2b examples of inputs, outputs etc., for LA administration by the author.

Figure 3.2a



Figure 3.2b A **high level** example from Land Administration

• Personnel (expertise) • Funding (\$s) • Equipment	• Record property rights & boundaries • Reduce backlogs • Strengthen Institutions • Improve land policy, laws, procedures • Increase staff skill levels	• Land parcels titled • Women's rights in land recorded • Land Registry (LR) records upgraded • Land valuation & tax system operational	• Increase in tenure security • Reduction in land disputes • Reduction in informal fees • Increase in property transactions recorded in LR • Titles held in the LR accepted by formal lenders as collateral • Increased land values • Increased investment in land	• Increased social stability (reduction in land disputes) • Increased economic development (Increased investment in land) • Reduction in poverty
---	---	--	--	--

The logframe provides a linear view of cause and effect. e.g.

- The *input* of funding allows the designated *activities* of land rights recording to be undertaken
- The *activities* result in achievement of the design *outputs*, a significant increase in registered land/property and improved operation of the LR
- The *outputs* in turn cause the *outcomes* of increase in tenure security and more land transaction recorded in the LR
- The *outcomes* bring about the *impacts* of reduced land disputes and increased investment in land

Inputs, *activities* and *outputs* fall within the time frame of the project and rely heavily on the IDA funding and technical development assistance. *Outcomes* are hopefully apparent 5- 10 years after project completion while *impacts* may be 10-20 years later. Sustainability of benefits post an IDA project period is generally entirely dependent on local agency funding to maintain and build on the project *outputs*, to achieve the longer term *outcomes* and *impacts* aimed for in the logframe.

An example of a logframe for an LA IDA project is shown at Annex A. Assumptions are discussed in Sec 3.3.

3.1.2 The Theory of Change

Another way to depict the development logic of an IDA project is by way of a Theory of Change diagram and description. An example of the theory of change approach applied to a LA Project is shown at Annex B., It has a row based structure of: -

- *Context* - a description of items of concern
- *Interventions* - proposed high level interventions to address the items of concern
- *Changes in actions/attitudes*- that are anticipated to be achieved
- *Outputs*, that the interventions are planned to be achieved with IDA
- *Outcomes* - result from the outputs
- *Impacts* - changes that are hoped to occur postIDA, as a result of the outputs and outcomes

The differences between a Logframe and a Theory of Change diagram is briefly outlined at Tools 4 development (accessed June 2018), and Ann-Murray Brown Consultancy (accessed June 2018) and is summarized below. See also DFID (2012).

Differences between a Logframe & Theory of Change

- In essence both represent a “hypothesis of change”.
- A *Logframe* indicates “by doing X (activities), Y (output) will be produced. It portrays cause and effect. as linear
- A *Theory of Change* indicates “doing X will produce a change in Y because ...” It can portray cause and effect as nonlinear via feedback loops and describes them descriptively.

Feedback loops allow nonlinear cause and effect to be taken into account. The use of feedback loops is the characteristic that makes the SD (system dynamics) approach unique. Feedback loops in the LA “system” are introduced in Section 3.4 and covered more in Chapter 4.

A powerful feature of Warren’s SD approach and the associated Silico modelling software is that it incorporates feedback loops and provides for nonlinear cause and effect, and is quantitative and transparent with no implicit assumptions (illustrated fully in later chapters), whereas the logframe and Theory of Change are largely descriptive, non quantitative, and there can be many implicit assumptions. This provides the ability for the SD approach to *add value* to the Logframe and the Theory of Change (Chap 9 refers).

A recent report, GLTN (2020) discusses the theory of change/logic model in the context of impact evaluation.

3.2 Assumptions (Explicit and Implicit) in LA Projects

Many assumptions are made in development logic. The ones that are explicit are listed in the assumption’s column of the logframe. Space generally only permits the main assumptions to be explicit and shown in a logframe, and many other assumptions can remain unstated and implicit.

The high level development logic for LA projects is generally along the following lines:- *A title¹ gives landholders formal rights and security to their land; Security of title reduces land disputes (fosters social stability); The title gives access to (better/more) credit, and access to formal market by using the title as collateral (increases economic development).*

Annex C shows many of the assumptions underlying the development logic (AusAid 2000). The headings in bold would tend to be explicit and in a logframe, while the dot points under each bold heading would tend to be the unstated implicit assumptions. In the SD approach all assumptions are explicitly and transparently shown.

