



Centre for Land Tenure Studies

2021 Annual Report



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Summary of activities in 2021

The work of the Centre for Land Tenure Studies (CLTS) in 2021 included 6 working papers and 18 peer reviewed journal articles. The CLTS papers and reports are accessible through the CLTS webpage, the Scandinavian Working Papers in Economics (S-WoPEc), the library (Brage) of the Norwegian University of Life Sciences (NMBU), and the Land Portal webpage (see: <https://landportal.org/organization/centre-land-tenure-studies>). In addition to these access points, Econstor also started registering and distributing information about the CLTS publications in 2021 (see: <https://www.econstor.eu/handle/10419/242695>). The CLTS also published three books in print.

Statistics on visibility show a slight downward trend in both abstract views and paper downloads in 2021 compared to 2020. The abstract views were reduced by an average of 19 percent while paper downloads were reduced by 25 percent. In the previous annual report (2019-2020), statistics showed an increase in abstract views and a decrease in paper downloads by 25 percent. Assessing the long-term trend, therefore, shows an increasing trend in abstract views since 2012 but a slightly downward trend in paper downloads.

With COVID-19, most conferences were held online. The CLTS members participated in the International Conference of Agricultural Economists (ICAE) 31st Triennial virtual meeting held from 17th to 31st August 2021. Three CLTS related papers were presented. Another paper was presented in an online session for the International Academic Association on Planning, Law and Property Rights.

The faculties working on CLTS related work also reported several activities. The School of Economics and Business graduated two PhD students, who worked on land related studies. The School was also involved in several projects supported by the Research Council of Norway and NORHEAD II. In LANDSAM, the Department of Property and Law is involved in projects focusing on (1) rules, norms, and cooperation in outlying grazing areas, and (2) the Planning and Building Act between demand, land policy and sustainability. The Department of Property and Law also graduated one PhD who worked on “Cadastral records of cases conducted by the land consolidation court”. Again, under LANDSAM, Noragric and Byreg departments collaborated on an NFR research application focusing on sustainable recreation around the Oslo Fjord. In MINA, the Department of Ecology and Natural Resource Management worked on a collaborative project that represents a multidisciplinary approach to diagnosing and improving policy and management decisions for dry forestland and resources in the face of climate change. Two PhD students are working in the project since August 2021.

Centre for Land Tenure Studies

The Centre for Land Tenure Studies was opened at NMBU (earlier UMB) on the 27th of June 2011 resulting from a joint initiative by researchers at the Department of International Environment and Development (Noragric), the School of Economics and Business, and the Department of Landscape Architecture and Spatial Planning. In 2012 CLTS was joined by the Department of Ecology and Natural Resource Management.

Board of the Centre for Land Tenure Studies

- Eirik Romstad (chair), School of Economics and Business
- Shai Andre Divon, Department of International Environment and Development
- Inger-Lise Saglie, Department of Landscape Architecture and Spatial Planning
- Tron Haakon Eid, Department of Ecology and Natural Resource Management

People at CLTS

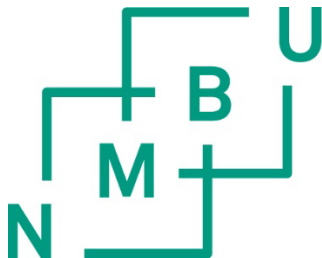
Core team: Stein Holden, Terje Holsen and Espen Sjaastad.

Associates: Bernt Aarset, Arild Angelsen, Tor Arve Benjaminsen, Erling Berge Einar Bergsholm, Knut Boge, Meley Mekonen Rannestad, Per Kåre Sky, Sølve Bærug, Einar A. Hegstad, Darley Jose Kjosavik, Eirik Romstad, Dag Einar Sommervoll, Håvard Steinsholt, Steinar Taubøll, Arild Vatn, Pål Vedeld.

