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THE "HOW TO" GUIDE FOR INTEGRATING IMPACT EVALUATION INTO PROGRAMMING:

A STEP-BY-STEP GUIDE TO ESTABLISHING EVALUATIONS FOR IMPLEMENTERS OF LAND TENURE AND GOVERNANCE INTERVENTIONS

In support of a joint initiative of the United Nations Human Settlements Programme's (UN-Habitat), Global Land Tool Network (GLTN) and the International Fund for Agricultural Development (IFAD)

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THE "HOW TO" GUIDE FOR INTEGRATING IMPACT EVALUATION INTO PROGRAMMING
A step-by-step guide to establishing evaluations for implementers of land tenure and governance interventions

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PREFACE

The *"How to" Guide for Integrating Impact Evaluation Into Programming (*the "How to Guide") serves as a reference point, outlining the main steps for a designer or implementer of land tenure and land governance interventions to consider when trying to incorporate an impact evaluation. It is a supporting tool meant to be used alongside the more comprehensive *Guidelines for Impact Evaluation of Land Tenure and Governance Interventions* ("the Guidelines") published in 2018 and accessible here: https://gltn.net/download/guidelines-for-impact-evaluation-of-land-tenure-and-governance-interventions-2/

The "How to Guide" is developed under the joint partnership of UN-Habitat, GLTN and IFAD, and in consultation with the Global Donor Working Group on Land (GDWGL) and other partners, with the aim to improve access to tools and approaches to evaluate land tenure and governance interventions. As part of this partnership, the "Guidelines" and the "How to Guide" were developed as tools alongside trainings for capacity development for land sector partners including governments, CSOs, donors and other actors. This "How to Guide" has been informed by the emerging needs and feedback from training Workshops' attendees who requested additional tools and an easy-to-use reference on the steps required to integrate impact evaluation in programming.

ACRONYMS

FAO:	Food and Agriculture Organization of the United Nations
GDWGL:	Global Donor Working Group on Land
GLII:	Global Land Indicators Initiative
GLTN:	Global Land Tool Network
IFAD:	International Fund for Agricultural Development
LSMS:	Living Standards Measurement Study
MCC:	Millennium Challenge Corporation
RCT:	Randomized Controlled Trial
UN-Habitat:	United Nations Human Settlements Programme

KEY CONCEPTS AND DEFINITIONS

Land: As used in this "How to Guide", the term "land" refers to land and all related property and natural resources associated with that land (e.g. water, forests and minerals).

Land governance: In Land Tenure Working Paper 11, 2 UN-Habitat and FAO define land governance as that which "concerns the rules, processes and structure through which decisions are made about access to land and its use, the manner in which decisions are implemented and enforced, the way that competing interests in land are managed". This includes governance of the use, allocation of, access to, control, ownership, management and transfer of land, including related property (buildings and structures) and natural resources found on the land. Land governance systems include state organizations that deal with land, such as ministries of land, land registries and cadastral services, and courts. Informal land governance systems include customary institutions that develop land-use rules, allocate land and resolve disputes related to land. Effective land governance includes legislation recognizing a variety of rights of existing land resource users, clear land resource management and administration responsibilities, streamlined operations and systems, sustainable technology use, clearly understood and accessible conflict-resolution mechanisms, up-to-date land-use plans, an accessible and accurate supply of land and property information, and legislative and regulatory provisions enabling land markets.

Land tenure: The FAO defines land tenure as "the relationship, whether legally or customarily defined, among people, as individuals or groups, with respect to land. Land tenure is an institution, i.e. rules invented by societies to regulate behaviour. Rules of tenure define how property rights to land are to be allocated within societies. They define how access is granted to rights to use, control and transfer land, as well as associated responsibilities and restraints. In simple terms, land tenure systems determine who can use what resources, for how long, and under what conditions". Land tenure rights can include private, group, communal, open access or state rights.

Perception of tenure security: The level of certainty a person or group of people has that their land rights will be recognized and protected, especially against encroachment or involuntary loss of use rights, ownership and control over the land. Perception of tenure security can be high even though the land is not recognized in the statutory system, such as when there is an effective land governance system in place under customary law. Similarly, the perception of tenure security can be low even if a parcel has a freehold title or leasehold, or other form of written documentation, due to a weak land governance system or perhaps intrahousehold dynamics that lead to de facto weak perception of tenure by some members of the household.

Impact evaluation: A study assessing expected project impacts through use of a counterfactual, or without project scenario, which allows the evaluation to attribute outcomes to the intervention. An impact evaluation compares the group that received the intervention (treatment group) and a group that did not receive the intervention (control/comparison group). The difference between these two groups can be attributed to the intervention. Impact evaluations can be either experimental via a randomized controlled trial (RCT) or quasi-experimental where intervention treatment groups are then compared with a comparison group that has similar observable characteristics.

Outputs: The direct result of an intervention. For example, the output of teaching children the alphabet is the number of children trained.

Outcomes: This refers to a result or group of results linked to an output. Outcomes can be realized in the shorter term, medium term or longer term. For example, a shorter-term outcome from teaching children to read could be increased literacy. A related medium-term outcome could be higher levels of reading and knowledge of the population. A related longer-term outcome could be higher salaried employment.

INTRODUCTION

INTRODUCTION

Following the publication of the *Guidelines for Impact Evaluation of Land Tenure and Governance Interventions* (the "Guidelines"), under the UN-Habitat, GLTN and IFAD initiative to develop and distribute better tools to capture impacts of land tenure and governance interventions, the project entered a second phase. The second phase focused on dissemination of the Guidelines through workshops and training sessions, as well as development of this "How to Guide" for Integration of Land Impact Evaluations in Programming" as a reference tool to be used alongside the Guidelines.

Using the Guidelines as a base, the How to Guide frames the key steps and decision points to consider when trying to integrate an impact evaluation into a land tenure or land governance intervention. It walks through 1) describing the intervention and workplan; 2) creating a logic model; 3) developing research questions; 4) defining the exposure periods; and 5) establishing an evaluation design. The How to Guide focuses on what programme officers and experts designing and implementing a land tenure or land governance intervention will likely need to consider when trying to accommodate an effective and rigorous impact evaluation of the intervention. Specifically, it outlines the main elements to consider during the intervention design phase from creating a logic model and beneficiary selection to sharing project materials and helping gain access to land administrative data. The "How to Guide" also provides a case study example as a reference that is followed throughout the document, with practical explanations developed for each section.