Assumptions can also be thought of as conditions that need to be met so that the outcomes can be achieved.

3.3 Indicative Inputs, Activities, Outputs, Major Assumptions & Outcomes for each LA Operational Entity

Figure 3.2b showed, at a high level, some illustrative examples of inputs, activities, outputs, outcomes, and impacts for LA. The implicit assumptions in Annex C are for LA as a whole. In Chapter 2 Figure 2.2 LA was shown as composed of a number of operational entities. Annex D of Chapter 2 showed types of IDA that have typically been provided to improve individual operational entities.

¹ A title recognised by the state is generally regarded as the highest level of security of property rights. A development project could well have the aim of issuing certificates or similar documents that have lesser standing but are important in pro-poor situations.

Annex D of this Chapter provides illustrative examples of inputs, activities, outputs, outcomes, impacts and major assumptions for each LA operational entity. Annex D is composed of a number of parts, one for each LA operational entity. They are: -

- A - First Recording of Private Land/Property Rights (FRR) into a Government Land Registry (LR)
- B1 -Improve the operations of an LR
- B2 - Develop an LIS (land Information System)
- C - Implement/ improve a LVTS (land valuation & land tax system)
- D - Implement/improve a LURMS (Land Use Regulatory and Management System)
- E - Implement/ improve a MIS (Municipal Information System)
- F1 - Implement/improve a RGL (Registry of Government land)
- F2 - Implement/ improve LVRS (land valuation, land & land rent system (for Government Land))

The purpose of Annex D is to show that for each operational entity there are quite different activities, outputs, outcomes, assumptions and impacts.

A scan of Annex D indicates the range and complexity of tasks that can be involved in seeking to improve all or particular aspects in LA. To this can be added, the magnitude of the development gap that might need to be closed (Chap 2, Figure 2.1, Annexes B & C refer), and the geographic areas to be covered (e.g. millions of parcels of land may need initial rights recorded; existing LRs may hold millions of records whose veracity and currency may need upgrading).

A perusal of the assumptions, (many typically implicit), indicates that many are not minor conditions, and should be taken into account and addressed in the design. Adding in the need to foster sustainability, then combined, these can give rise to large and complex IDA LA projects. Also included there will normally be a range of supporting activities which support the main outputs shown in Annex D. e.g. baseline studies, gender studies. The aim in Annex D has been to illustrate “bare bones”.

The above refers to large and costly IDA projects. At the other end of the scale, a small IDA could be assistance to *“remove a processing backlog in the LR and put in place measures to keep the processing backlog very low post IDA”*. This IDA is a single task shown in Annex D Part B1. This will be used as the first illustrative use of the SD approach and is covered in Chapters 4 to 7. Other chapters illustrate the use of SD for other Parts of Annex D.

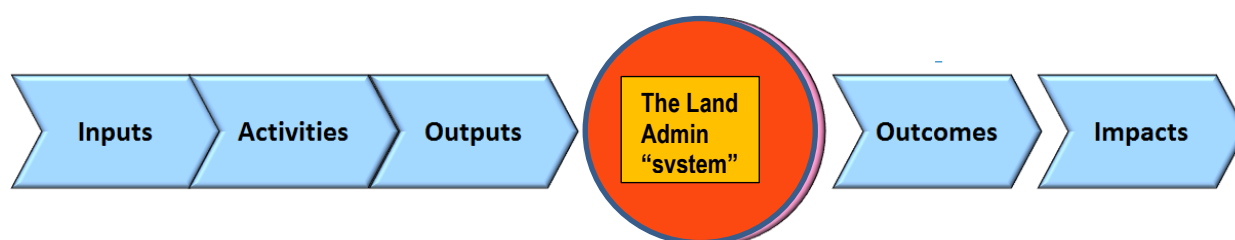
The next section looks at where LA as a “system” fits into the development logic and the effect of feedback loops.

3.4 Where the “System” of LA fits into the development logic of the logframe

Figure 3.2a, b (Sec 3.2.1) illustrated a linear view of the development logic of the logframe. Sec 3.2.2 indicated that the Theory of Change description can describe nonlinear behaviour and feedback loops which are characteristics of “systems” behaviour in the SD approach.

Figure 3.3 shows where the “system” of LA “fits” into the development logic of the logframe.