Post doc researcher: Mesfin Tilahun, Sarah Tione, and Sam Katengeza

PhD students:

Administrative support: Sarah Tione



Norwegian University of Life Sciences
Centre for Land Tenure Studies

Mission

The Centre for Land Tenure Studies (CLTS) at NMBU is established to further the study of land tenure. Land tenure studies define a broad and complex field of study cutting across many disciplines. For CLTS this entails, but is not limited to, the following activities:

- Provide a common arena for discussing land tenure issues, including a series of seminars directed to present new research or important theoretical perspectives. This may be designed as part of an educational program.
- Promulgate a joint series of working papers.
- Support international publication of articles and books.
- Develop and conduct joint courses at both Master and PhD level.
- Initiate and support exchange of researchers.
- Participate in research networks related to land tenure.
- Maintain a public list of collaborating institutions and researchers.
- Initiate and develop applications for research funds to support basic research on land tenure both by our own efforts and in collaboration with other research groups working on land tenure questions.

In its activities, the centre will use English as its working language as far as practically possible.

In short, we may say that “the mission of the Centre for Land Tenure studies is to enhance collaboration across departments at NMBU; to strengthen the visibility of NMBU activities within the field of land tenure; to strengthen NMBU’s international collaboration and networks within the field; to contribute to research and knowledge generation on land tenure issues; to help build capacity in the South and in Norway within the field; to disseminate policy lessons, and to contribute to policy debates”.

2021 Report

Faculty Activities at NMBU

School of Economics and Business

The main activities of relevance in our School were under the NORAD NORHED capacity-building program, Climate Smart Natural Resource Management and Policy (CLISNARP), a collaboration with Mekelle University in Ethiopia and LUANAR University in Malawi from where a number of PhD-students come to take their PhDs in our School. We had two PhD-students, one from Ethiopia (Menasbo Gebru) and one from Malawi (Sarah Tione), that completed their PhDs in 2021. The COVID-19 pandemic as well as the political unrest in the Tigray Region of Ethiopia contributed to delays in the finishing for the two remaining PhD-students from Mekelle University. Since early November there has been no internet connection with Mekelle University. The Ethiopian Government closed down Mekelle University from May 2021 such that none of the staff received any salary, banks, internet and telecom are closed and making it very hard to help the students. We tried a rescue operation and brought three of the PhD-students to Addis to work on their finalization with support from the supervisor (Stein Holden) but only one managed to complete before they had to return home.

The other major activity in the School was the research project “Youth Business Groups for Sustainable Development: Lessons from the Ethiopian Model” (YOUTHBUS)(2018-2022), funded by the Research Council of Norway under the NORGLOBAL2 program. The fieldwork under the project in Tigray Region in Ethiopia focuses on resource-poor rural youth that have been offered to establish formal businesses as primary cooperatives. The project implements surveys and experiments for a large number of such youth business groups and group members in order to understand factors influencing their varying degree of success. It also planned training experiments implemented as Randomized Control Trials with a focus on leadership training, female group member empowerment and risk management. The implementation had started but not finished when the civil war started in November 2020, and it has been impossible to follow up any of the planned field activities after that. The project has therefore focused on the analysis of the already rich survey and experimental data. A substantial amount intended for the fieldwork is locked in the closed down bank in an account of Mekelle University (which also is closed). We have asked for a one-year extension of the project in the hope that we will be able to follow up the fieldwork or at least make a study of what has happened to the more than 3000 youth business group members that we have collected data from. Several papers have been published in international journals as well as CLTS Working Papers based on this project. The papers focus on behavioral economics (risk and time preferences, social preferences and trust, and land tenure issues of importance for the youth livelihoods and business groups as an organizational model.

The School is also involved in another research project funded under NORGLOBAL2 (Research Council of Norway), “Access to seeds: from Emergencies to Seed System

development” (ACCESS), which is the responsibility of LANDSAM (Noragric). The School is responsible for one PhD student (Clifton Makate) recruited on the program and work on seed access in Ethiopia, Malawi and Tanzania based on nationally representative surveys (LSMS).

Two new NORAD-funded capacity-building projects under NORHED II received funding and started in August 2021. One of these projects, Experiments for Development of Climate Smart Agriculture (Smartex), is a collaboration project with LUANAR in Malawi and focuses on land and water rights related to irrigation and on climate-smart agriculture. Sarah Tione and Samson Katengeza, who received their PhDs under the CLISNARP project are postdocs on this project. The pandemic caused a delay in the startup of fieldwork from 2021 to 2022.

