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The catalytic impact of market systems innovations in land certification programs – evidence from two large-scale household surveys in Ethiopia

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Abstract

The LIFT program is using a unique approach by combining land certification and land administration with a market systems approach. These components are mutually beneficial to each other and create incentives for their use and maintenance. Based on two large-scale quantitative household surveys conducted in 2019, this paper will discuss evidence of how a combination of Second Level Land Certification, Rural Land Administration Systems and market systems thinking allows us to incentivize landholders to participate in land administration, while also accelerating investment, productivity and income effects.

Key Words: Ethiopia, Market Systems, Registration, Land Administration, Sustainable Program Design

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Section 1: LIFT's catalytic impacts on rural land administration systems and economic growth

1.1 LIFT and land certification in Ethiopia[1]

Land is a key factor of production in Ethiopia's agricultural economy. As such, land-related factors contribute to high levels of poverty, such as insecure land tenure and limited investment by smallholders on their land. Evidence suggests that when people feel insecure on their land, they are less likely to engage in economic practices, such as investing in land to improve productivity, renting in additional land, and renting out additional land for productive purposes (Deininger et al. 2008; 2011; Holden et al. 2009; 2011). Threat of eviction, expropriation and land disputes also undermine these changes in economic practice. Women are particularly disadvantaged, both economically and socially. Weak land rental markets and poor market linkages also contribute to challenges in maintaining growth as well as reducing poverty.

The Ethiopia Land Investment for Transformation (LIFT) program funded by UK aid aims to improve the incomes of Ethiopia's rural poor and enhance economic growth through Second Level Land Certification (SLLC) of up to 14 million parcels (approximately 6.1 million households, with women, either jointly or individually, accounting for 70 per cent of land holders), and by building capacity in the rural land administration. The program is implemented by the Government of Ethiopia, through the Ministry of Agriculture's Rural Land Administration and Use Directorate (RLAUD), with comprehensive technical and delivery support provided by a consortium led by DAI Europe[2][3].

The LIFT program has four outputs:

- Output 1: Second-level certificates issued recognizing the rights of joint, polygamous and Female Headed Household land holders
- Output 2: A land administration system implemented and operational in targeted woredas
- Output 3: Improved supporting functions for the rural land market for women and poor farmers
- Output 4: Improved policies and institutions for the rural land market

LIFT now operates in over 173[4] woredas across four highland states: Amhara, Oromia, the Southern Nations, Nationalities People's Region (SNNPR) and Tigray and has demarcated more than 15 million parcels (more than a million parcels more than initially planned for)

[1] This section has been partly extracted from Ignacio Fiestas, John Leckie, Christina Mayr; *Formalising Land Rental Transactions in Ethiopia – Is Land Certification Enough?,* Paper prepared for presentation at the "2018 World Bank Conference on Land and Poverty", 2018.
[2] The DAI consortium also includes NIRAS Consulting (Finland), Nathan Associates London Ltd (UK) and Generation Integrated Rural Development Consultants Ltd (Ethiopia).
[3] Ignacio Fiestas, John Leckie, Christina Mayr; *Formalising Land Rental Transactions in Ethiopia – Is Land Certification Enough?*, Paper prepared for presentation at the "2018 World Bank Conference on Land and Poverty", 2018.
[4] As of 15th February 2020. LIFT weekly monitoring data.

The Second Level Land Certification methodology used for LIFT builds on the registration methodology developed in Rwanda under the DFID-funded Rwanda Land Tenure Regularization Support Program (DFID, 2013) also implemented by DAI. Orthophotos are used to produce high resolution maps on which land holders identify their parcel boundaries on-farm, and in the presence of their neighbors and local leaders. The resulting boundaries and occupancy data are computerized locally by LIFT program technical support teams. After verification, this data is further processed and approved for inclusion on a register of land rights. After approval, hard copy certificates demonstrating parcel boundaries, occupancy and land rights are printed and made available to land holders.

FLLC and SLLC in Ethiopia

First Level Land Certification (FLLC) - in the Ethiopian context, this the process of recording occupancy and user rights on a parcel or parcels of land. Certification involves the recording of these rights in: i) a register maintained at woreda level (district level); and ii) a 'holding book' held by the rightholder.

Between 1998 and 2004, Ethiopia carried out a large-scale FLLC program to register landholdings in rural areas, it covered approximately 20 million parcels belonging to over six million households in Amhara, Oromia, SNNPR and Tigray. FLLC had a wide coverage, but also suffered from deficiencies (Deininger et al, 2008), including poor recording of the rights of female land holders and the absence of a spatial record of the parcel boundaries. Over time this original investment in land registration became eroded as the registers were not maintained.

Second Level Land Certification (SLLC) - second level certification adds an additional spatial component to first level certification. This is in the form of a parcel map, supplied to the rightholder in hard copy and maintained digitally at woreda level. The dimensions of the parcel are demarcated in the field and digitized into a GIS. This spatial information forms the cadaster. The SLLC procedures include safeguards to promote the inclusion of women and vulnerable groups in the registration process, ensuring that their rights are recorded.

Alongside the Second Level Land Certification Process, LIFT is also supporting the Government in the implementation of a rural land administration system in LIFT program woredas (third-level administrative divisions) that will sustain the certification process and ensure farmers' long-term security of land holding. This includes clarifying and reinforcing the procedures for land administration, and training land administration personnel in the effective and transparent deployment of these procedures. The project is supporting the development and roll-out of a new Rural Land Administration Information System, which enables land transactions to be digitally recorded, monitored, and reported.

1.2 Linking land certification with economic empowerment

While a number of systematic land registration programs have built or are piloting methods based on the Rwanda model and associated benchmarks for what is possible, LIFT aims to take it a step further. Land registration programs often face the problem of sustainability, both from the perspective of generating public demand for and buy-in to formal land administration and ensuring the continued and trusted supply

of land administration services. A criticism of the Rwanda land reforms is that the sustainability of the land administration was considered too late in the program delivery[5], with the land administration system unable to keep pace with the delivery of titles, and requiring a substantial investment in establishing the systems and institutions of land administration in order to avoid undermining the investment in titling and registration. The LIFT program aims to address this by integrating land administration sustainability outcomes from the beginning of the program. In addition to more straightforward resourcing and capacity building activities, the program integrated a unique and innovative Economic Empowerment component, which deploys a market systems development approach on a large-scale land reform program for the first time. LIFT's Economic Empowerment Unit (EEU) aims to improve the effectiveness of the land sector in maximizing productivity and incomes for farmers who have obtained security of tenure through LIFT. The EEU aims to address constraints in the rural land market that prevent farmers from fully capturing the benefits of second level certification.[6] Applying a market systems approach allows the program to develop systemic interventions in the rural land market and other closely related markets (e.g. finance) that will enable LIFT to maximize and accelerate the impacts of its second level land certification activities and the accompanying improvements to the rural land administration system (DFID, 2013). The market innovations introduced by LIFT's EEU component include the following:

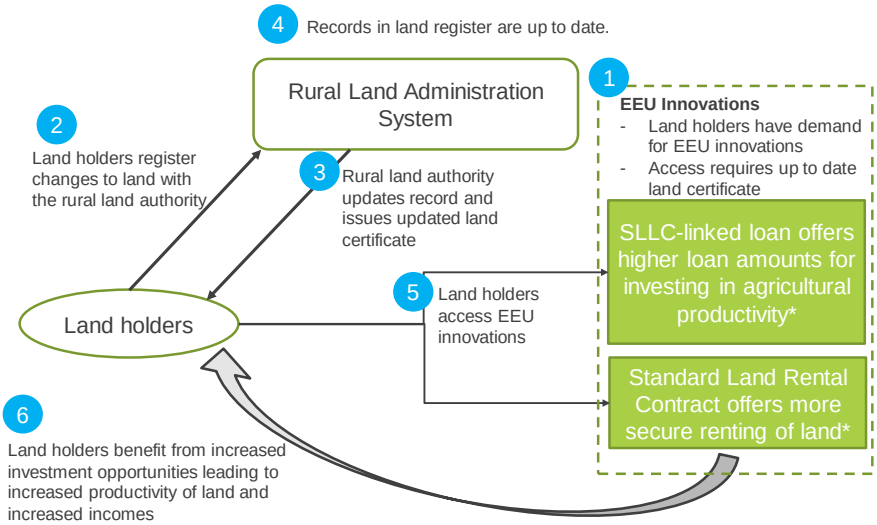
1) **The SLLC-linked individual agricultural loan product:** LIFT worked with the Government of Ethiopia, stakeholders and partner microfinance institutions (MFIs) to develop an agricultural loan product specifically tailored to farmers with second level land certificates (SLLC). The product leverages the SLLC as a guarantee to secure a loan, allowing MFIs to offer higher loan amounts to individual farmers, which can in turn invest more in improved agricultural inputs.
2) **The Standard Land Rental Contract (SLRC) and Land Rental Service Providers (LRSPs):** The SLRC is a formal land rental contract developed by LIFT in collaboration with the Government of Ethiopia. The SLRC replaces informal agreements, and offers more secure and enforceable land rental agreements, especially for more vulnerable groups. Alongside this more secure rental contract, LIFT facilitates the introduction of Land Rental Service Providers (LRSPs), who raise awareness of the SLRC, reach out to more vulnerable households and facilitate rental transactions by providing market information on prices and available land as

[5] LEGEND (2019), *Securing Land Rights at Scale*, Report on behalf of DFID, United Kingdom.
[6] Ignacio Fiestas, John Leckie, Christina Mayr; *Formalising Land Rental Transactions in Ethiopia – Is Land Certification Enough?*, Paper prepared for presentation at the "2018 World Bank Conference on Land and Poverty", 2018.

well as contract completion and registration. LRSPs provide services that support tenants in identifying available land and help more vulnerable landholders to agree fair rental contracts.