Figure 3.3



Outcomes reflect how the “system” responds to the **Outputs** arising from inputs and activities

Some characteristics, examples, and consequences of a “system” are shown in Table 3.1. Figures 3.2 and 3.3, and Table 3.1 follow closely that used by Warren (2013a) when applying the SD approach to Nigeria’s DFID Aid for trade, and Warren (2013b) when applying SD to Nepal’s sectors of tourism, power, roads and agriculture,

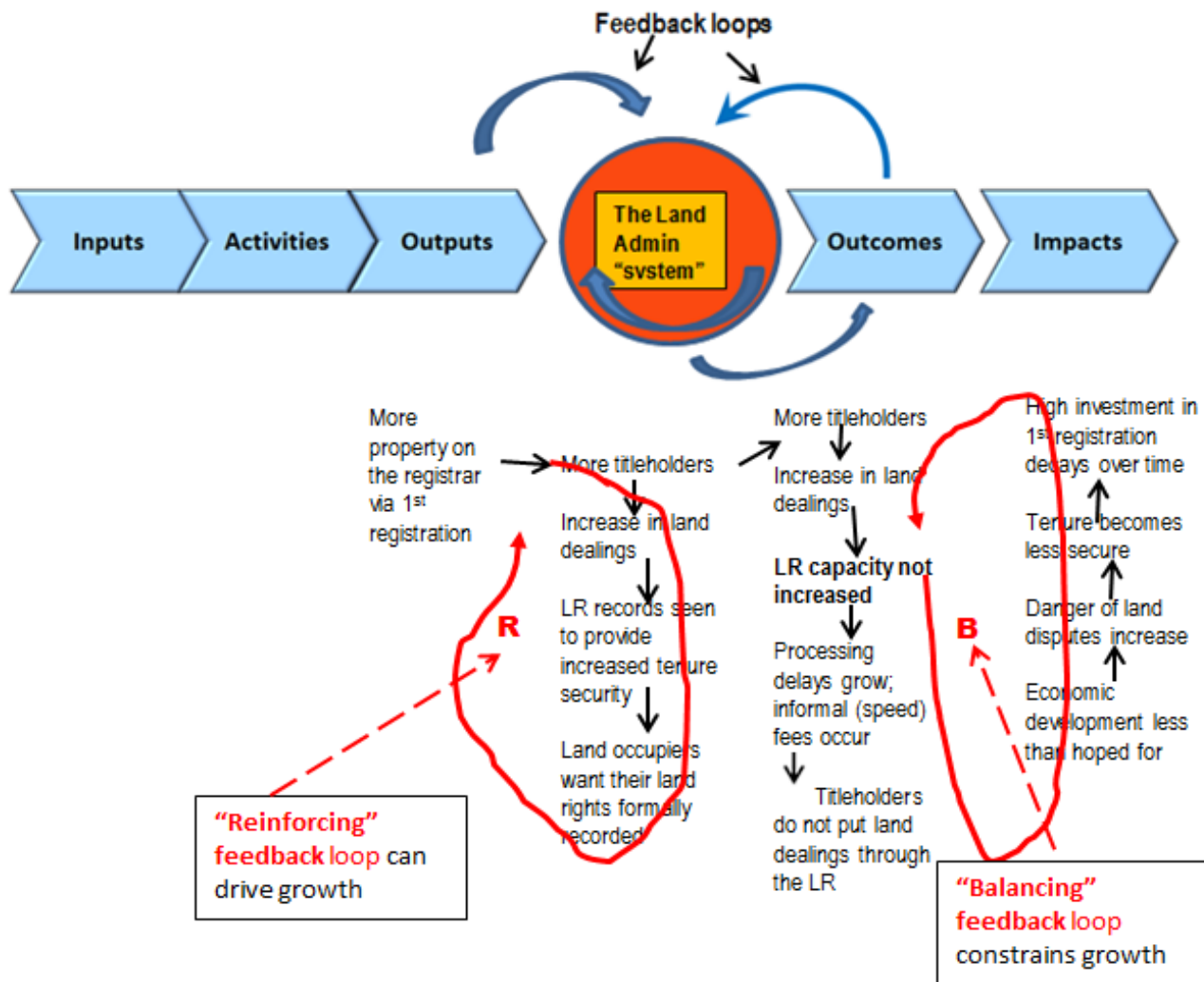
Table 3.1 Characteristics, examples, and consequences of a “system”