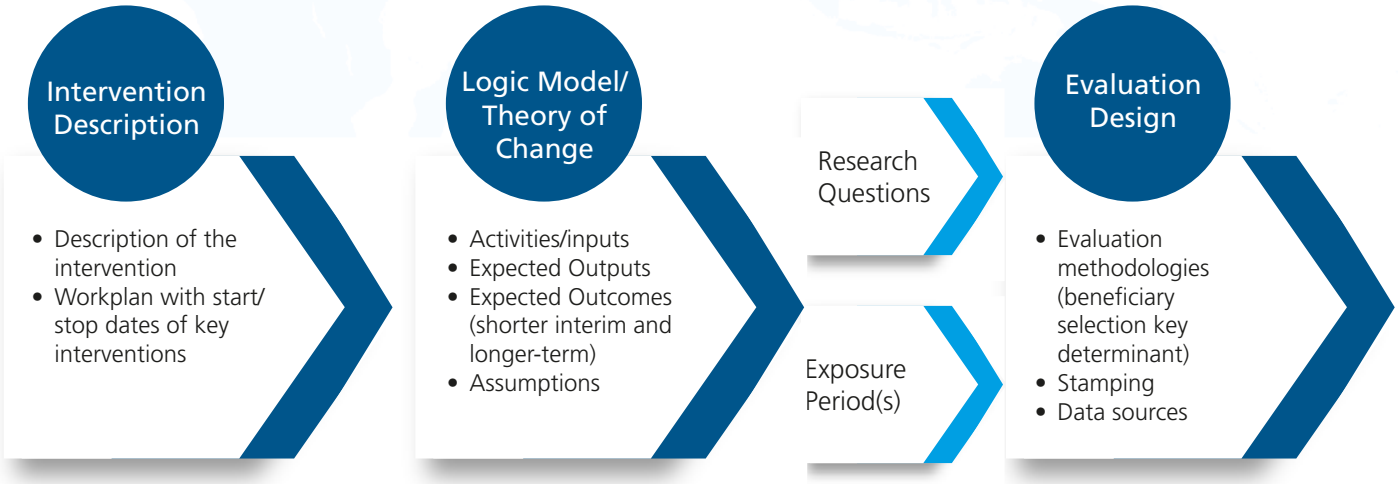
Although geared towards land interventions, similar to the "Guidelines", this "How to Guide" can be used in support of programme design and an evaluation of a stand-alone land intervention or a land activity that is part of a larger agriculture or infrastructure intervention. The elements are focused on impact evaluations but can also be used to aid with other types of evaluations.

It is important to note that this "How to Guide" is geared towards informing those designing and implementing land interventions. As such, this "Guide" does not delve into statistics but rather provides a quick reference summary on what steps and information are necessary from the land intervention side to establish an impact evaluation. It assumes there is a statistician on board dealing with the econometrics and statistical decisions that will guide the evaluation design and implementation. It can be used whether working with an in-house research/evaluation team or external expertise for the evaluation work. This "How to Guide" therefore, simply uses the term "evaluator" to reference either.

The design phase of an intervention is an important period for establishing and gaining buy-in to the fundamentals of an impact evaluation. Waiting until during implementation or post intervention to engage an evaluation limits the types of impact evaluations that can be pursued as well as the rigour of the evaluation. In addition, setting up a control or comparison group requires all stakeholders to be on board with the evaluation design and related effects on beneficiary selection. It is much easier to establish treatment and comparison/controls from the offset rather than trying to retrofit or gain buy-in to change an already established intervention design. Below, the "How to Guide" lays out key steps to undertake and consider during the intervention design phase, including:

(1.) Clearly **describe the intervention and workplan;**
(2.) Create a **logic model** (and related theory of change);
(3.) Develop **research questions**;
(4.) Define the **exposure period**(s); and
(5.) Establish an **evaluation design**, including selecting the evaluation methodology (and related choosing of beneficiaries), sampling frame and data sources.

FLOW CHART OF KEY STEPS TO UNDERTAKE AND CONSIDER DURING THE INTERVENTION DESIGN PHASE



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KEY STEPS DURING THE DESIGN PHASE

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A. Clearly describe the intervention and workplan

The first step to establishing an impact evaluation is to have 1) clear documentation of the planned intervention; and 2) a timeline for the various intervention components and related outputs.

1) The intervention description should include the various activities, as well as an expectation of results.
2) The workplan should include the start and stop dates of key activities in each location and an indication of the onset of key outputs that are expected to drive outcomes. The time from the onset of key outputs until the evaluation collects data is known as the exposure period. The timeline should be updated regularly throughout the implementation of the intervention.

For example:

- When will an intervention first touch base, such as via sensitization activities with local chiefs/leaders? Households?
- When will land mapping begin and finish versus land certificate/title approval and delivery/available for pick up?
- When will land system design or assessments start and when will any land information system or office improvements/ technologies/ infrastructure be operational?
- Will offices be active in the interim to continue processing demanded land transactions or is the period of contractor work affecting transaction times and volumes of transactions?
- When will any paper records begin and finish digitization and what fields are digitized?

Case Study

Recently, a road was built running from the north to the south of the country, which linked rural communities to urban markets. With the growth in the region, demand for land is rising, especially in close proximity to the road. Although people would like to formalize their customary use rights, the current procedures are numerous and time consuming. This has left a backlog of requests for land certificates.

Due to concerns that farmers might get pushed off their land due to rising land values, an intervention is planned to strengthen customary land rights by mapping existing land uses and providing land-use certificates. The intervention also will work on streamlining land procedures and providing related training to district/commune level land offices.

There are limited funds and the government wants clear results before committing further funding. As such, the land intervention is planned as a pilot across 10 of the 30 districts which the road passes through. Each district has on average of 20 villages that border the road, and the intervention has enough funds to support 100 villages.

The intervention is planned over a five-year period. Sensitization and outreach is planned to take place in Year 1, starting in the south and continuing north until all villages are complete. Following sensitization, mapping exercises and a call for land documentation will begin, followed by land registration and issuance of land certificates by the government land offices. The mapping exercises and gathering of existing land rights documentation will be conducted from the middle of Year 1 to the middle of Year 3 and follow the sensitization campaign. Villages will then confirm land boundaries in a consultation phase and the government will process and register land rights from Year 2 to Year 5. The southern villages will be completed ahead of the northern villages as the contractors move from south to north.