LANDSAM – Department of Property and Law

The department of Property and Law has been involved in the following research projects:

- FUTGRAZE – Towards a Future for Common Grazing – rules, norms and cooperation in outlying grazing areas – 2018 - 2021
- LANDTIME – The Planning and Building Act between market demand, land policy, sustainability, temporality, and intergenerational justice 2021 – 2025

LANDTIME’s main objective is to investigate the Norwegian planning system’s functional capacity to handle multiple temporalities of spatial development, hereunder its set of plans and instruments, the role of property and property rights for public planning, and related challenges in different geographical contexts.

LANDTIME's secondary objectives are to explore the planning system from a temporality perspective, as the content of plans, temporalities of the planning processes, including transmission between plans, empirical investigations of the interplay between public spatial planning and private property, and property rights, and how the two systems lay out the premises for temporality management in terms of market demands and intergenerational justice.

LANDTIME will also investigate whether the PBA is an adequate framework for regional and municipal planning to facilitate sustainable industrial and business development, and how the PBA and relevant sector legislation handle development conflicts, i.e., environmental protection and sustainability vs. equity, social and intergenerational justice.

LANDSAM – Noragric

Starting in 2021 Noragric, along with the Byreg department at LANDSAM, participated in an NFR research application focusing on sustainable recreation around the Oslo Fjord. The project has since received funding, and property issues are likely to be a significant

part of the research. Due to turbulence in the NFR, the start-up of the project has been delayed till 2023.

MINA: Department of Ecology and Natural Resource Management

The department has been involved in the following relevant research project: “Towards a climate-smart policy and management framework for conservation and use of dry forest ecosystem services and resources in Ethiopia”, 2020 – 2024, funded by the Research Council of Norway under the NORGLOBAL2 program. In this project, MINA is partnering with CICERO-Center for International Climate Research (Norway), ICRAF - World Agroforestry Centre (Kenya), MU-Mekelle University (Ethiopia), and HU-Hawassa University (Ethiopia).

This project represents a multidisciplinary approach to diagnosing and improving policy and management decisions for dry forestland and resources in the face of climate change. The main objective is to design an integrated analytical framework and develop and utilize a decision support tool that enables ex-ante assessments of policies, management measures, resource use plans, technologies and trade-offs and synergies between global environmental, national economic, and local livelihood objectives related to dry forest land ecosystem services in Ethiopia.

Two PhD students are working in the project since August 2021 in the following PhD projects.

1. Climate Smart Management of Dry Forest Ecosystem Services in Ethiopia
2. Socio-ecological analysis of changes in dry forests in Ethiopia

The students are currently relying on data generated through a previous NORHED project in Tigray, Ethiopia, the main study area, as field work is impossible for the time being due to the ongoing war in the region. Moreover, the students and their main supervisor (Meley Mekonen Rannestad) are presenting the following papers at the Scandinavian Society of Forest Economics (SSFE) biennial conference, November 29 - December 2, 2022 in Umeå, Sweden.

Under Multiple Forest land Use Session

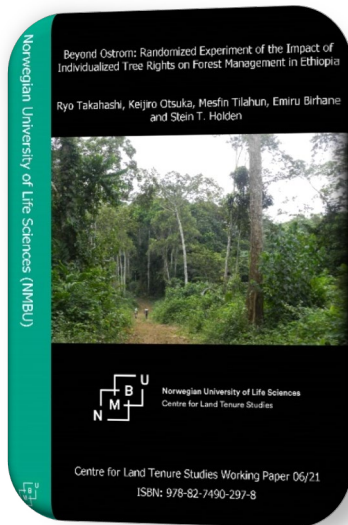
1. **Optimal grazing exclosure period for optimum herbaceous biomass production in the highlands of Tigray, Ethiopia** (*Meley Mekonen Rannestad*)
2. **Spatial differences in forest ecosystem services distribution in a threatened dry Afromontane Forest in Tigray, Ethiopia** (*Bianca Wulansari Kassun*)

Under Perspective on Forests Session

1. **Drivers of change in dry forests of East Africa: a systematic literature review** (*Maria Alejandra Aguilar Tomasini*)

CLTS Working Papers

1. Ryo Takahashi, Kejiro Otsuka, Mesfin Tilahun, Emiru Birhane and Stein T. Holden (2021). [Beyond Ostrom: Randomized Experiment of the Impact of Individualized Tree Rights on Forest Management in Ethiopia](#). CLTS Working Paper No. 6/2021. Center for Land Tenure Studies, Norwegian University of Life Sciences, Aas, Norway.