Characteristics	Examples	Consequences
Accumulation Critical factors build up or deplete over time	- Bring more land/property onto the register in the LR by conducting IRPR (initial registration of property rights) - Increasing the skill levels of staff in the LR - Title holders increase the % of land dealings that put through the LR	Long delays can occur between action and results. Things can get worse before they get better e.g. it can take time after IRPR for titleholders to have sufficient trust in the LR to process their land dealings through the LR
Interdependence Change depends on more than one factor – [multiple choices need to be right on multiple issues]	The following are all needed for titleholders to use the LR for <u>all</u> land dealings: - - land to be registered - sufficient staff in the LR for processing without undue delays - titleholders to have trust in the LR and to see benefit in processing via the LR	Intervention may have no apparent impact – e.g. bringing a lot of land onto the register may make little difference if titleholders have little trust in the LR and do not register subsequent land dealings through the LR
Feedback Interdependence causes changes that either accelerate or brake their own progress. Many feedback mechanisms can exist.	Growth in the number of titleholders encourages increased land dealings, but lack of trust in the LR, the collection of informal fees, can discourage titleholders from using the LR	The “system” can “resist” efforts to improve its performance e.g. The significant investment in IRPR & improving the performance of the LR will decay over time if a % of land dealings are done outside the LR; confidence in the LR will fall, and security of tenure will decrease over time, likely leading to an increase in land disputes, and a decrease in social stability
Thresholds The system is unresponsive to change over a wide range, then switches to a new mode	Titleholders are not attracted to use the LR until they have a certain (high) level of trust in the integrity of the LR (its records & operations) and informal fees are infrequent.	Apparent failure of interventions while moving to the tipping point. e.g. dealings through the LR do not increase significantly until trust in the LR increases & reaches a certain (high) level

The SD approach deals explicitly with all of these characteristics in a *quantitative* and *transparent* manner. This will be illustrated progressively in subsequent chapters.

Figure 3.4 is an enhanced version of part of Figure 3.3 illustrating feedback loops within the system & between outputs, the system, outcomes and impacts. Feedback loops are illustrated in most of the following chapters.

Figure 3.4



The Reinforcing feedback loop

This is reinforcing (or +ve) feedback loop and drives growth. viz. as more land is registered, there are more land dealings, tenure security is seen to have been increased, this increases land dealings and LR operations, which in turn leads to more land dealing, and more landowners willing to register their land.

The Balancing feedback loop

This is a balancing (or –ve) feedback loop which constrains growth. viz as more land is registered, there are more land dealings, BUT if processing capacity in the LR is not increased to deal with the increase, there will be increasing processing delays, “speed” fees may be paid to “jump the queue”; title holders could well conduct land dealings outside the LR. These overtime will cause a loss of confidence in the operations of the LR, a decrease in tenure security, and a loss in the high investment of first registration.

The SD approach deals explicitly, numerically and transparently with feedback loops as is illustrated progressively in subsequent chapters.

The next chapter introduces SD and its principle, and applies then to the first illustrative example in LA, that of removing the backlog in a LR (land registry) and keeping it low, post IDA.

3.5 Key Points

- The logframe and the theory of change are common ways of showing IDA development logic. The logframe depicts linear cause and effect, while the theory of change can describe nonlinear cause and effect by using feedback loops. Many assumptions are made in development logic, and many are implicit and not minor. Both are descriptive methods.
- The “system” of LA fits between outputs and outcomes in the development logic. *Systems* have characteristics of accumulation, interdependence, feedback and thresholds which affect the achievement of outputs, outcomes and impacts.
- Simulation, using the Strategy Dynamics (SD) Approach, allows “the System of LA” to be taken into account. It is quantitative, transparent, and all assumptions are explicit. It adds value to the Logframe and the Theory of Change.

References

Ann-Murray Brown Consultancy (accessed June 2018). <https://www.annmurraybrown.com/single-post/2016/03/20/Theory-of-Change-vsThe-Logic-Model-Never-Be-Confused-Again>

AusAID (2000), Improving Access to Land and Enhancing The Security of Land Rights: A Review of Land Titling and Land Administration Projects, Quality Assurance Series No. 20 September 2000.