Figure 1 below depicts LIFT's catalytic impacts with regards to how EEU innovations incentivize registration of land transactions and increased investment.

Figure 1: Catalytic impacts of EEU innovations which incentivize registration of land transactions and investment in agricultural productivity



The innovations introduced through LIFT's EEU component both encourage increased investment, thereby magnifying the economic impact of second-level land certification, and encourage renewed and continuous participation and 'buy-in' to the land administration systems which uphold tenure security in the long run.[7] The latter is achieved since EEU innovations set positive incentives to keep the SLLC up to date. This is because EEU innovations can only be accessed with an up to date SLLC. As a result, demand for the SLLC-linked loan product and the Standard Land Rental contract also creates demand for farmers to register subsequent land transactions to keep their SLLC up to date. This effect extends to landholders who have not yet attempted to access EEU innovations. The awareness of the benefits of the EEU innovations is sufficient to incentivize landholders to keep their SLLC up to date so that they can potentially access these in the future. Incentives to register land transactions are maintained over time, as the demand for attractive EEU innovations expands through rural market systems. As a result, LIFT's EEU component catalyzes the long-term sustainability of an up-to-date land registry, and the economic growth of rural land holders alike.

[7] Ignacio Fiestas, John Leckie, Christina Mayr; *Formalising Land Rental Transactions in Ethiopia – Is Land Certification Enough?*, Paper prepared for presentation at the "2018 World Bank Conference on Land and Poverty", 2018.

1.3 Large-scale household surveys on catalytic impacts

LIFT conducted two large-scale household surveys in 2019 to provide rigorous evidence on the two catalytic impacts discussed above. The ***RLAS transaction survey***[8] was conducted in June 2019 and included both a quantitative household survey of 9,600 households and qualitative research to better understand costs and benefits for landholders to register land transactions. The quantitative household survey is representative of LIFT's program area and allows to estimate the percentage of land transactions that were formally registered in the rural land administration system in areas with and without access to the EEU's market systems innovations, while controlling for spurious and confounding variation. This in turn allows to test whether EEU innovations indeed set positive incentives to register land transactions.

In February 2019, LIFT conducted the ***EEU Impact Survey***,[9] a quantitative household survey sampling 1,382 households across LIFT's program areas Amhara, SNNPR, Oromia, and Tigray. The purpose of this survey was to evaluate the impact of LIFT's market systems innovations on the behavior of farmers with respect to investment in land and any productivity and income increases resulting from the EEU's market innovations.

In combination, these two large-scale household surveys provide rigorous evidence to discuss the catalytic impacts of LIFT's EEU component, which can be summarized as:

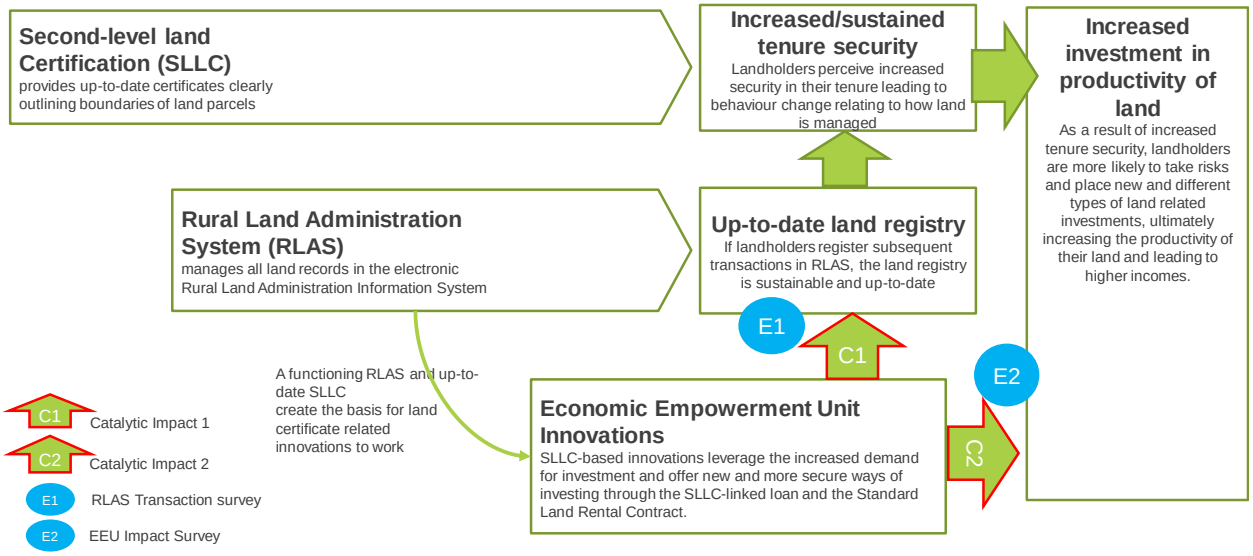
> **Catalytic Impact 1:** EEU innovations provide incentives for landholders to keep their SLLC up-to-date and register changes in the rural land administration system, thereby contributing to a sustainable land register.
>
> **Catalytic Impact 2:** SLLC in combination with EEU innovations, such as the SLLC-linked loan and the Standard Land Rental Contract, accelerate landholders' investments leading to increased productivity of land and increased incomes of land holders.

Figure 2 below illustrates the catalytic impacts in LIFT's Theory of Change and shows where research was conducted to provide evidence on the program's key assumptions. The remainder of this paper will discuss the challenges to maintain a sustainable Rural Land Administration System (RLAS) and how a market systems component can support in addressing these. Further, evidence from the two large-scale household

[8] The methodology for LIFT's *RLAS transaction survey* was quality assured by an external evaluation service provider contracted through DFID. This was to ensure that approach and methods are sound and will allow to respond to the study's evaluation questions. Findings are outlined in the *RLAS transaction survey report*, July 2019, LIFT. The report is available upon request.
[9] The methodology for LIFT's *EEU Impact Survey* was quality assured by an external evaluation service provider contracted through DFID. This was to ensure that approach and methods are sound and will allow to respond to the study's evaluation questions. Findings are outlined in the *EEU Impact Survey report*, July 2019, LIFT. The report is available upon request.

surveys on LIFT's catalytic impacts will be discussed. Finally, recommendations for future program design will be summarized.

Figure 2: LIFT's catalytic impact and recent research



1.4 Challenges to maintaining a sustainable Rural Land Administration System (RLAS)[10]

Any investment in land certification must be supported by a functioning land administration system. Without systems for maintaining the land register, land records can quickly become out of date, undermining the original investment and public trust in the integrity of the formal land tenure system. This was one of the challenges encountered in Ethiopia following an earlier attempt at 'First-Level Land Certification'. While this campaign achieved good registration coverage, the associated land registers were irregularly maintained –cases were observed in which each type of record (register book, parcel level paperwork, digital record) not only differed from each other, but also from the actual land holder using the parcel. These records had been significantly eroded and were therefore of limited value for long-term land use planning and land tenure security. The register guarantees land rights and must accurately reflect the real right-holding over property.

Without maintenance, the rural land registry quickly becomes out of date, which does not only devalue the registry but also the prior land certification process. Here it is important to note the costs and benefits of an up to date land registry. Benefits include accurate information for government to conduct long-term land use planning, including tax revenue generation from land holders. Benefits can also potentially include government revenue from selling rural land administration information services to users in the public and

[10] Parts of this section have been extracted from Ignacio Fiestas, John Leckie, Christina Mayr; *Formalising Land Rental Transactions in Ethiopia – Is Land Certification Enough?*, Paper prepared for presentation at the "2018 World Bank Conference on Land and Poverty", 2018. Authors have provided their consent.

private sector. These information service users could then subsequently create value through new and additional services for rural land users in return. One example could be the SLLC-linked loan discussed above. A detailed business case for Rural Land Administration Information Services (RLAIS) has been developed by LIFT, [11] and estimates that a long-term net recurring cost recovery ratio of RLAS by RLAIS web enabled online services, ranges from 23% to 41%, provided the information services meet the customer requirements and RLAIS is operated professionally. [12] For the government to be able to realize these benefits, the land registry needs to be kept up to date. On the demand side, this largely depends on the land holder's willingness to register changes to their land with RLAS.