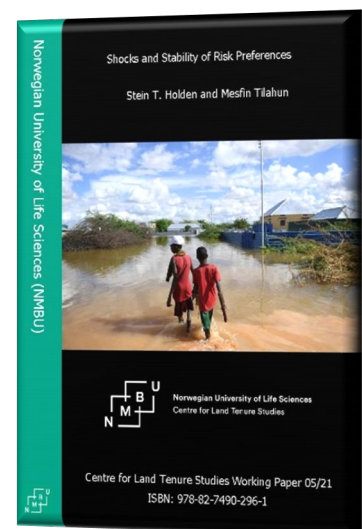


Abstract of the paper: In this study, we argue that while community forest management is effective in protecting forest resources as argued by Ostrom, it may fail to provide proper incentives to take care of such resources because of collective sharing of benefits of forest management. This study proposes a mixed private and community management system as a desirable arrangement for timber forest management in Ethiopia, which is characterized by communal protection of community-owned forest area and individual management of individually owned trees. By conducting a randomized experiment in Ethiopia, we found that the mixed management system significantly stimulated intensive forest management activities, including pruning,

guarding, and watering. Furthermore, the treated members extracted more timber trees and forest products, which are byproducts of tree management (thinned trees and pruned branches). In contrast, the extracted volumes of nontimber forest products unrelated to tree management (fodder and honey) did not change by the intervention.

2. Stein T. Holden and Mesfin Tilahun (2021). [Shocks and Stability of Risk Preferences](#). CLTS Working Paper No. 5/2021. Center for Land Tenure Studies, Norwegian University of Life Sciences, Aas, Norway.

Abstract of the paper: While economists in the past tended to assume that individual preferences, including risk preferences, are stable over time, a recent literature has developed that indicate that risk preferences respond to shocks. This paper combines survey data and field experiments with three different tools that facilitated elicitation of dis-aggregated measures of risk preferences, including utility curvature, probability weighting and loss aversion. By treating the recent shocks as natural experiments, the study assessed the sensitivity of each of



these risk preference measures to the recent idiosyncratic and covariate (drought) shocks among a sample of resource-poor young adults living in a semi-arid rural environment in Sub-Saharan Africa. The results show that the dis-aggregated risk preference measures revealed substantial shock effects that were undetected when relying on a tool that elicited only one single measure of risk tolerance. Both the timing and covariate nature of the shocks affected the dis-aggregated measures of risk preferences differently, pointing towards the need for further studies of this kind in different contexts.

3. Stein T. Holden and Mesfin Tilahun (2021). [How Large is the Endowment Effect in the Risky Investment Game? CLTS Working Paper No. 4/2021](#). Center for Land Tenure Studies, Norwegian University of Life Sciences, Aas, Norway.