In tandem, the intervention is working with the government to streamline the process to recognize, map and process land rights via registered land certificates. The regulations and new policies formalizing the streamlined process are expected to be drafted and pass from Year 1 to Year 3 and training to occur in Year 4 to Year 5. Villagers who are not in the treatment villages will be able to go to their commune/district land offices and request land maps and certificates using the new streamlined procedures. A detailed chart of start and stop dates for each activity in each village will be drafted once the villages are selected.

The dates throughout the process and for each location are key as usually, the evaluator will want to conduct baseline data collection ahead of any efforts, including sensitization and outreach campaigns ahead of land mapping activities. Follow-up data collection will depend on when the output was completed and the related logic framework. If you think certain changes like perceived tenure will change after mapping versus titling, both dates and related effects should be flagged. Similarly, if there will be stand-alone results from digitization of land records or operationalization of a land system, those dates should be provided as well. Based on a clear description of the intervention and detailed workplan, the land team and the evaluation team can work out the best time(s) to collect data for baseline and follow-up(s).

KEY STEPS DURING THE DESIGN PHASE

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B. Create a logic model (and related theory of change)

The logic model illustrates the theory of change of the intervention and forms the base of an evaluation design. The logic reflects the pathways by which an intervention or set of activities is expected to lead to changes in short-term, interim and long-term outcomes for a defined group of beneficiaries. When forming the evaluation design, the evaluator will refer to the logic to understand the expected outcomes for various beneficiaries and the related timelines for those results to ensure sampling and data collection can capture those outcomes for those groups.

STEP 1: ACTIVITIES

As a starting point for the basic structure of the logic, use the global land logic model from the "Guidelines". The global land logic model contains the various activities (inputs), outputs and outcomes, as well as the most common links and timelines among them. You might have one or multiple activities depending on the intervention. **Specify the intervention's activities (inputs)** related to your specific intervention along the bottom row.

STEP 2: OUTPUTS

Select the outputs for each input or group of inputs that are most relevant for your intervention. An output is the direct result of the activity and often what is tracked in performance-monitoring activities like the number of land reforms passed, the number of land titles issued or delivered, the number of land officers trained/knowledgeable or new land offices operational.

Incorporate these above the row on activities and draw arrows connecting the boxes to illustrate the theory of change. Language describing the output(s) will vary depending on the intervention. For example, land-use mapping could have an output of 10 village land use maps drafted and approved by the village chiefs.

STEP 3: OUTCOMES

Next, you should **add in relevant shorter-term outcomes** above the row of outputs, and interim and longer-term outcomes above the shorter-term and interim outcomes. Add the arrows connecting outputs and outcomes.

Only the most relevant outcomes to the intervention need to be included. The global land logic model provides a broad framework of the possible interventions and results chains, but these elements will vary across contexts and language and the timeline should be tailored for each intervention. For example, there are cases where an output like delivery of titles could also be an outcome, such as when you strengthen a land institution to be able to process and deliver titles but the intervention itself does not formalize land rights. This is a similar case when the project may map the land rights or pass legislation that has been drafted during an intervention which is outside the control of the intervention.

Within the logic model, it is important to include not only outcomes such as increased tenure security, investments and productivity but also where and when the different components of an intervention and outcomes will take place and any differences among beneficiaries to consider. For example, differences in women's and men's tenure rights or land uses that may lead to different results so that the evaluator will know to separately sample and evaluate these groups.

It is also key to specify when an outcome may be focused on only a specific segment of the beneficiary area population, for example the intervention is targeting women or those with lower tenure security along the continuum of land rights or when an outcome is expected only for a subset like those with incomes/bankable accessing credit. Incorporating these details will help ensure that the evaluator targets the correct population when sampling and selects the right stakeholder to interview.

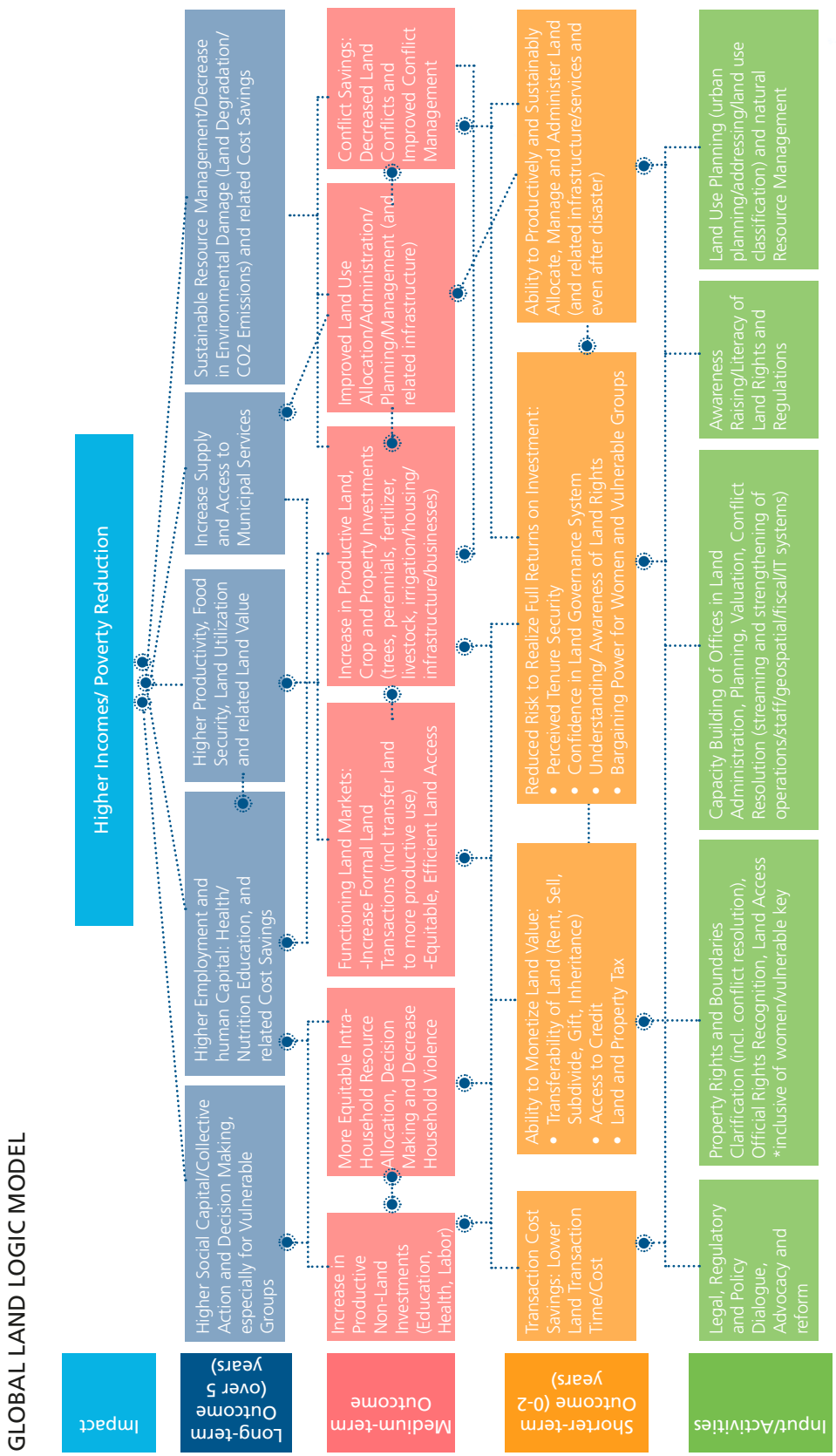
Carefully consider the timeline for each outcome that you incorporate as this will guide what exposure periods will be necessary to best capture results and the collection of evaluation data will surround the times listed. Timelines should be based on the exposure period/length of time from the specific output and not in terms of when the overall intervention finishes. Evaluations often collect follow-up data too early to feasibly capture results. It is hence important to ensure there are realistic timelines within the logic model, including taking into consideration a range of items from how long behaviour takes to change to growing seasons for productivity.