DFID (2012), Review of the use of “Theory of Change” in international development. Review report by I Vogel

GLTN (2020), The “How To: Guide for Integrating Impact Evaluation into Programming.” <https://gltn.net/2021/01/13/the-how-to-guide-for-integration-of-impact-evaluation-into-programming/>

Jensen G (2013) The logical framework approach; <https://www.bond.org.uk/data/files/resources/49/The-logical-framework-approach-How-To-guide-December-2013.pdf>

Tools 4 development (accessed Jun 2018) <http://www.tools4dev.org/resources/theory-of-change-vs-logical-framework-whats-the-difference-in-practice/>

Warren K (2009), Strategic Management Dynamics, John Wiley & Sons Ltd

Warren K (2013a), DFID Aid for Trade <https://www.youtube.com/watch?v=QlM3O0JBFT0&list=PL7cF528k5MjTe9ca7X3vxbMlI3brauenD>

Warren K (2013b), DFID Nepal PSD program; applying system dynamics to Nepal’s sectors of tourism, power, roads and agriculture; Personal Communication

ANNEX A

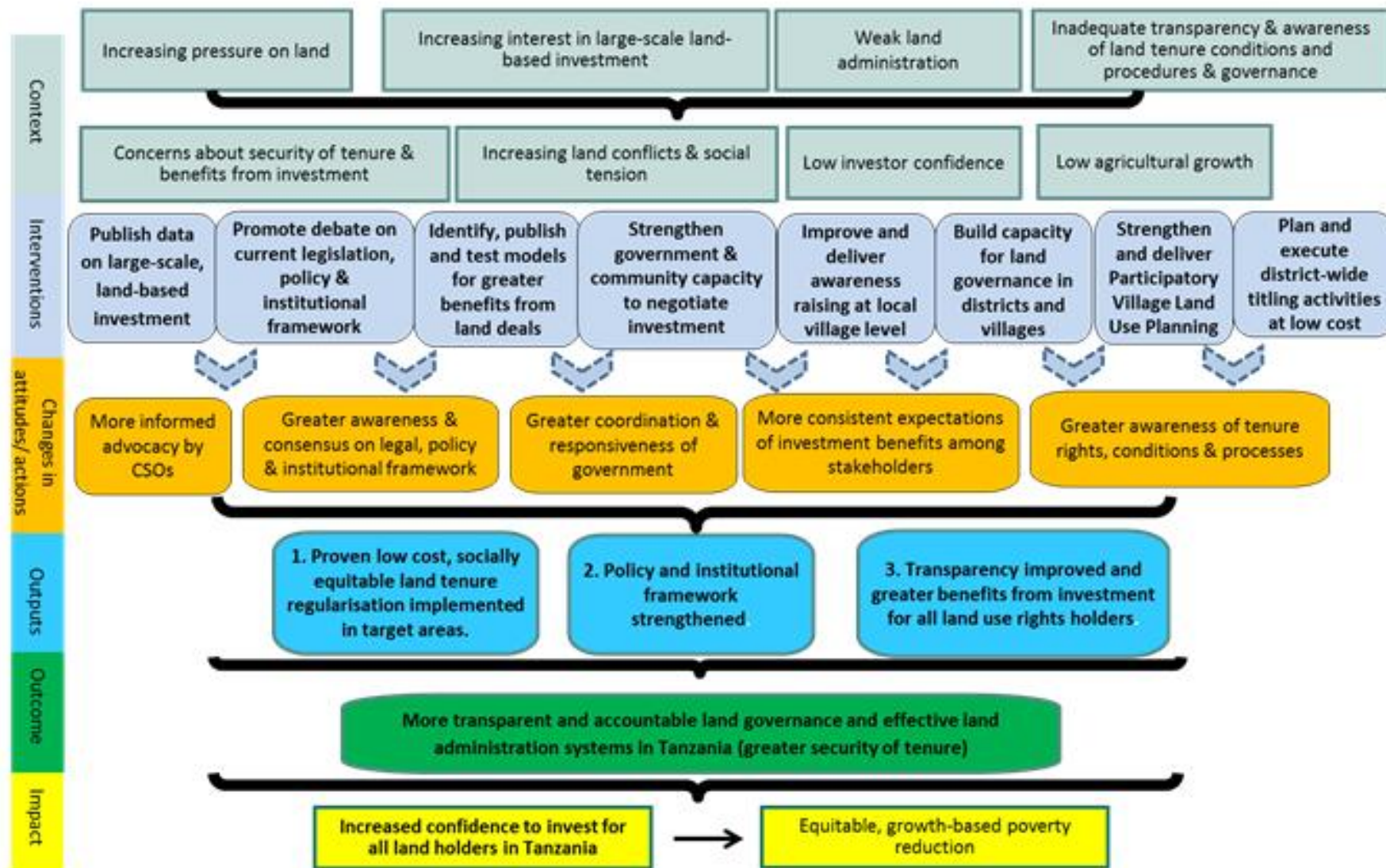
Part of the Logical Framework for the Panama Land Administration and Regularization Project PN-0148 Loan Proposal; Document of the Inter-American Development Bank <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.198.683&rep=rep1&type=pdf> (accessed 7Feb19)