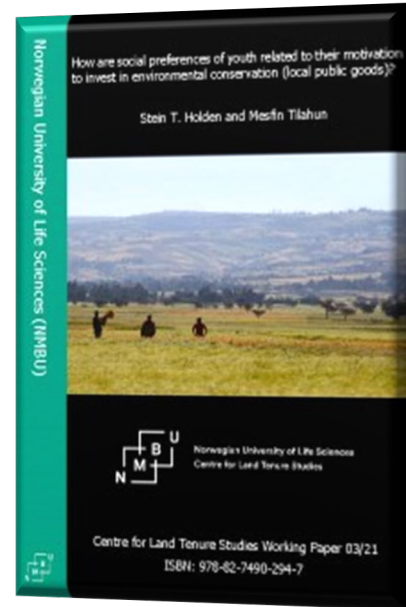


Abstract of the paper: The risky investment game of Gneezy and Potters (1997) has been a popular tool used to estimate risk tolerance and myopic loss aversion. Holden and Tilahun (2021) tested and found that the simple one-shot version of this game that is attractive as a simple tool to elicit risk tolerance among respondents with limited education, produce significant endowment effects in two variants of the game where alternatively safe and risky initial monetary endowments are allocated. In this paper, we use an alternative treatment that does not induce endowment effects. This allows us to establish a benchmark to assess the relative size of the endowment effects when initial safe and risky endowments are provided (contribution 1). While Prospect Theory could predict endowment effects in

the game, it fails to explain the dominance of interior choices (partial investment). We propose an alternative endowment effect theory that gives predictions that are more consistent with the observed partial investment behavior (contribution 2).

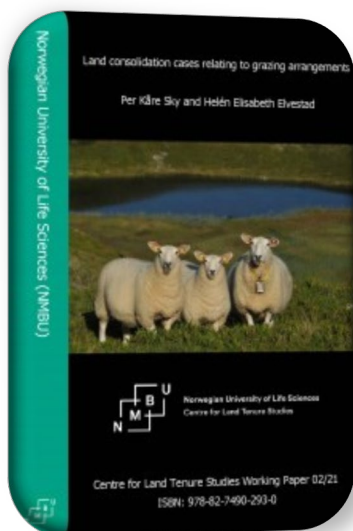
4. Stein T. Holden and Mesfin Tilahun (2021). [How are social preferences of youth related to their motivation to invest in environmental conservation \(local public goods\)? CLTS Working Paper No. 3/2021.](#) Center for Land Tenure Studies, Norwegian University of Life Sciences, Aas, Norway.

Abstract of the paper: We have used simple incentivized social preference experiments for a sample of 2427 resource-poor rural youth that have formed natural-resource based youth business groups in their home communities. The experiments were combined with questions investigating their attitudes towards environmental conservation and willingness to contribute to conservation of local natural resources related to a compulsory labor contribution program. The paper investigates whether and how the revealed social preferences are associated with the attitudes towards environmental conservation and explores the spatial heterogeneity of conservation attitudes. It tests whether youth with altruistic and egalitarian social preferences are associated with stronger motivations for contributing to the compulsory conservation program than youth with selfish and spiteful preferences. Our study finds evidence in support of this hypothesis.



We also find evidence of substantial spatial variation in the attitudes towards the environmental conservation program and much of this heterogeneity seems to be determined at the community (tabia) level which is the lowest administrative level and the level at which the compulsory conservation program is organized. In general, we find strong support for the compulsory conservation work program among the youth. 97% of the youth agree or strongly agree that the program is very important to protect the natural resource base and secure the future livelihoods in their community. On average the subjects were willing to contribute 19.4 days/year free labor to the program, which was close to the current requirement of 20 days/year.

- Per Kåre Sky and Helén Elisabeth Elvestad (2021). [Land consolidation cases relating to grazing arrangements. CLTS Working Paper No. 2/2021](#). Center for Land Tenure Studies, Norwegian University of Life Sciences, Aas, Norway.

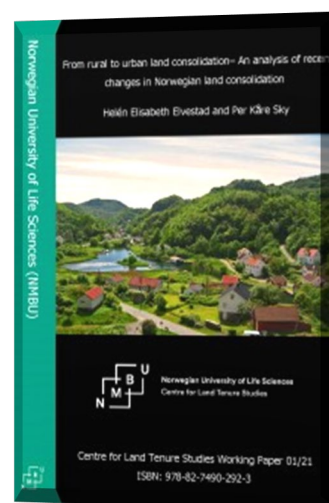


Abstract of the paper: Land consolidation courts deal with cases where the relationship between holders of grazing rights needs be regulated, but also where the rights holders are competing with other potential land uses, such as building holiday cabins, forestry, hunting, etc. These cases are governed by the provisions of sections 3-8 and 3-10 of the Land Consolidation Act. We have analysed 20 grazing arrangements, based on the following criteria: duration of the case; substantive and geographic limits to the case, and how the parties' claims influenced the final shared use arrangement; need for expert advice; the parties' counsels; clarification of the legal basis and the need for dispute resolution; use of tools provided by the Land Consolidation Act; interconnection with other

rights; in cases dealing with several types of land use – did the land consolidation court establish several associations or a single association; and issues arising in established grazing arrangements and associations. We provide examples of the material considerations, both general and detailed, that were given weight when drawing up the rules on grazing.