As an approximation, shorter-term outcomes are assumed to take place within two years after the output; medium-term outcomes within three to four years of the output; and longer-term outcomes five or more years from the output. Keep in mind that some elements marked as longer-term in the global land logic model could occur more quickly in your specific intervention context or vice versa. These timelines can and should be altered depending on your intervention. For example, land-use change usually takes longer to realize due to timing of licence decisions and investments but at times could happen more quickly if there was some institutional or legal issue that was the sole constraint to the land transferring and related change in land use.

STEP 4: ASSUMPTIONS

On another sheet, **note the assumptions that must hold true in the context you are working in for the outcomes to be realized.** For example, in order for there to be confidence in the formal land system and related demand for its services, not only must the project establish the planned land information system and train land office staff, but we assume the government will continue to fund the land staff, software licences renewal and computers and communications will be kept working.

KEY STEPS DURING THE DESIGN PHASE

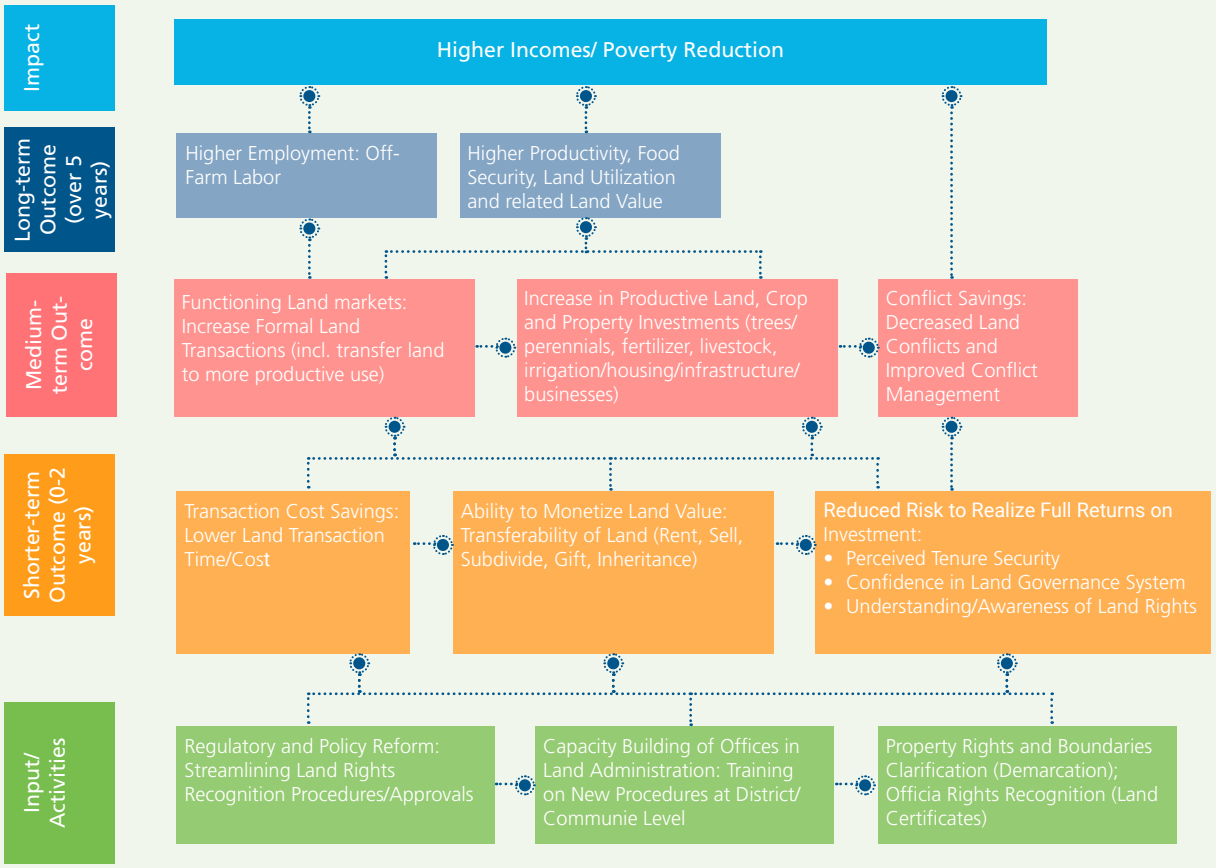


Jennifer Witriol Lisher 2018

Case Study

The project designers develop an overall theory of change for the intervention. Demarcation of parcel boundaries and certification of village land-use rights is expected to improve knowledge of land rights and boundaries, increase perceptions of tenure security and lead to a decrease in conflicts and related time/cost to resolve conflicts. The improved perceived tenure security and lower conflict is expected to increase investments into the land, including farm investments, such as equipment, soil conservation and switching to longer-term cash crops, which are expected to increase land productivity and ultimately income. Some farmers are expected to take advantage of high land values and sell their land while moving to off-farm labour and related higher incomes. Streamlining of land regulations and procedures, once they are operational following training, are expected to lower land transaction processing time allowing for the government to process the backlog of land rights applications and facilitate land transactions and related confidence in the land governance system. This in turn will increase demand for formal land rights, as well as land transfers and improved land use and investments, especially along the road. Together, this will create higher productivity, food security and eventual higher incomes.