Historically, land administration programs have struggled to create an environment where land holders formally register transactions[13]. Land registers can quickly become eroded and informal transaction systems emerge which do not offer assured security of tenure. One reason for this is that land holders lack awareness of the advantages of registering transactions, as well as lacking incentives to pay the costs (both financial and opportunity costs) that are usually associated with recording transactions.

Typically, land reform programs focus on awareness-raising and public awareness and communications activities as a means to obtain greater public buy-in to land administration. While this approach is valid, in the case of raising awareness of the rights and obligations of land holders (particularly when addressing women and minority or vulnerable groups who might otherwise be excluded), it does not offer many incentives to actual participation in the formal land administration system. Furthermore, to maintain public awareness of the requirement to, and benefits of, registering land transactions, awareness raising activities need to be continued by the program or the government over time, to ensure that new generations of landholders adapt their behavior and that the current generation continues to comply with formal registration requirements. This implies ongoing, long-term costs for either the program or the government. In the case of LIFT, however, the program created market interventions (around land rental and credit) with clear incentives for farmers to register their transactions. By requiring a functioning Rural Land Administration System (RLAS) as a pre-requisite for these transactions to take place and for farmers to receive the associated benefit, it is hoped that the interventions will stimulate demand for land administration services, as well as increasing growth and productivity. [14] The incentive to register subsequent land transactions directly results from the land holder's demand to access the market innovation,

[11] *Business Case Rural Land Administration Information Services*, LIFT, 2018.
[12] The annual recurring costs of RLAIS would be approximately ETB 8 million. While the recurring costs of RLAIS are a fraction (1,7%) of the recurring costs of RLAS (ETB 458 million), the contribution of RLAIS to the value generation and potential cost recovery would be significant. *Business Case Rural Land Administration Information Services*, LIFT, 2018.
[13] LEGEND (2019), *Securing Land Rights at Scale*, Report on behalf of DFID, United Kingdom
[14] Ignacio Fiestas, John Leckie, Christina Mayr; *Formalising Land Rental Transactions in Ethiopia – Is Land Certification Enough?,* Paper prepared for presentation at the "2018 World Bank Conference on Land and Poverty", 2018.

i.e. the Standard Land Rental Contract or the SLLC-linked loan. Both innovations are attractive for the land holder, as they catalyze investment in land with the expectation of short-term or long-term economic benefits for the land holder.

As outlined above, a precondition to access the innovation is an up to date SLLC. This applies to both the SLLC-linked loan and the formal land rental contract, as will be outlined in more detail in Section 2 below. As a result, the demand to access the market innovation directly translates into a demand to registering changes to or transactions on the parcel in the RLAS in order for a land holder to receive an up to date SLLC.

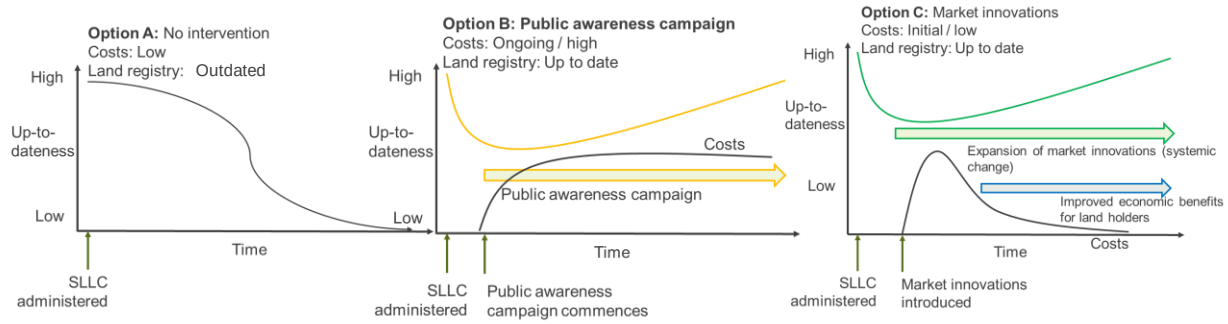
When compared to other programmatic approaches such as awareness campaigns or other public awareness and communication activities, LIFT's approach of incentivizing land holders through market innovations provides higher value for money and a higher Economic Rate of Return (ERR) for the following reasons:

1) **Low maintenance costs - successful market innovations continue to expand without program support:** Initial costs are needed to conduct market assessments, develop the product design, and facilitate the buy-in of market actors and piloting stages. As market actors buy-in to a successful product, as was seen with MFIs for the SLLC-linked loan, the program however ceases to be involved in the roll-out of the product and instead the market actor starts to promote and expand the product. This happens as a result of the business-minded nature of the market actor, for which the roll-out of the product increases profits. As a result, after the initial start-up phase, the program ceases to invest in the roll-out while market actors bear the costs of expanding and promoting the product with land holders.
2) **Sustained economic benefits for land holders:** Accessing market innovations encourage investments to increase the productivity of land, which implies an economic gain for the land holder. This is what makes accessing the market innovation attractive for the landholder and incentivizes the land holders to keep the SLLC up to date to remain eligible.

Figure 3 below compares three simplified scenarios, where for Option A, no support for RLAS is invested in after the initial land certification, Option B depicts the more conventional approach using public awareness activities, and Option C depicts the introduction of market innovations to a land certification program. Option A shows, how the land register would be outdated over time, without efforts to incentivize or aware land holders to register subsequent land transactions. Option B shows how a maintained public awareness campaigns can lead to behavior change and an up to date land registry. Costs to maintain the public awareness campaign would however be high. Option C shows how market interventions can

introduce sustained incentives for land holders to register land transactions with only an initial cost and with sustained economic benefits for land holders.

Figure 3: Three scenarios for land registry interventions over time



In the following section, the market systems approach outlined in Option C above will be discussed in more detail, including how incentives are set to register subsequent land transaction in RLAS, how market innovations expand to land holders (systemic change) and how market innovations imply economic benefits for landholders.

1.5 Market systems development and the sustainable roll-out of market innovations

There is ample evidence that to fully realize the benefits of land certification, complementary interventions need to take place in the corresponding markets (see Fleisig and de la Peña (2003b), Place and Otsuka (2002), Ghatak and Besley (2010), or Whitehead et al (2012)). Land tenure programs must recognize that providing beneficiaries with a certificate that increases their security of tenure is only the first step in the long process to ensure that beneficiaries invest more and see their incomes increase.[15]

Market systems development (MSD) seeks to address this by changing the way that markets work, so that poor people are included in the benefits of growth and economic development. The aim is to tackle market failures and strengthen the private sector in a way that creates large-scale, lasting benefits for the poor.[16] To achieve this LIFT focuses on interventions that modify the incentives and behavior of businesses, such as Microfinance Institutions (MFIs) and other market players – public, private, formal and informal – to ensure lasting and large-scale beneficial change to poor people.[17] The market systems approach has been used most frequently in agriculture and financial programs, although it is also being used in health, labor

[15] Ignacio Fiestas, John Leckie, Christina Mayr; *Formalising Land Rental Transactions in Ethiopia – Is Land Certification Enough?,* Paper prepared for presentation at the "2018 World Bank Conference on Land and Poverty", 2018.
[16] The Springfield Centre (2014) The Operational Guide for the Making Markets Work for the Poor (M4P) Approach, 2nd edition funded by SDC & DFID
[17] Beamexchange.org

markets and energy programs. LIFT is the first case of a market systems approach being applied to a land tenure program.