Summary of Objectives	Key Performance Indicators	Monitoring & Evaluation	Assumptions
END Promote economic growth through the increase in productive investments in land in Panama.	Econometric analysis of baseline data to determine: i) Increased capital investment (fixed and movable) by beneficiary households. i) Land prices increase. i) Tax revenues increased. v) Increase in lending by Banks to beneficiaries	- Project sample survey - Land market value study - Household survey data - Project sample surveys	The political and economic situation remains stable, despite the change of government. A clear rural development policy exists. Decentralization is a goal for the government and municipal strengthening is the tool.
OBJECTIVE: Increase tenure security and modernize the land administration system.	At project completion: - The GOP will have established an appropriate policy, legal and institutional framework; established a unified methodology for land regularization; modernized the land administration system; and initiated provision of services, including land demarcation, titling, cadastre and registry in priority areas. - Information on land administration is used at the national and municipal levels for multiple purposes. - Approximately 85,000 rural properties, plus approximately 35,000 ejido properties and small towns, have been incorporated into the cadastre and legalized.	- Mid-term evaluation; supervision missions - Mid-term evaluation field visits to local sites - Cadastre/Registry Reports	Rural economic development and land issues are a priority for the government. Government enables participation and social consultation, and facilitates necessary legal and institutional changes. Public Registry Law has been modified and approved. There is sufficient political commitment. Reasonable costs for land administration services have been established.

ANNEX B

Example of a Theory of Change Diagram for a Land Admin Project

DFID (~2013) Business case and Intervention Summary – Land Tenure Support Program Tanzania



ANNEX C

Implicit assumptions underlying the development logic to achieve the espoused benefits of Initial land Titling (ILT) & improved land administration

The following is drawn from Table A3.1 Appendix 3, AusAID (2000). The author was involved in writing this report.

A Title gives landholders formal rights and security to their land - the tenure law(s) are appropriate for the rights involved, unambiguous, enforceable, available to all, and allow equitable and 'easy' first registration - the title is registered in an official registry - the registry is efficient, records are correct, secure, and no duplicates/fakes exist - land titling is affordable and accessible & the great majority participate
Security of title reduces land disputes - all tenure types can be titled - the law is perceived as fair and the registered rights are uncontested - the land titling process involves all stakeholders and is perceived to be fair - there is a respected mechanism for dispute resolution - people have access to information about land - land administration is carried out in accordance with the principles of good governance
The title gives access to better/more credit in the formal sector - the bank/formal sector is willing to lend (particularly to small rural landholders) - there is more money available for lending to the increased numbers who have titles - the land has value, that it can be foreclosed on, that there are other 'willing' buyers - the title does give security
For rural landholders: More/better credit allows rural landholders to purchase more farm inputs which raises productivity and household income. This, in turn, enables the land holder to practice sustainable land use in the interests of long term productivity - other farm inputs (besides credit) are available - markets, transport, etc. are available - prices and seasons are 'good' - farm and household income actually does increase - security of tenure and access to long term credit will in fact cause the land owner to practice long term sustainable land use

For urban landholders: More/better credit allows better investments in housing or industry: Investment in industry provides more employment, increases household income, etc. - the bank/formal sector is willing to lend (particularly to small landholders) - there is more money available for lending to the increased numbers who have titles - the land has value, that it can be foreclosed on, that there are other 'willing' buyers - the title does give security - urban holders will use credit for non-consumer type spending - industry/business is attracted and does provide employment - there is a demand for land
Greater household income raises living standards, (some will be raised above the poverty level) and contributes to sustainable development - the increased income will be sustainable and be used for betterment - the poor will be participants
Landholders and families whose income has increased will eventually pay more tax and hence government income increases government tax collection is equitable and efficient
The title increases the value and price of land, land trading increases land owners and traders have confidence in the security of the title a transparent and reliable system of valuing land is used effectively and broadly there are no unwarranted artificial restrictions on land trading
A rise in land trading increases government income through fees on the increased number of transactions - subsequent (after first registration) transactions continue to be registered in the formal system rather than the traditional informal system - the formal system is perceived to be fair, efficient, affordable, accessible, and the benefits of the formal system are shown to be superior to the informal system - fees are fair, affordable, value for money, and a customer service focus is used - re-registration fees are not seen as a 'cash cow' and are set at a level that will make re-registration attractive - those trading land outside the formal system will be attracted to it by its perceived benefits