In order to illustrate this theory of change, the land intervention stakeholder put together the logic model, below:



KEY STEPS DURING THE DESIGN PHASE

Farming for Development-Agriculture in Sichuan,China © UN Photo-John Isaac

C. Develop research questions

The evaluation research questions guide the focus of the evaluation. Selection of the research questions depends on the needs of the stakeholders. The questions usually focus around achievement and sustainability of outputs and obtaining outcomes. When selecting research questions keep in mind the time and resources you have to evaluate the project and the level of learning that can be gathered. You may be able to measure interim changes in key variables at a reasonable cost but there might be a much higher cost for other types of longer-term data or more accurate data that is not worth the cost.

Although there are often numerous interesting research questions that could be asked, the key is to select those that are most vital and relevant for the specific intervention in question, which questions will bring additional learning to the land literature, inform policy decisions and what can feasibly be measured with the resources, data, and timeline available. The more questions asked, the costlier and higher level of effort required of the evaluation. It is important to specify any differences in beneficiaries trying to understand, such as the differences in perceived tenure or investments by women vs men or businesses vs residential parcels.

Case Study

After much deliberation and discussion of the logic model and proof of economic results necessary to get further support, the stakeholders narrowed down their research questions. Although there was an interest in understanding the ties to larger development goals (food security, nutrition/health and social capital), as well as labour and market access, stakeholders agreed to focus this initial evaluation on direct, near-term economic outcomes. As this is a pilot ahead of potential largescale rollout, the decision is to invest in a comprehensive evaluation, including learning from performance of original project as well as capturing shorter- to longer-term outcomes. In order to keep the evaluation focused, initial data collection will capture performance and shorter-term outcomes while a later round of data collection will look at longer-term outcomes and sustainability. Stakeholders wanted to understand differences among various beneficiaries but understand that this will add to the sampling requirements and related cost. In the end, stakeholders narrowed the list down to two key groups of beneficiaries whose differences are key to understand for future project rollout: men/women and smallholder farmers/large commercial farmers:

1) Did the intervention effectively streamline land mapping and registration procedures, conduct related trainings and mapping of treatment area parcels? If so, were these sustained in the years following the intervention? If not, what were the constraints and issues faced?
2) If yes, did the government register and provide land certificates to households mapped by the intervention?
3) Did the households with parcels mapped by the intervention have a better understanding of their land boundaries?
4) Were there any changes in perceptions of tenure security, conflicts or investments? What were the related drivers or constraints? Were certain people or types of parcels more likely to experience these changes?
5) How did the streamlining of procedures and related capacity building affect, if at all, land transaction times, including first time land registration, property transfer and conflict resolution?
6) Did the intervention lead to any changes in confidence in the land governance system or related demand for formal land services?
7) If there were changes in perceptions of tenure and investment or increases in land transactions, did these changes result in improvements in land use, productivity or income? If so, what were the driving factors of these changes?
8) Were there any differences in effects for women vs men or for smaller holder vs larger/commercial farmers?

KEY STEPS DURING THE DESIGN PHASE

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D. Define the exposure period

After agreeing on the logic model and research questions, the evaluation will need to define 1) the exposure period, and 2) the related data collection timeline.

The *exposure period references the amount of time that must pass following the output(s) to data collection to capture outcomes. The exposure period should be in line with the logic framework of when outcomes are expected to materialize.* The evaluation should ensure that end line data collection also reviews whether outputs and shorter-term outcomes were sustained. For example:

- Is the land system still functioning?
- Did the legislation and policy changes remain operational?
- Did those people who were trained remain in offices?
- Did the titles/certificates issued remain in the formal system or did low confidence in the system and continuing constraints drive informal land transactions?
- If perceptions of tenure increased or decreased in the interim, did it remain as such?

If you do not know if outputs or short-term outcomes have been sustained, then it will be hard to determine why longer-term outcomes were or were not obtained. It could have been from a faulty logic or assumptions, or it could have been from outputs simply not being sustained.

As there might be variances in time required for key outcomes to occur, there is also a need to decide with the evaluator what makes the most sense for the **data** *collection timeline. The evaluator will propose a suggested timeline for data capture based on the exposure periods defined by the project and review if those make the most sense based on local factors and the existing land literature.* The evaluation could collect a series of follow-up data to best capture each and every variable, but this is usually not financially feasible nor advisable considering survey fatigue by the evaluation sample. Usually the evaluation will select one or two data collection follow-ups (sometimes three) lining up with your shorter- to longer-term outcomes in addition to the baseline, with the aim of choosing an exposure period that makes the most sense for your

key variables of interest and related research questions. Think about whether someone will be able to recall the data or still obtain data two to three years later or if data needs to be captured per the logic. For example, someone is likely to remember a large conflict or land sale and formal land transactions can be captured using historical data; however, perceptions of land tenure go up and down with the environment and the cause of that perception sometimes varies over time.

It is important to keep in mind that if implementation slips, the data collection timeline would also need to shift to allow similar exposure periods for key variables of interest; so regardless of the choice in exposure periods, the evaluator should be kept up to date by sharing project updates throughout implementation. Learnings in the field can be used to update the logic. If it is realized during the baseline data collection or from on the ground fieldwork that the assumptions or estimated timelines for results are incorrect, the logic model and related evaluation framework should be updated in coordination with the evaluator. If not, the evaluation which will still be designed around the original logic model will not capture the changes in intervention. For example, there might be a larger focus on women due to findings of weak tenure security or different drivers of perception of tenure security for women that was not well understood during project design, or a large or historic conflict in the area that leads to a longer timeframe to achieve behavioural change in land investments. The more informed and aware an evaluator is, the better they will be. An evaluation can tell you whether or not expected results were obtained, but the learning is in the details of why or why not results were obtained. As such, any clarifications on the logic model and related plans for implementation should be updated in tandem as the intervention moves forward.

Case Study

After discussing the logic model around when the different key outcomes would occur for both the land mapping and certification, as well as the streamlining of land procedures, the team agreed on the need to have three rounds of data collection.