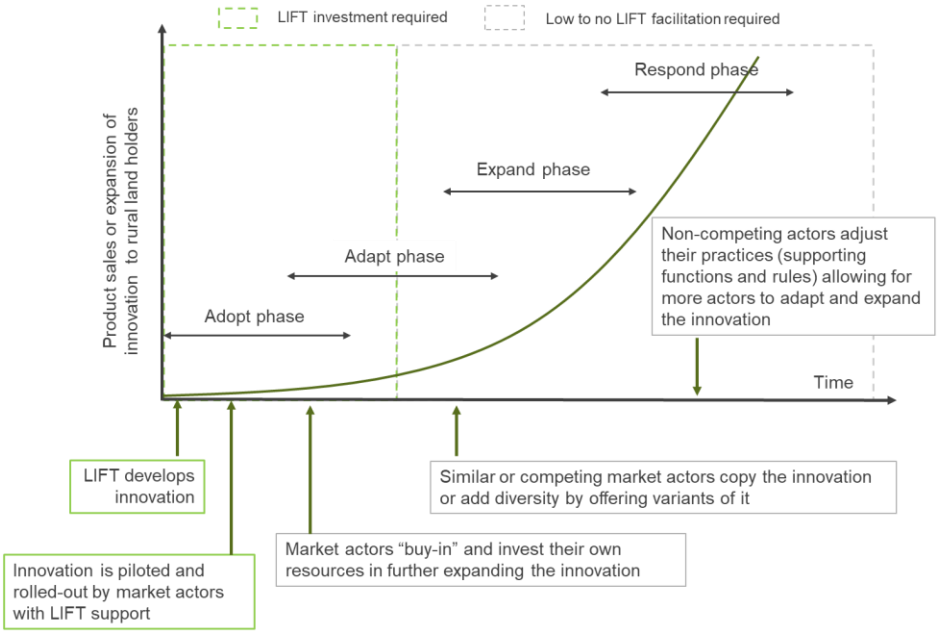
LIFT's market systems development interventions underly a thorough analysis to understand how a given market works. In the case of LIFT, the land rental market and the access to finance market were identified to be most suitable for market interventions and a detailed theory of change was developed for each sector, as outlined in LIFT's market assessments.[18] The implementation of a market systems intervention usually entails the following steps, outlined at the example of LIFT's access to finance innovation – the SLLC-linked loan:

1) LIFT innovates concept for new financial product linked to SLLC (SLLC-linked loan)
2) LIFT identifies and trains market actors (MFIs) that are interested in piloting the new financial product
3) LIFT awards minimal cost-sharing grants to partner MFIs to pilot and roll-out the SLLC-linked loan
4) LIFT advocates relevant public regulatory entities, such as the national bank to provide a conducive regulatory environment to scaling-up the SLLC-linked loan
5) Market actors (MFIs) buy-in to the new financial product (SLLC-linked loan) and invest own resources to further roll-out the product across rural areas in Ethiopia

It is important to understand, that a core principle of a market systems development approach is facilitation and introduction of an innovation, which will be further rolled-out and invested in by the market actors with which the program is partnering with initially. Figure 4 below depicts a simplified version of how the expansion of a market systems innovation is envisaged as per the Adopt-Adapt-Expand-Response Framework (AAER).[19] As shown in the diagram, LIFT is only investing in the initial product development and the generation of initial buy-in and risk-sharing of pilots through small grants. After a successful pilot, market actors will buy-in to the innovation and start investing their own resources to further expand the roll-out of the innovation, eventually reaching-out to a large share of the rural population. This process will be further expedited, as competing market actors copy the innovation and start offering the same or variants of it to land holders, further expanding the outreach.

[18] LIFT 1st Market Assessment, 2015, LIFT; and LIFT 2nd Market Assessment, 2015, LIFT.
[19] Adopt-Adapt-Expand-Respond: A framework for managing and measuring systemic change processes, Springfield Centre, 2014.

Figure 4: Expansion of LIFT's market innovations to land holders over time[20]



The increasing outreach to land holders is based on the profit-seeking nature of the market actors, who will seek to reach as many land holders as possible to maximize profits. A successful market intervention is therefore sustainable, since additional investment or facilitation from LIFT is not needed once market actors fully buy into the market innovations and invest in their expansion and marketing to landholders.[21]

In terms of incentives to register land transactions as outlined in Figure 2 and 3 above, this implies that there is a sustainable and low-cost roll-out of a product, which incentivizes land holders to register land transactions and keep their land certificates up to date, while providing opportunities to invest and increase land productivity and incomes. In other words, it could be argued that the incentives to register land transactions are ***embedded*** in the market innovation. In Section 2, we will explain LIFT's market innovations in more detail and provide evidence as to how these are leading to increased investment, productivity and incomes. Section 3 will further discuss the "embedded incentive" to register land transactions and provide evidence as to whether land holders are responding to the incentive or not.

Section 2: Economic benefits of LIFT's market innovations

LIFT's EEU component applies market systems development thinking in the access to finance sector and the land rental sector. Below first both market interventions are described and afterwards the findings from the *EEU Impact Survey 2019* will be described.

[20] For a detailed definition of the Adopt, Adapt, Expand and Response phases, please see Adopt-Adapt-Expand-Respond: A framework for managing and measuring systemic change processes, Springfield Centre, 2014, http://www.springfieldcentre.com/wp-content/uploads/2014/06/2014-03-Adopt-Adapt-Expand-Respond-Briefing-Paper1.pdf.
[21] Given supporting functions are available to continue to support market actors to roll-out the market innovation.

2.1 LIFT's market systems innovations[22]

Access to finance intervention: the SLLC-linked loan product

Enhancing access to finance for SLLC-holders is key to allow them to invest productively in their land. For example, increased access to finance gives smallholder farmers timely access to short-term finance for inputs (e.g. seeds, fertilizer, pesticides, herbicides, machine services, transport, labor and allows them to smooth cash flows. Being able to increase the productivity of land also makes the rental market more attractive, leading to higher rental prices (which disproportionately benefits vulnerable groups) and increasing the amount of land available to rent out/in. Overall, this supports a more efficient allocation of land.

Most farmers in Ethiopia can access finance through group loans. Such loans, however, are limited in size and cannot adapt to the specific needs of its members. To address these constraints, LIFT has worked with microfinance institutions (MFIs) in Ethiopia to develop a new agricultural loan product linked to the SLLC. This innovative product allows farmers to access larger loans of between ETB 5,000 and 100,000 on an individual basis (i.e. without relying on an intra-group guarantee). It promotes the use of a new approach to lending by MFIs and other interested financial institutions, by leveraging farmers' produce from land as collateral for loans. For the first time in Ethiopia smallholder farmers can borrow larger amounts, have more flexibility to decide what to invest in and what the loan repayment terms are, and have their applications assessed based on the merits of their business plans rather than on how long they have been MFI customers.

The loan is being used for agricultural-related productive purposes such as buying improved seeds and fertilizers, paying for additional labor, renting or buying oxen to plough, livestock fattening, purchasing irrigation equipment to engage in high-value crops, and other income-generating activities. This allows farmers to graduate from subsistence farming to move up the productivity chain' as they do not have to sell assets to repay their debts or cover their living expenses.

SLLC farmers are aware of the advantages of the individual loan product and how it could have a transformative effect on how they cultivate and invest in their land. Consequently, the demand for the product is high. The SLLC-linked loan product has been piloted since March 2016, and to date LIFT works with seven MFIs across four regions in Ethiopia (ACSI, Aggar, OMFI, OCSSCO, PEACE, Wasasa and Harbu) which have disbursed ETB 445,463,967 (approximately $ 14.8 million) of their own loanable funds

[22] Parts of this section have been extracted from Ignacio Fiestas, John Leckie, Christina Mayr; *Formalising Land Rental Transactions in Ethiopia – Is Land Certification Enough?*, Paper prepared for presentation at the "2018 World Bank Conference on Land and Poverty", 2018. Authors have provided their consent.

to 11,465 clients across 129 branches. This means that the average loan size per client is ETB 31,084 ($ 1,000).

The individual loan product was designed in such a way that having an SLLC is the key eligibility criteria. Once loan applicants have proved that they have an SLLC as well as a viable business plan, MFIs request the woreda land office to issue a "blocking letter." This letter has two purposes: a) it confirms that there are no other encumbrances on the parcel at the time of the application (e.g. that land is already rented out or another loan has been given by a different MFI); and b) it registers the current loan as a temporary encumbrance on the parcel of the client. This encumbrance has the same duration as the loan and will be removed once the debt has been repaid to the MFI in full. In order to issue this letter, woreda land offices need to record a registration in RLAS.

Land rental intervention: The Standard Land Rental Contract (SLRC) and Land Rental Service Providers (LRSPs)

The rural land rental system in Ethiopia is still largely informal, resulting in ineffective performance, distorted pricing, and conflict. Most land rental transactions are short-term, inefficient crop sharing arrangements between family and community members. Farmers have traditionally been reluctant to engage in formal rental transactions (particularly cash rentals) outside of family or close friends – the primary reason for this remains the real and perceived risk around engaging in rental transactions, particularly uncertainty around the recovery of the land at the end of the rental period. Additionally, farmers have limited access to information on the rural land market (particularly land availability and rental procedures) and an uncertain regulatory environment.