ANNEX D

Illustrative examples of inputs, activities, outputs, outcomes, impacts and major assumptions/conditions for each LA operational entity

A - First Recording of Private Land/Property Rights into a Government Land Registry

Inputs	Activities	Outputs	Outcomes	Major Assumptions/ Conditions	Impacts
Personal (Agency, LTA, ITA) technology; funding	- The actual recording incl:- rights claimants, adjudication, dispute resolution, boundary identification, data entry, certificate preparation, fee payment and formal entry into the Land Registry, certificate/ title collection - Changes to and introduction of necessary land policy, laws, regulation, procedures; strengthening institution mandates, arrangements, - Increase staff skills	1st recording of Land Rights according to Law & procedures - Resultant Certificates/Titles held in <u>a</u> Govt_LR [ie recording in the formal system]	- Increase in tenure security (less disputes; less risk of eviction; more long term view taken) - increased trading in land - Increased value of land/ property	- That rights holders see value in 1st recording, are willing to participate, and can afford the fees to “pick up” titles/rights documentation - That document stored/issued by the LR are trusted by the community/business - That the recording of rights in an LR, will significantly increase security of rights/tenure - That land disputes will reduce - That fees are affordable - That investment in land will increase	- Less land disputes (more social stability) - More security of tenure - More investment in land/ property (increased economic development)

LTA = local technical assistance; ITA = international technical assistance.

B1 -Improve the operations of a LR (Land Registry)

Inputs	Activities	Outputs	Outcomes	Major Assumptions/ Conditions	Impact
Personal (Agency, LTA, ITA) technology; funding	- Reduce backlogs; improve procedures; increase productivity; improve services - Increase the integrity of records and public confidence in LR operations, & the security of tenure - Improve affordability of fees and accessibility of services - Reduce the % of title holders who do not use the LR for subsequent land dealings - Changes to laws and regulations. - Reduce informal fees; increase probity, transparency, good governance; - increase staff skills	An improvement in efficiency, effectiveness and public trust of the LR	- Increased community & business trust in the records and operations of the LR as reflected by an increase of land transactions that are done through the LR - The payment of informal fees is very low - Formal lenders (banks) are willing to accept a title as collateral	- That the necessary on going annual budget will be provided to the land registry (LR) to operate effectively - That the LR will generate fees at least 3 times its operating costs & much greater when the land market functions well - That any pushback from vested interests in the status quo will be ineffective - That fees are affordable	- Less land disputes (more social stability) - More security of tenure - More investment in land/ property (increased economic development)

B2 - Develop an LIS (land Information System) [can be included as part of improving/ upgrading the operation of an LR]					
Personal (Agency, LTA, ITA) technology; funding	- Implement /improve the “mapping” of land parcel boundaries. - Integrate with LR rights/title data. - Improve quality of records. - Develop into a digital LIS (GIS)	- Conversion of all records (maps & text, titles etc) to digital & their integration) - Improved integrity & currency of records. - Improved processes & services, easy access, - Staff trained & skill levels increased - Affordable fees	- An operational LIS with trained staff to maintain - Increased community & business trust in the records and operations of the LR - An LIS that can be used as a base for the LVTS - An LIS that can be used as a base for the LURMS - An LIS that can be used as a base for the MIS	- That the LIS is maintained to high standards, kept current, and the necessary O&M budget to do so is provided - That integrity, currency & access to records, & LR processes are such that there is significantly increased confidence in the integrity of the title - That the great majority of land transactions are recorded in the LR - That formal lending institutions are willing to lend with the title as collateral - That land values increase; as the land market develops and titles are used as collateral - that access to LR info is quick, easy, low cost & via many service points - That third parties can "access" & value add to the data for commercial purposes under some arrangement with the Govt	- Less land disputes (more social stability) - More security of tenure - More investment in land/ property (increased economic development)

C- Implement/ improve a LVTS (land valuation land tax system)

Inputs	Activities	Outputs	Outcomes	Major Assumptions/ Conditions	Impact
Personal (Agency, LTA, ITA) technology; funding	- Changes to laws, regulations & procedures; institutional mandates & arrangements. - Design and build a LVTS - Increase staff skills - Establish anti-corruption safeguards - Establish an appeals mechanisms - Establish enforcement mechanisms	An operational land valuation, land rating, land tax, and collection system with staff trained	Tax based on land collected	- That the necessary on going annual budget will be provided to operate effectively - That the LIS is available as a base for building on & for regular updates - The rating & tax systems are equitable, reasonable, transparent & appealable - that previous stages have facilitated identification &	- A regular revenue stream to the Government - The Government improves services & infrastructure to the community