1) Baseline data collection in Year 1 ahead of any project sensitization or outreach to the villages in order to collect base information on tenure, conflicts, investments and productivity, as well as to collect historic data on land transaction requests and approvals, land transaction times and conflicts;
2) Interim data collection - two years after demarcation of land boundaries and the adoption of streamlined procedures in order to capture the intervention's performance, including whether the government has issued and delivered land certificates and sustained streamlined procedures, as well as early outcomes like changes in perceptions of tenure and awareness of land boundaries, and land transaction savings. Even if the government has not issued certificates to everyone, there is an expectation that the mapping and community discussion may lead to changes in perceptions of tenure in the interim and related land investments as long as the expectation is still there that the land certificates will be issued.
3) Endline (second follow-up) - five years after demarcation of land boundaries and adoption of streamlined procedures in order to capture sustainability of streamlined procedures and continuing processing of land certificates, as well as perceptions of tenure. The endline will focus on land investments, demand and processing of formal land transactions and conflicts; confidence in land governance system, labour/income, land use, and productivity and food security.

KEY STEPS DURING THE DESIGN PHASE

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E. Establish an evaluation design

In order to understand the potential for an evaluation and establish an evaluation design, it is best to bring on board an evaluation firm or an in-house evaluation expert. Establishment of an impact evaluation design in tandem with the intervention design is key. When selecting project implementation areas and related beneficiaries (treatment) groups, it is important to consider evaluation possibilities and needs at the project development stage. Based around the logic framework, research questions and availability of a comparison group, the evaluator will develop an evaluation design. The evaluation design includes the evaluation methodology(ies), sampling frame, data sources to be used and data collection timeframe.

STEP 1 EVALUATION METHODOLOGY (AND RELATED BENEFICIARY) SELECTION:

The first step to determining the evaluation methodology is understanding what type of evaluation is possible: performance or impact evaluation. As the Guidelines explained, an impact evaluation requires there to be a counterfactual, sufficient power and enabling factors like stakeholder buy-in, time and resources. As such, not every intervention can support an impact evaluation. Regardless of the evaluation methodology pursued, a mixed methods approach with both performance and impact evaluation elements, including incorporation of both qualitative and quantitative data, will provide the best analysis. It is important to keep in mind that even with the establishment of an impact evaluation, not all research questions can be answered with the same evaluation methodology, data sources or sample.

It is critical to work with the evaluator to assess whether there is a potential way to establish a counterfactual (representing what would happen without project) either via 1) randomizing beneficiary/treatment area selection, or 2) developing an effective comparison group of observable/known variables. The key is that these groups should not have any differences except for the treatment of the intervention so you can compare the differences of the groups before and after the intervention and attribute any differences in these two groups to the project intervention. There are lots of reasons tenure security, investments and crop yields may change that are distinct from the project, such as weather and politics. Selecting a comparable group allows the evaluation analysis to separate those external factors and attribute the differences in the

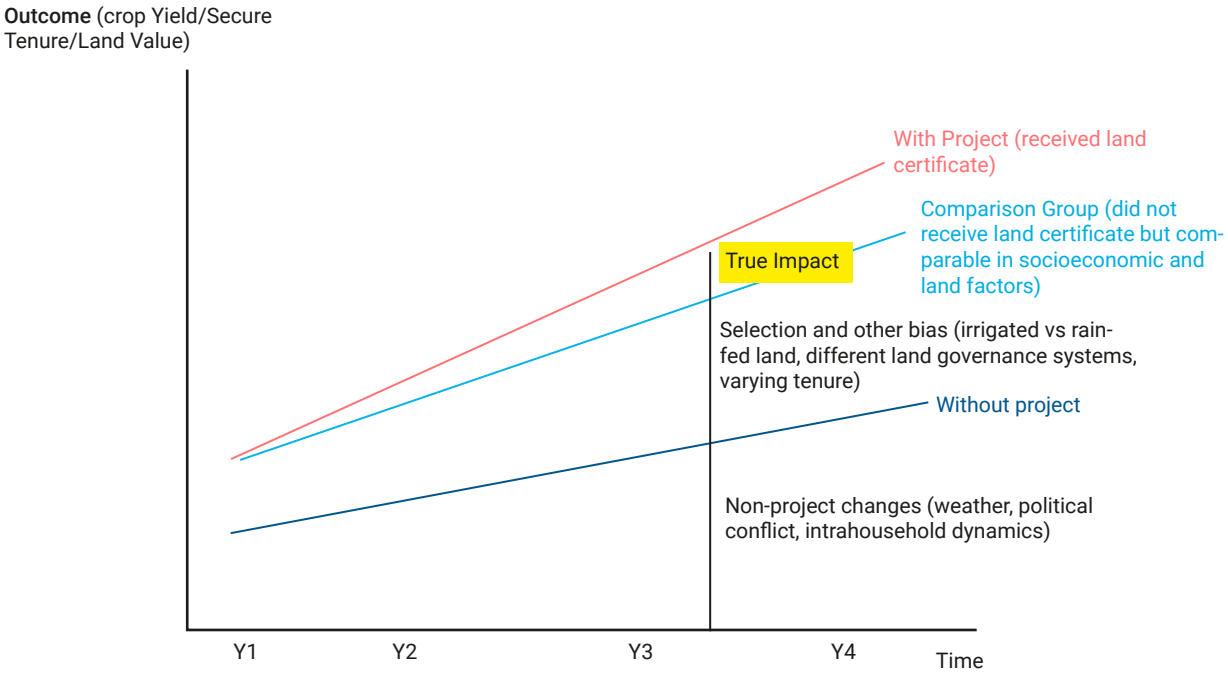
benefit streams between the comparison group and project group (the impact) to the intervention.

To establish the counterfactual, an evaluator needs to understand how big and diverse the treatment area is, as well as how treatment areas will be selected. The designer of the land intervention will need to consider whether it is necessary to intervene in one particular location or multiple potential areas that would support the intervention. To support an impact evaluation, the intervention needs to select beneficiaries randomly, such as through a lottery or through defined criteria so that a comparison group can be established. If you are forming a comparison group, there has to be a similar group available to use as a comparison. For example, if the project can only work with farmers living on one irrigation perimeter, then both the treatment and the comparison groups would need to come from that irrigation perimeter so that these groups are comparable.

Although randomization may seem unrealistic for many land interventions, randomly selecting beneficiaries, especially via a public lottery, can help depoliticize the land intervention. The intervention does not have to completely randomize the selection of beneficiaries. There may be clear reasons why the intervention should only be carried out in particular areas of the country or specific types of parcels. The intervention can randomly select households within predefined areas that must be treated. There is also the ability to randomize by cluster, such as at the village level rather than household. This is key in land interventions since often the intervention is unable to have control and treatment parcels in the same village, especially when mapping land rights due to the nature of the process of agreeing on land boundaries with neighbours or when improving land governance as the land administration unit is similar.