To address these constraints, two key innovations were designed and introduced to Ethiopia's rural land rental market:

1) **The standard land rental contract (SLRC).** This is a formal land rental contract developed by LIFT in collaboration with the Government of Ethiopia, and officially rolled out across Amhara, Tigray, Oromia and the Southern Nations, Nationalities, and Peoples' Region (SNNPR). The SLRC replaces informal agreements and offers more secure and enforceable land rental agreements. This has been approved and adopted by the Land Administration Offices in all four regions. That contract now must be registered by the local kebele office, as well as in the Rural Land Administration System (RLAS) at the woreda level. It can be used for all rental transactions and provides both parties to a rental transaction with the assurance that the transaction is legal and secure. Furthermore, the contract requires all certificate holders to agree to the rental agreement,

meaning that wives need to agree and sign off on the contract. Also note that the contract is based on the SLLC, hence an up to date SLLC needs to be provided including the correct name of the landholder covering the parcel that is supposed to be rented-out.

2) **Land rental service providers (LRSPs).** LRSPs raise awareness of the SLRC, reach out to more vulnerable households and facilitate rental transactions by providing market information on prices and available land as well as contract completion and registration. LRSPs provide services that support tenants in identifying available land and help more vulnerable landholders to agree fair rental contracts. LRSPs also raise awareness around the requirements and benefits of agreeing the formal land rental contract (SLRC) and the necessity of providing an up to date SLLC as part of the contract agreement.

2.2 Research into economic benefits: the EEU Impact Survey 2019[23]

Research purpose

Both the SLLC-linked loan and the Standard Land Rental Contract (SLRC) are designed to have an impact on the behavior of farmers, incentivizing investment in land which in-turn should lead to increased productivity of land and incomes. The successful application of these two innovations should in turn increase the demand for the same and facilitate the sustainable roll-out of the product throughout rural Ethiopia. To provide evidence regarding the economic benefits of the SLLC-linked loan and the SLRC, LIFT conducted a survey in February 2019 to probe whether farmers change behavior as a result of accessing these two innovations, and whether this has an impact on investment, productivity and incomes.

Methodology[24]

To do so, the EEU Impact Survey collected a range of household, person and parcel-level data from a sample of 1,382 households across the four LIFT program areas Amhara, SNNPR, Oromia, and Tigray. 926 of these were direct EEU beneficiaries, meaning they had directly accessed either the SLLC-linked loan or the SLRC. 456 households were non-beneficiaries, which were randomly sampled in the areas where EEU beneficiaries live to be able to compare the profile of beneficiaries with the "average farmer" in the area.

The survey asked detailed, parcel-level questions on increased investment, productivity and income in seasons before and after the EEU intervention was accessed. This allows to estimate the additional and attributable investment and income effects resulting from EEU interventions. The survey also probed

[23] For the full report see *EEU Impact Survey report 2019*, 2019, LIFT. Available upon request.
[24] Please see *EEU Impact Survey report 2019*, 2019, LIFT, and *Concept Note for the EEU Impact Surveys 2019*-2020, 2018, LIFT, for more detail on methodology and sampling approach. The reports are available upon request.

demographic and socio-economic characteristics of respondents, as well as knowledge, awareness, perceptions and practices relating to EEU innovations.

In order to get an indication of investment and income changes in the short term, the survey asked respondents to recall historical data before and after the SLLC-linked loan or formal land rental contract were accessed. Both the costs and returns of a specific investment were probed through detailed questions. Different cost items, such as different agricultural inputs relating to the crop in which the farmer had invested in the most are probed both in quantity and Birr value. In terms of investments, the survey methodology focused on changes in three key dimensions: 1) the choice of income-generating activities carried out by the household; 2) the use of and expenditures in inputs for cropping, livestock rearing and non-farm economic activities; 3) land investments on water and conservation structure at parcel level. The main measure of investment is the total cost in Birr of inputs used across all the income-generating activities. Similarly, a measure for the return of a specific investment is calculated in Birr, by probing yields or other forms of returns of the income-generating activity the land holder has invested in. This allows to calculate a measure of profit from a specific investment, as well as the *return on investment (ROI).*

In terms of income, the survey methodology allows us to generate evidence to estimate an additional and attributable income effect that directly relates to the additional investment that was made due to the EEU innovation.[25] The survey was however not designed to derive a robust measure of the total household income before and after the intervention, considering a comprehensive list of all income sources.

Sampling approach[26]

Two distinct sample frames were required in this study. For EEU beneficiaries, the sample frame was all those reached by the SLLC-linked loan or the SLRC in kebeles identified in a listing process conducted by the EEU team in Addis Ababa. Within those kebeles, each household had an equal opportunity to appear in the sample frame. Beneficiary lists were obtained through regular monitoring data for the SLRC and provided by MFIs for the SLLC-linked loan. For the non-beneficiary comparison group, households for interview came from the same kebele as the beneficiaries. The sample frame in this regard is all non-reached households in these kebele.

To obtain a sample of EEU beneficiaries, firstly, for each of the SLLC-linked loan and SLRC intervention areas, 3 woredas were purposefully selected in each of the 4 LIFT regions where the innovations have been

[25] Please see *Concept Note for the EEU Impact Surveys 2019*-2020, 2018, LIFT, for more detail on the definition of the additional and attributable investment and income effects. The report is available upon request.

[26] Please see *EEU Impact Survey report 2019*, 2019, LIFT, and *Concept Note for the EEU Impact Surveys 2019*-2020, 2018, LIFT, for more detail on methodology and sampling approach. The reports are available upon request.

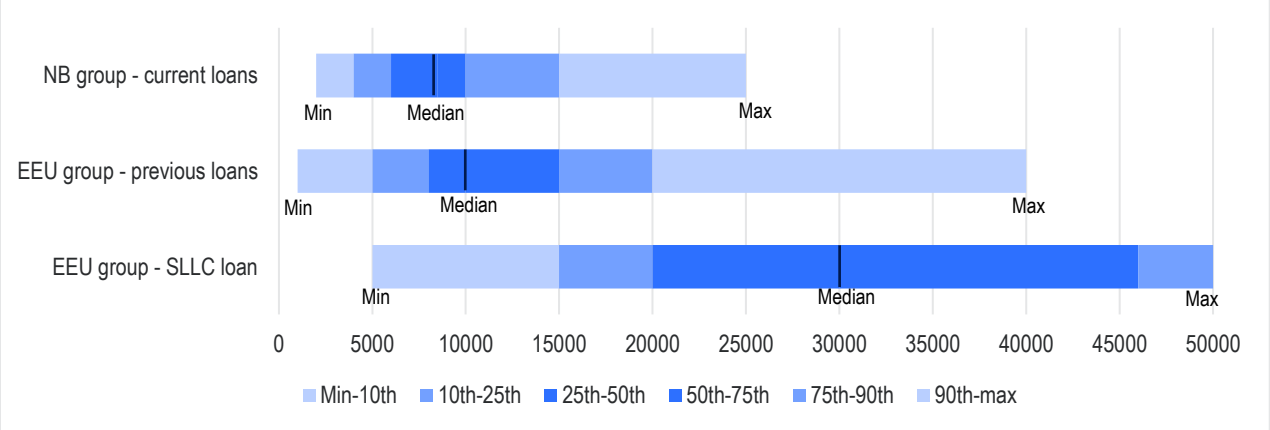
accessible since March 2017. Secondly, from complete lists of beneficiaries, the sample was drawn by the systematic random sampling.

Non-beneficiaries were sampled by random walk in the communities/kebeles where sampled EEU beneficiaries live. The non-beneficiary surveys were carried out with the head of the household, if he or she was a land holder who had received an SLLC. This allows comparing EEU beneficiaries with the population of land holders who have benefitted from SLLC but not directly from the SLLC-linked loan or the SLRC.

Findings

The SLLC-linked loan provides access to finance, both in terms of higher loan amounts and in terms of offering loans to farmers who did not access formal credit before. Due to the unique nature of the SLLC-linked loan, a lot of new clients are engaging with the MFIs, many of which access formal credit for the first time. Additionally, the average amount available through the SLLC-linked loan is 2.6 times higher (11,800 vs 30,000) on average than the amounts accessed by those who attained formal credit in the past through group lending. Out of these loan clients only 2% of the respondents reported having ever missed a payment. Most of these rural farmers are smallholders making up 64% of male clients and 73% of female clients. Therefore, the SLLC-linked loan is successfully targeting smallholder farmers and increasing their access to large, more transformational credit amounts when compared to group lending or informal lending. See also Figure 5 below.