				"mapping" of all properties & facilitated a growing land market • That access to land valuation info is quick, easy, low cost & via many service points • That tax collection is effective, efficient, little avoidance, falsifying or corruption • That any pushback from vested interests in the status quo will be ineffective • That the necessary on going annual budget will be provided to the valuation/tax collection to operate effectively & that the system will generate fees ~many times its operating costs • That the Govt will use some of the tax collected to benefit local community (e.g. better roads, sanitation, services etc) • That third parties can "access" & value add to the data for commercial purposes under some arrangement with the Govt	
--	--	--	--	---	--

D - Implement/improve a LURMS (Land Use Regulatory and Management System)

Inputs	Activities	Outputs	Outcomes	Major Assumptions/ Conditions	Impact
Personal (Agency, LTA, ITA) technology; funding	• Conduct community engagement • Changes to laws, regulations & procedures; institutional mandates • Design and build a land zoning, land use, land management permit/approvals system • Increase staff skills • Establish anti-corruption safeguards • Establish an appeals mechanisms • Establish enforcement mechanisms	An operational LURMS with trained staff	• Improved land use management	• That the LIS is available as a base for building on & for regular updates • That the land zoning & admin procedures are adhered to & enforced • Applications are dealt with reasonably quickly • Formal Fees are reasonably & informal fees are not charged • That any pushback from vested interests in the status quo will be ineffective	• More pleasant & productive environments • Increased investment in land/property • Increased land/property values

--	--	--	--	--	--

E - Implement/ improve a MIS (Municipal Information System)

Inputs	Activities	Outputs	Outcomes	Major Assumptions/ Conditions	Impact
Personal (Agency, LTA, ITA) technology; funding	- Determine base data; users & products; data; technology; sustainability; - Import data from systems of:-LIS, LVTS, LURMS - internal organisational responsibilities; procedures - Design & build system, incl workflows - Implementation assistance. - Increase staff skills	On operation base/Phase 1 of a MIS with trained staff	More efficient municipal services and asset management	- That govt agencies who are custodians of the LIS & its data, are willing to provide that data to Municipalities & assist them to use it effectively - That sufficient budget will be provided for O&M	Quality of life in the Municipality increases

F1 - Implement/improve a Registry of Government land {F1 & F2 may well be done together}

Inputs	Activities	Outputs	Outcomes	Major Assumptions/ Conditions	Impact
Personal (Agency, LTA, ITA) technology; funding	- Conduct an inventory of Gov land (perhaps in a GIS with a range of attributes) - Establish a lease info system	- An inventory of Gov land (GIS based) that can be accessed from multiple points - A lease information system	Knowledge of what is government & public land	- That sufficient annual funding will be provided to keep it operational and updated - Use is made of data to improve the management & use of public & govt land - That any pushback from vested interests in the status quo will be ineffective - That the inventory will be readily available	- Improved management of government & public land - Knowledge of what is government & public land

F2 - Implement/ improve a LVRS (land valuation & land rent system) for Gov Land

Personal (Agency, LTA, ITA) technology; funding	- Changes to laws, regulations & procedures; institutional mandates & arrangements. - Design and build a land valuation system, a land rent system, a land rent & collection system	An operational Land rent & collection system for Govt land with trained staff	a regular income stream to Government	- That sufficient annual funding will be provided to keep it operational and updated - That tax collection is effective, efficient, little avoidance, falsifying or corruption	Improved management of government & public land
---	--	---	---	---	---

	• Increase staff skills • Establish anti-corruption safeguards • Establish an appeals mechanisms • Establish enforcement mechanisms			• That any pushback from vested interests in the status quo will be ineffective	
--	---	--	--	---	--

ANNEX E

Abbreviations Used

Abbreviations

EC	European Commission
DFID	Department for International Development
IDA	International development assistance
IRPR	Initial recording of property rights
LA	Land administration
LIS	Land information system
Logframe	Logical framework matrix
LR	Land Registry
LURMS	Land Use Regulatory and Management System
LVRS	Land valuation, & land rent system (for Government Land))
LVTS	Land valuation & land tax system (for private land)
MIS	Municipal Information System
RGL	Registry of Government land
SD	System dynamics
UK	United Kingdom