If randomization is not possible, there are various quasi-experimental designs that can be pursued. The basics of the main quasi-experimental methodologies used in land evaluations were discussed in the Guidelines. The evaluator should be able to advise through the different choices. The key role for the land intervention designer/implementer is to ensure that the selection of implementation areas, to the extent possible, takes into consideration evaluation needs, provides access to key

FINDING THE OUTCOMES ATTRIBUTABLE TO THE LAND TENURE AND GOVERNANCE INTERVENTION



available land and agricultural data, and provides key insights on comparability of groups from the standpoint of land tenure and governance.

When trying to establish the comparison areas, the evaluator will ask for the criteria that is being used to select areas. For example, are areas being selected based on tenure characteristics like high land conflicts/ weak land tenure or high land transaction volumes, or by location, like informal settlements or peri-urban areas around a main city, or are they selected based on potential for economic gain like areas likely for land investment or existing low land use? If there are established criteria or scoring of applications to be considered for treatment, the evaluator can use these to create similar comparison areas. For example, in a regression discontinuity design, an evaluator will compare those who just barely met the cut off score to participate and those who just barely did not meet the cut-off score to participate in the intervention. Although slightly different, these areas right above and right below the cut-off score are most similar to one another in terms of likelihood of being selected for the intervention.

The evaluator will often try to establish a comparison group on observable characteristics to the extent possible. These include not only socio-economic factors but also land tenure and governance characteristics. For example, the evaluations would not want to compare areas of customary vs statutory land tenure, commercial vs residential farms, squatters with those who hold occupancy permits or with those who hold deeds, or irrigated vs non-irrigated land parcels. If there is any available data related to the treatment and surrounding land areas, the evaluator will try to use this data to form a comparison group. Any data that can be provided to help in this regard will be useful for establishing a comparison group. Often it takes local experts or those coordinating the land intervention to be able to access the agricultural or urban census data, land administrative data, municipal data and other land-based data sets that can help establish valid comparison groups.

When the evaluator suggests an area for comparison, the land intervention designer or those with local land knowledge should review to ensure the groups are indeed comparable not just on socio-economic factors but key land aspects as well. For example, project-affected parties and other vulnerable groups are often not the same as those selected by a lottery or application process with more resources, experience and willingness to participate in the intervention. There may be a key difference in tenure situations that a local land person would know that should be flagged.

Even if an evaluation successfully establishes a counterfactual, sometimes there are elements that are unknown and significant differences between the treatment and comparison groups are discovered. The evaluator will doublecheck that the groups are comparable across variables captured by the survey. Matching and other econometric techniques can be used to mitigate these differences in the counterfactual so that one can understand the effects of the intervention and not just differences that are inherent within two groups. For example, if the counterfactual had more land conflicts or weaker land tenure than the treatment group, there may be another reason besides the intervention on why land users are not investing or experiencing lower productivity and hence bias the evaluation results.

STEP 2 (SAMPLING FRAME/ EVAL POWER/MDE):

Regardless of impact evaluation type, *the evaluation needs sufficient power and related samples to be able to find effects.* In determining evaluation power, the evaluator will review the existing land literature and work with the designers of the land intervention and local stakeholders to understand key variables measuring and expected effect sizes, treatment unit (individual, parcel household, village, district) and size, and characteristics and variability among potential treatment populations. These factors are needed to be able to **calculate what sample size will be necessary** to be able to capture the likely effect size for key variables. The evaluation is powered to be able to capture a minimum detectable effect (MDE). Any effect below that MDE cannot be captured by the evaluation.

The larger the sample size required, the more costly the evaluation. As such, it is important *to provide the evaluator with an understanding of the environment, what effect size the project is aiming to achieve on key variables and any subgroup analysis required.* For example, how much does the project expect to change

perception of tenure or investments or land values? The evaluator will suggest a sample size based on treatment size, variation of key characteristics within the sample and the likely effect. Usually the evaluation is powered slightly above the needed effect size.

As per the Guidelines, a larger sample size can power the evaluation to capture a smaller MDE size and smaller sample sized can be used for randomized controlled trial designs, when there is a similar number of comparison and treatment areas, when the sample has a small intra-cluster correlation coefficient (characteristics of the population within the village/neighbourhood are not strongly correlated) and low variance. The evaluation will need sufficient power to detect changes in key variables. If the expected effect is small, it may not be worth collecting data from the sample size necessary to detect significant change.

STEP 3 (DATA SOURCES):

The next step is **reviewing available data sources that can be used** in the evaluation. The Guidelines describe the various data sources (survey, administrative, geospatial, focus groups, key informant interviews, project data) and their potential uses in land evaluations. Best practice is triangulating data sources, including surveys, use of project and land administrative data, as well as qualitative data from focus group and key informant interviews. Surveys provide key information on perceptions, management, disputes, transactions, investments, and production on parcel as well as general socio-economic variables. Qualitative data collection can provide insights into the quantitative data, especially the why and how of results, as well as information on the performance of the intervention. Administrative data provides the universe of land transaction, building permit, bank and conflict data. However, administrative data is often complex to access and analyse without a deep understanding of the data and procedures to manage that data. A land administrative specialist is needed to aid in this process. Geospatial data allows for linking with other geolocated surveys outside of the evaluation and as technology improves, it is a low-cost method of gathering data on crop cover, land use change, property investments like roofing, and eventually agricultural yields when combined with field data. Project data shows project implementation and performance details and outputs.

The evaluator will need to know what sources of data are available, the frequency of that data, the quality of the data, the manager of that data and the accessibility. This is a key area for land and local stakeholder insights as often local stakeholders and project designers already have an understanding of the available resources and contacts to help gain access to those data sources. For example, what census or surveys have been carried out? Are land records paper, digital or in a land information system? What are the available fields? Are conflicts captured at a land court or by local chiefs or land offices? What satellite imagery is available?

When looking at data sources, the evaluator will look at what types of data exist and the condition and accessibility of that data. Consulting with local stakeholders, including governments, civil society organizations and private sector, is encouraged to access needed information and support for the evaluation. It often helps for the land project implementer to help gain access to the data, as well as help identify potential data sources that could be used for key variables. For example, if the land offices have conflict registers or are tracing requests and approvals for land registrations and transfers and what type of records, whether paper or digital.