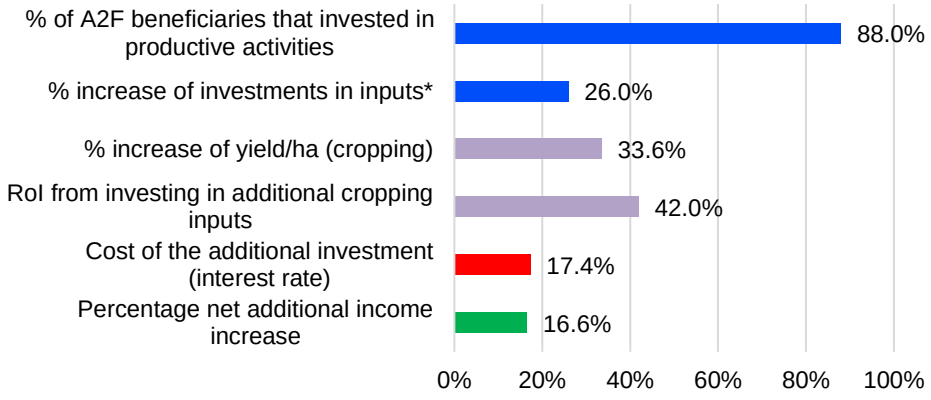
Figure 5 - SLLC-linked Loan Amounts Compared to Other Available Credit Instruments



The SLLC-linked loan increases investments to enhance agricultural productivity, leading to increased yields and incomes. The primary purpose of this loan is to increase investments in agricultural, making land more productive. We found that 88% of loan clients invest the loan to increase agricultural productivity.

Especially for the clients who invested the loan into inputs to enhance crop production, the access to additional finance resulted in a 26% increase in their input investments.

Figure 6 – Summary of investment and income effects for A2F beneficiaries



As a result of the increased investments in inputs, farmers experienced a 33.6% rise in yields, when comparing yields before and after the SLLC-linked loan was taken-out. Overall the SLLC-loan clients had an average return of investment rate of 42%, which is significantly higher than the average interest rate of loans taken (17.4%). Due to this high return of investments, loan clients can attain an average additional income increase of 16.6% as a result of taking out one loan. This evidence depicts a clear picture of how the SLLC-linked loan is catalyzing investment and resulting in significant income gains for SLLC farmers. See also Figure 6.

For land rental formalization it was found that land is used more productively due to fewer resource-constrained tenants using the land. It was found that tenants are on average 44% more productive than landholders and therefore put the land to more productive use. Overall the effect of land rental formalization is estimated to have increased the productivity of rented land by 36% on average. When looking at land that was rented-out for the first time due to the additional tenure security provided by the standard land rental contract, yield productivity is estimated to have increased by 94%.

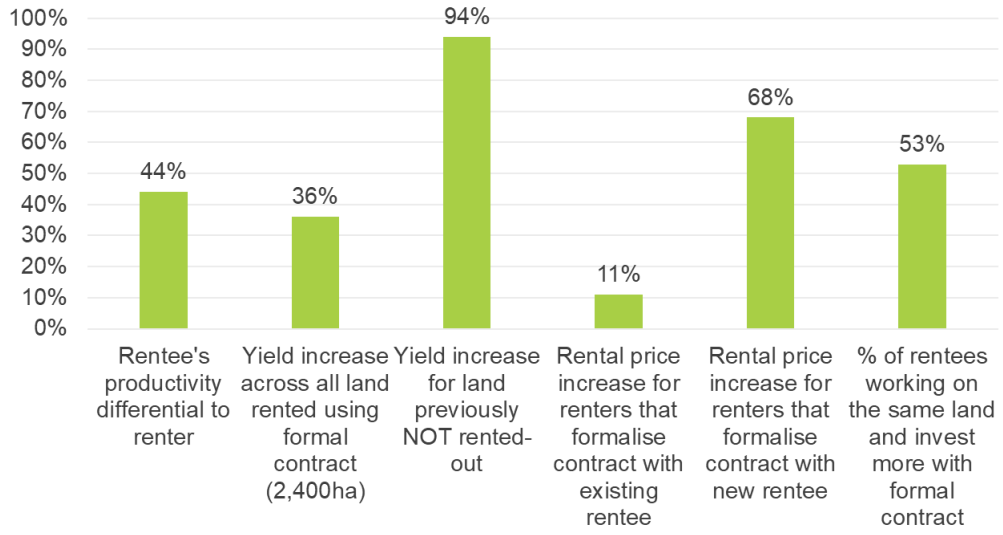
Furthermore, the following impacts were identified for the Standard Land Rental Contract (SLRC):

- Landholders are on average more marginalised and benefit strongly from the security the SLRC offers as shown in a decrease in disputes and increase in rental prices
- Security of tenure offered through the SLRC incentivises new farmers to rent-in or out for the first time, as well as to increase the land size rented for existing agreements. This leads to an overall expansion of the rural land rental market.
- Rentees use land more productively than landholders, leading to a more productive use of land overall

- Landholders benefit from an increase in rental prices as a result of the SLRC and LRSP support, leading to an increase in available income for household consumption
- Rental transactions shift land from older farmers to younger farmers
- Marginalised female-headed households who rent-out land benefit from rental price increases
- Fallow land is put to use through the formal contract (17% of land previously not used)
- Landless farmers use the formal contract to rent-in land (14% of rentees are landless)

Figure 7 below summarizes the impact of the formal land rental contract on productivity.

Figure 7: Summary of SLRC impact on land productivity and rental prices



Overall, strong indications were found that both the SLLC-linked loan and rental formalization lead to productivity and income increases for farmers. This supports LIFT's Theory of Change assumption that market systems innovations magnify the impacts of land certification on investment, productivity and incomes. Furthermore, as land holders realize economic benefits from LIFT's market innovations, the demand to access these is maintained and further increases over time. This is reflected in up-take figures– the number of land holders that have accessed the SLRC or the SLLC-linked loan have been increasing significantly since these were first introduced on a year to year basis.

Section 3: Contribution of incentives to a more sustainable Rural Land Administration System

3.1 Sustainable incentives to register subsequent land transactions

Market systems interventions implemented by LIFT have increased the economic benefits that smallholder farmers gain from increased tenure security. LIFT's rural land rental and access to finance interventions are designed around the SLLC, and farmers are required to have a certificate to participate in the interventions. The popularity of the interventions, and specifically the SLLC-linked loan product, has resulted in increased demand for land certificates. While past land tenure programs frequently faced challenges in incentivizing farmers to collect their land certificates and register subsequent changes with the land authority, in the case of LIFT, farmers now proactively request their certificate from the land office, in order to gain access to the benefits the certificate offers (i.e. having access to formalized land rental transactions, an individual loan product etc). Furthermore, these incentives are sustained and expanded without direct planning or support of the program in the long run as explained in section 1.3 above. This is as a result of the nature of the respective market systems, where market actors "buy-in" to the innovation and invest in its expansion themselves (see Figure 1 and Figure 4 above). The innovations with their "embedded" incentive to register transactions are therefore sustained and expanded to rural land holders in the long run, even without the continued support of the program.

3.2 The RLAS Transaction Survey: Registration of land transactions and incentives set by market innovations

Research purpose

LIFT conducted a large-scale quantitative household survey in June 2019, the RLAS Transaction Survey, to provide a representative and statistically robust estimate of the percentage of land holders who formally register subsequent land transactions. Through a quantitative survey with land holders representative of the LIFT beneficiary land holder population, LIFT was looking to estimate the percentage of land holders that either formally register land transaction or follow informal practices or simply do not register the change at all. The sampling design allows to disaggregate the sample by locations where EEU innovations are accessible, and locations where EEU innovations are not accessible ex-post. This allows to assess, whether land holders in areas where EEU innovations are accessible are more likely to formally register land transactions than land holders who live in locations where EEU innovations are not accessible. The RLAS Transaction Survey therefore provides a strong research framework to evaluate whether EEU innovations set incentives to formally register subsequent land transactions.

Methodology[27]

9,600 households were interviewed across 49 districts (Woredas) in the four program regions Amhara, Oromia, Tigray and SNNPR. All households in a given enumeration area were listed, and households that had conducted at least one land transaction since the SLLC process was administered were further interviewed. For the screened households detailed questions were administered regarding how the household went about registering, or not registering the respective transaction. If the household followed the right process for a specific transaction, then the transaction will be categorized as "formal transaction". If the household followed informal practices or did not register the transaction at all, the transaction would be categorized as "informal transaction". As a result, a denominator of all households who experienced a change to their land that should be formally registered can be calculated, as well as a nominator of all households who did comply with the required registration process. In other words, a representative formal registration rate can be estimated across all households in LIFT's program area. Furthermore, since different transaction types were probed, the formal transaction rate can be disaggregated by different transaction types.

Sampling approach

The quantitative data collection exercise involved a series of steps to ensure both the statistical generalizability of the findings to the relevant woreda groupings in the LIFT Program Area (reached by both SLLC and RLAS). A three-stage stratified random sampling design was applied using Probability Proportionate to Population Size (PPS) sampling.[28] As a result the sample is representative of the program's land holder beneficiary population for which changes to their land occurred since SLLC. This allows to estimate the percentage of households that have formally registered land transactions out of all households where a transaction occurred since the SLLC process was administered.

While the sampling design did not stratify by locations where EEU innovations are accessible, the random sampling across the 49 treatment Woredas (districts) identified enough EEU-reached locations to make statistically significant comparisons between those areas in which EEU innovations are available and those where EEU innovations are not available. Just over half of the randomly sampled households live in locations where market systems innovations can be accessed, while the other half of the sample live in locations where market systems innovations cannot be accessed. Since the sample was drawn at random, this makes for a robust comparison of the effect of the availability of market systems innovation on the

[27] For more detail on the sampling methodology, please refer to the *RLAS Transaction Survey Report*, 2019, LIFT. The report is available upon request.
[28] For more detail on the sampling methodology, please refer to the *RLAS Transaction Survey Report*, 2019, LIFT. The report is available upon request.

likelihood of formally registering land transactions. Figure 8 below shows the sample split across EEU-reached locations and locations where EEU innovations are not accessible.

Figure 8: Number of respondents by regional state and by EEU-location

Response	Amhara		Oromia		SNNP		Tigray	
	#	%	#	%	#	%	#	%
EEU-reached Woredas	960	100.0	2938	73.6	1536	56.2	960	49.9
Non-EEU-reached Woredas	0	0.0	1025	26.4	1284	43.8	897	50.1

Findings

A high 47.5% of all households engaged in at least one transaction, be it formal or informal, on at least one parcel since SLLC certification had been completed in an area. In most cases only a single transaction had taken place (79%), although in 21% of all households two or more transactions had been recorded.

Figure 9: Percentage of Households Engaged in either formal or informal transactions since SLLC

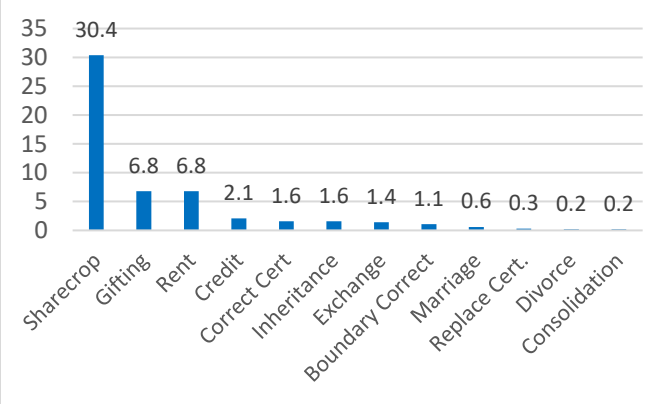


Figure 9 to the left disaggregates the 47.5% by the percentage of households who have engaged in any transaction, be it formal or informal, by type since SLLC was completed. It can be found that sharecropping transactions are by far the most common type of transaction. A summary of transactions by type, covering those formally registered and those not formally registered, is indicated in Figure 10. It should be noted that, for some transactions, the numbers were too small to reliably derive percentages separately. For these transaction types the implied percentages are omitted.

Figure 10: Formal Registration of Transactions by Transaction Type

Transaction	Formal registration		Informal practice		Remarks
	#	%	#	%	
Land transactions with transfer of rights					
Inheritance	84	**39.0**	131	**61.0**	
Gifting	23	**5.7**	376	**94.3**	
Exchange	10		60		
Marriage	3		30		
Divorce	9		1		
Land transactions with limitation/restriction of rights					
Credit	128	**100.0**	0	**0.0**	Formal registration required
Rent	63	**17.3**	300	**82.7**	
Sharecropping	18	**0.8**	2110	**99.2**	
Changes in spatial configuration of the parcel					
Consolidation	1		8		

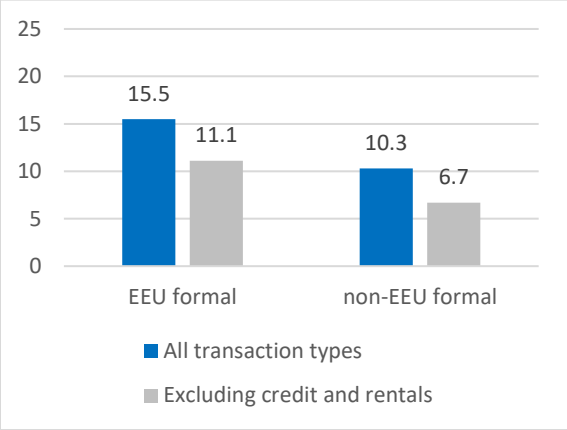
Transaction	Formal registration		Informal practice		Remarks
Boundary Correction	31		16		
Certificate Replace	12		0		Formal registration required
Certificate Correction	64		0		Formal registration required

* For transaction types where the overall number of observed transactions is too low, percentages are statistically not reliable and are therefore not displayed.

As mentioned above the sampling design allowed for a statistically robust comparison of EEU and non-EEU locations. Just over half of the sampled kebeles were in locations reached by the EEU, in other words where the SLLC-linked loan and the Standard Land Rental Contract (SLRC) are available.

It was found that households living in location where EEU innovations are accessible are more likely to have registered their transaction formally compared to households living in locations where EEU innovations were not accessible (15.5% versus 10.3%, respectively; chi-square significant at the .1 level; .000). See Figure 11 below.

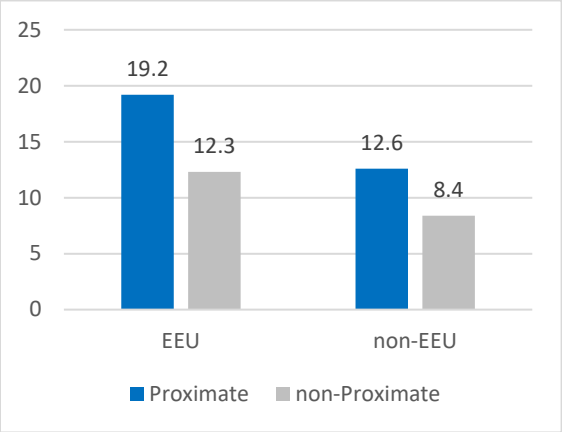
Figure 11: Formal Registration of Transactions Across EEU-reached and Non-EEU-reached locations



To see if this held for transactions other than those facilitated by the EEU, the same analysis was run excluding credit and rental transactions. Results are also shown in Figure 11 (grey columns). Differences remained even when excluding these EEU-facilitated interventions, implying that there is a broader EEU effect beyond the direct focus on credit and rental markets.

Overall the differences are strongly pronounced, with landholders in EEU locations being roughly 50% more likely to formalize a land transaction. The difference is even more pronounced when excluding EEU related transactions (65% difference from non-EEU -6.7%- to EEU areas -11.1%-).

Figure 12: EEU locations and Propensity to Register a Transaction (formal + informal) by Proximity

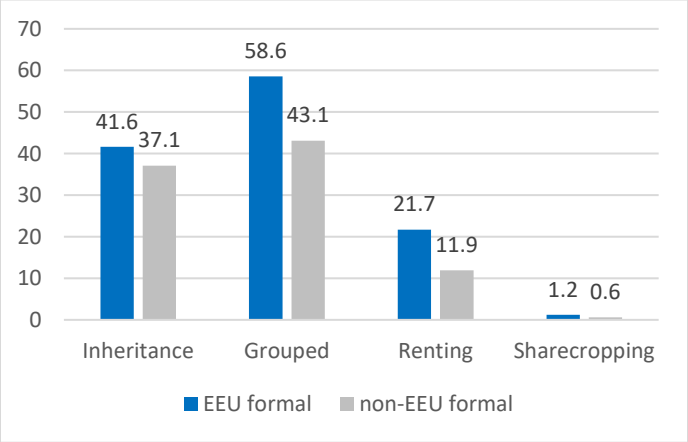


To see if the covariation between EEU and the likelihood of registering a transaction held for both proximate and remote locations, data runs were made comparing proximate EEU-reached locations with proximate non-EEU-reached locations. Findings are indicated in the Figure 12.

Covariation between EEU reach and formal registration held for both proximate and remote locations and continue to be clearly pronounced. This shows further robustness in the findings, providing evidence for incentives set by EEU innovations to formally register land transactions across both remote and non-remote locations.

Further, clear evidence of a positive effect of EEU interventions on formalizing rental transaction can be found, as shown in Figure 13 below. In EEU areas, rental transactions are formalized nearly twice as often as in non-EEU locations (21.7% vs. 11.9%), providing evidence for a strong impact of EEU interventions on land rental formalization.

Figure 13: Formal registration by transaction types in EEU and non-EEU areas



The number of formal transactions for sharecropping unfortunately is too small to draw conclusions. Still a trend towards higher formalization in EEU areas can be seen from the numbers (1.2% vs 0.6%).

Overall it can be summarized that rental transactions, but also other land transactions such as inheritance, are significantly more often formally registered in locations where market systems innovations are available as compared to locations where they are not. Overall the differences are strongly pronounced, with landholders being roughly 50% more likely to formalize any land transaction in areas where market systems innovations are available. This is strong evidence for a catalytic impact of market systems innovations, where the prospect of accessing the SLLC-linked loan or the formal land rental contract set positive incentives for landholders to formally register land transactions.