KEY STEPS DURING THE DESIGN PHASE

Case Study

After reading through the project materials and logic framework, the evaluator asks questions to see if it is possible to establish an evaluation with a counterfactual. This is especially important considering the road will also change behaviours over time so the comparison areas along the road need to be as well. Considering this is not a national level effort with a limited scope, the evaluator inquires whether it is possible to randomize selection of the 10 out of 30 districts and the 100 villages out of the approximately 600 potential villages. Due to the nature of land administration and the inability to map one parcel boundaries without clarifying neighbours' boundaries, there is already an understanding that randomization will not occur below the village level.

However, the government and project designers push that they must pilot the effort in the 10 districts which are considered the most valuable and hence are those most likely to lose tenure and benefit from the intervention. These also happen to be those areas with the highest traffic volumes. The project implementers also note that rolling out to numerous villages in areas spanning the entire road would bring much higher implementation cost as the land sensitization and demarcation effort was planning to start in the south and head north.

As an alternative, the evaluator suggests randomizing villages within the 10 selected districts. This would mean randomizing selection of 100 of the 200 eligible villages. The evaluator also presents alternatives, such as selecting villages via established scoring criteria or trying to match treatment villages with comparison villages based on the most recent national agricultural census data. There was consideration of comparing villages with those outside the districts that were still along the road, but since the criteria is to select those that are most valuable, the comparable group should be within the same districts. Due to the political nature of land in the area and concerns raised that villages of the ruling political party would be granted land, there is an agreement to hold public lotteries in each of the 10 districts to select 10 villages that will have all parcels within the village mapped and households provided with formal land certificates.

A randomized control trial is established to measure the effects at the village level of land demarcation and certification plus streamlining of land procedures. Based on the sample population and expected effect sizes, the evaluation is powered to detect a 20 per cent change in land values and a 10 per cent change in land investments. The survey sample size is 1,200 households across the 100 control villages and 100 treatment villages. In addition, the evaluation will use wives' surveys to capture the effects on women vs men, and use a village leader survey to capture village level effects. The data will be supplemented by land administrative data on land transfers and building permits, as well as remote sensing data on land use changes. Focus group discussions will be held with key stakeholder groups like women, vulnerable groups and businesses to gain a deeper understanding of effects on those groups.

For the streamlining of procedures, the adoption is at the national level. However, the project plans to train all 30 of the districts where they are operating along the road. The project designers hope this will allow farmers who really want to conduct a formal land transfer or register their rights to be able to register on their own. The training will occur at the same time and cannot be rolled out. Although the evaluation could try to select comparison districts, the construction of the road and related access makes other districts not comparable. Instead, the evaluator suggests doing an interrupted time series analysis to look at the effect of the streamlining of procedures, including changes in land transaction time, conflicts and demand for land transaction services. The evaluator works with the land project designer to understand the key land transactions expected to change, and the start and stop dates for each of those land transactions. The evaluator works with the land offices to understand the data field available and a plan for digitization and data capture. As there are very few formal land transactions, there is an agreement to capture all data from five years prior to the project and five years after the project. The government has agreed to release this data. Key informant interviews with land administration officers will supplement the administrative data.

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F. CONCLUSION

In order to establish an impact evaluation and attribute results to the intervention, programme implementers and researchers/evaluators need to work together. The starting point is a clear theory of change for the land intervention and incorporation of impact evaluation into the early stages of the intervention design phase through coordination with land sector and evaluators. The main determining factor under the control of the land designer is how beneficiaries are selected and if there is a way to make this process conducive to both project implementation and an evaluation.

If there is a conducive environment for a land-impact evaluation along with the resources and willingness to support rigorous evaluation, results learned from these evaluations can better inform future land investments, improve results and inform policy decisions. Hopefully, this "How to Guide" provides a better understanding of the basic steps and needs involved in each step, and will contribute to the willingness and ability to not only establish and engage future impact evaluation of land tenure and governance interventions but also other evaluations.

United Nations Human Settlement Programme

UN-Habitat helps the urban poor by transforming cities into safer, healthier, greener places with better opportunities where everyone can live in dignity. UN-Habitat works with organizations at every level, including all spheres of government, civil society and the private sector to help build, manage, plan and finance sustainable urban development. Our vision is cities without slums that are liveable places for all, which do not pollute the environment or deplete natural resources.

More information at www.unhabitat.org

International Fund for Agricultural Development (IFAD)

IFAD is an international financial institution and a specialized United Nations agency dedicated to eradicating poverty and hunger in rural areas of developing countries. Working with poor rural people, governments, donors, non-governmental organizations and many other partners, IFAD focuses on country-specific solutions, which can involve increasing poor rural peoples' access to financial services, markets, technology, land and other natural resources.

More information at www.ifad.org

The Global Land Tool Network

The Global Land Tool Network (GLTN) is an alliance of international land actors contributing to poverty alleviation and the Sustainable Development Goals through promoting access to land and tenure security for all. The Network's partnership is drawn from rural and urban civil society organisations, international research and training institutions, bilateral and multilateral agencies, and international professional bodies. GLTN takes a holistic approach to land challenges through the development, dissemination and implementation of pro-poor and gender responsive land tools. These tools and approaches contribute to land reform, good land governance, fit-for-purpose land administration, sustainable land management, and functional land sector coordination.

For further information, visit the GLTN web site at www.gltn.net

ABOUT THIS PUBLICATION

The objective of the "HOW TO" GUIDE FOR INTEGRATING IMPACT EVALUATION INTO PROGRAMMING is to provide a clear step-by-step guide to establishing evaluations for implementers of land tenure and governance interventions. The "How to" Guide elaborates key steps, processes and tools needed by evaluators and practitioners for integrating impact evaluation into programming and to support better planning and implementation of land tenure and governance interventions.

This publication serve as an additional tool that complements the Guidelines for Impact Evaluation of Land Tenure and Governance Interventions published in 2019 (https://gltn.net/2019/03/29/guidelines-for-impact-evaluation-of-land-tenure-and-governance-interventions/). Users of this "How to" Guide should also read and understand the original Guidelines for Impact Evaluation of Land Tenure and Governance Interventions. Both publications (the Guidelines for Impact Evaluation of Land Tenure and Governance Interventions; and the How to" Guide for Integrating Impact Evaluation into Programming) are a product of a joint partnership between IFAD, GLTN and UN-Habitat, and in consultation with the Global Donor Working Group on Land (GDWGL), to improve access to tools needed to evaluate land tenure and governance interventions.

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