Section 4: Conclusions and recommendations for future land certification program design

The LIFT program uses a unique approach by combining land certification and land administration with a market systems approach. Evidence is emerging that conventional land administration and market systems approaches are mutually beneficial to each other and create incentives for their continued use and maintenance.

LIFT is now a mature program and is beginning to focus on higher-level program outcomes and long-term sustainability. The functions of the rural land administration must be strengthened in order to protect the large financial investment in SLLC and must be embedded into everyday public life in all regions. LIFT's market innovations provide a sustainable approach to not only incentivize land holders to formally register land transactions but also to increase land productivity and incomes. As a programmatic approach, this comes at a high Economic Rate of Return (ERR), especially considering the sustainability of successful market interventions. This paper has provided evidence regarding both the economic benefits that market interventions offer as well as the "embedded" incentives provided to land holders to register land transactions. Evidence was derived from two large-scale surveys following rigorous methodologies. The following conclusions can be drawn as a result:

1) Demand for EEU innovations, such as the SLLC-linked loan or the Standard Land Rental Contract (SLRC), is high across rural Ethiopian land holders.
2) Land holders are more likely to formally register land transactions in locations where the EEU innovations are accessible, providing evidence for "embedded" incentives set by EEU innovations.
3) EEU innovations encourage productive investments in agriculture, increasing the productivity of land and incomes of rural farmers
4) Incentives to formally register land transactions are "embedded" in EEU innovations. Therefore, with a further expansion of the SLLC-linked loan and the SLRC, incentives to formally register land transactions will expand to the rural land holder population.
5) Both economic benefits and "embedded" incentives of the EEU innovations will be sustained beyond the life of LIFT and without substantial additional investment. The intervention therefore has a high Economic Rate of Return (ERR), when compared to more conventional approaches that solely rely on awareness raising campaigns.
6) As a result of the sustainable roll-out of EEU innovations, incentives to formally register are sustained and will be further engrained in the behavior of rural land holders over time as innovations

expand further. This contributes to a sustainable Rural Land Administration System (RLAS) with an up to date land registry in the long run.

7) An up to date land registry not only allows for better land use planning and tax revenue creation, but also offers additional revenue opportunities and value creation. If the system is up-to-date, accurate and maintained, there is potential to sell data to these market actors (through subscription models, for example), which would generate a stable income stream for RLAS, and thus make the system self-financing. For example, market actors such as MFIs, and also insurance companies, banks and others, could be charged for information services and thereby provide a sustainable revenue stream for RLAS.

It should be noted however, that the market systems interventions demonstrating the most successful outcomes under LIFT in terms of driving economic growth and the buy-in to land administration services were directly related to land market activities (to the extent that this is permitted in Ethiopia). Further research is required on whether targeting specific agricultural value chains with a market systems approach alongside reforms to land administration will yield similar outcomes.

References

Adopt-Adapt-Expand-Respond: A framework for managing and measuring systemic change processes, Springfield Centre, 2014.

Antonielli, Marco. 2017. Land Investment for Transformation Economic Empowerment Unit Early Impact Study (unpublished programme document).

Assaad, J. 2017. Evaluation Review of the SLLC Loan Pilot. Land Investment for Transformation (unpublished programme document).

Braselle, A., Frederic G., and Platteau, J. 2002. Land Tenure Security and Investment Incentives: Puzzling Evidence from Burkina Faso. Journal of Development Economics 67:373–418.

Buckle, F., Gillingham, P. 2013. Rwanda Land Tenure Regularisation Case Study, Evidence on Demand.

Business Case Rural Land Administration Information Services, LIFT, 2018.

Concept Note for the EEU Impact Surveys 2019-2020, 2018, LIFT.

Concept Note for the RLAS Transaction Survey, 2019, LIFT.

Deininger, K. D. Ayalew, and T. Alemu. 2009. Impacts of Land Certification on Tenure Security, Investment, and Land Markets, Evidence from Ethiopia. Environment and Development, Discussion Paper Series, EfD DP 09-11.

Klaus Deininger, Daniel Aleyew Ali, Stein Holden & Jaap Zevenbergen, Rural Land Certification in Ethiopia: Process, Initial Impact, and Implications for Other African Countries, 36 WORLD DEV. 1786-1812 (2008).

DFID, 2017. EmCommunications, Land Rental Service Provider (LRSP) Promotion Intervention in Rural Communities, Amhara and Oromia Region Progress Report (unpublished programme document).

DFID, 2013. LIFT Programme Inception Report, DFID.

DFID, 2013. Final Baseline Survey Report on Ethiopia: Strengthening Land Administration Program (ELAP), DFID.

DFID, 2017. LIFT Mid-term review, 2017, Independent evaluators Palladium.

Durand-Lasserve, Alain; Durand-Lasserve, Maÿlis; Selod, Harris. 2015. Land Delivery Systems in West African Cities: The Example of Bamako, Mali. Africa Development Forum; Washington, DC: World Bank; and Agence Française de Développement. © World Bank. https://openknowledge.worldbank.org/handle/10986/21613 License: C BY 3.0 IGO. Gavian, S. 1993.

EEU Impact Survey report, 2019, LIFT.

Elliott, D.; Gibson, A. and Hitchins, R. 2008. 'Making Markets Work for the Poor: Rationale and Practice', Enterprise Development & Microfinance 19.2: 101-19

Elliot, D. and Alan Gibson. 2012. Government for Growth: Second stage scoping report. DFID Ethiopia. Internal document.

Fleisig, Heywood W. and de la Peña, Nuria. 2003b. Legal and Regulatory Requirements for Effective Rural Financial Markets. Lead Theme Paper for the International Conference on Best Practices: "Paving the Way Forward for Rural Finance", Washington, DC, prepared for the World Council of Credit Unions, Inc. (WOCCU) and supported by USAID through (BASIS-CRSP).

Gavian, S. 1993. Land Tenure and Soil Fertility Management in Niger, Food Research Institute, Stanford University, Stanford, (unpublished Ph.D. dissertation).

Ghatak, M., and T. Besley. 2010. Property rights and economic development. Handbook of Development Economics 5, 389-430.

Holden, S. and T. Tefera. 2008. From Being Property of Men to Becoming Equal Owners? Early Impacts of Land Registration and Certification on Women in Southern Ethiopia, Final Research Report prepared for UNHABITAT, Shelter Branch, Land Tenure and Property Administration Section, January 2, 2008.

Humphrey, J. 2014. "Market systems approaches: A literature review". BEAM Exchange.

Ignacio Fiestas, John Leckie, Christina Mayr; Formalising Land Rental Transactions in Ethiopia – Is Land Certification Enough?, Paper prepared for presentation at the "2018 World Bank Conference on Land and Poverty", 2018.

Land Tenure and Soil Fertility Management in Niger, Food Research Institute, Stanford University, Stanford, (unpublished Ph.D. dissertation).

Lawry, S, Samii, C, Hall, R, Leopold, A, Hornby, D, Mtero, F. 2014. The impact of land property rights interventions on investment and agricultural productivity in developing countries: a systematic review.

Campbell Systematic Reviews (this study was funded by the UK Department for International Development (DFID) with additional financial support from 3ie)

LEGEND, 2019. Securing Land Rights at Scale, Report on behalf of DFID, United Kingdom.

LIFT, 2015. Internal Technical Service Provider Baseline Report, prepared by SIAPAC for LIFT

LIFT, 2017. Internal Technical Service Provider Certificate Uptake Report, prepared by SIAPAC for LIFT

Migot-adholla SE, Benneh G, Place F, Atsu S. 1994. Land, Security of Tenure, and Productivity in Ghana, in J.W. Bruce and S.E. Migot-Adholla (eds.), Searching for Land Tenure Security in Africa, Dubuque, Iowa: Kendall/Hunt Publishing Cy, pp. 97-118.

Place & K. Otsuka, 2002. "Land Tenure Systems and Their Impacts on Agricultural Investments and Productivity in Uganda, "The Journal of Development Studies, Taylor and Francis Journals, vol. 38(6), pages 105-128.

RLAS Transaction Survey Report, 2019, LIFT.

Whitehead, J, Marbell, W. 2012. The Economic Benefits of Geospatial Technology in the Developing World, Presented at the Annual World Bank Land and Poverty Conference, Washington DC.

The Springfield Centre. 2014. The operational guide for the making markets work for the poor (M4P) approach, 2nd edition funded by SDC & DFID.

USAID. 2017. Land Tenure and Food Security Fact Sheet. USAID. https://www.land-links.org/wp-content/uploads/2016/11/USAID_Land_Tenure_Food_Security_Fact_Sheet.pdf