- Helén Elisabeth Elvestad and Per Kåre Sky (2021). [From rural to urban land consolidation – An analysis of recent changes in Norwegian land consolidation. CLTS Working Paper No. 1/2021](#). Center for Land Tenure Studies, Norwegian University of Life Sciences, Aas, Norway.

Abstract of the paper: In most countries, land consolidation was first introduced in rural areas, with legislation suitable for urban areas being drafted at a later date. This is also true of Norway. The first evidence of urban competency in the legislation is found in the Land Consolidation Act from 1950. It is important to note that in Norway land consolidation remains the exclusive province of the court system. This, as far as we know, is unique for Norway. In the article we investigate how the original measures in the Land Consolidation Act for rural areas has been adapted to accommodate application in urban areas. We also investigate three urban cases brought before the Land



Consolidation Court for settlement. Unfortunately, there are no national statistics that distinguish between land consolidation cases in rural and in urban areas. We can conclude that only small changes were needed to be made to the Act to suit it to land consolidation in urban areas. Properties are often difficult to use gainfully at the current time and under the current circumstances. The layout of the property is not adapted to developments that will take place. Land consolidation is therefore of great importance to urban development.

Journal Papers and Book chapters

1. Stein T.Holden (2021). The Gender Dimensions of Land Tenure Reforms in Ethiopia 1995-2020. Chapter 12 in Uchendu Eugene Chigbu (Ed.) [Land Governance and Gender: The Tenure-Gender Nexus in Land Management and Land Policy](#), CABI, pp. 143-152.

Introducing statement in the chapter



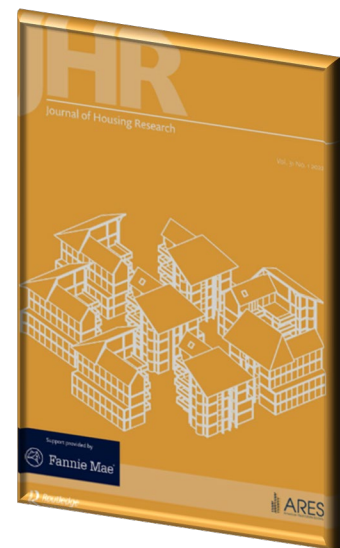
Ethiopia is a unique country in Africa in several respects. It is about the only country that has never been colonized. It has a long and well documented history through written records and archaeological and historic monuments and buildings. Land has had a central role in the control of power and for the survival of its people for hundreds of years under challenging climatic conditions with recurrent droughts.

On the other hand, Ethiopia shares some characteristics with other countries such as a patriarchal culture with strong male dominance. This chapter aims to assess how women's land rights have changed in Ethiopia over the last 25 years. Ethiopia embarked on the largest land reform process in terms of land registration and certification in any African country, starting in 1998. This started as a home-grown low-cost reform in one region and was implemented as a broad-scale participatory process without modern tools within ten years in the four largest regions of the country (Deininger et al ., 2008). The reform therefore was implemented primarily in the highlands of the country where smallholder agriculture dominates while the more arid lowlands dominated by pastoralism largely were left untouched by the reform. From 2014 the country scaled up a 2nd Stage Land Registration and Certification (LR&C) that utilized modern tools and provided parcel-level certificates with maps and names of all land holders.

It is important to recognize some of the historical context and regional variations in the areas that were strongly affected by the reform. Some of this heterogeneity is summarized in section 12.2. In section 12.3 I outline the traditional positions of women in the highlands and their situation just before the reform was implemented. New land laws were introduced in the country just before the reform was implemented, including a federal land law (proclamation), followed by regional land laws and regulations that opened for some variations across regions. Sections 12.4 and 12.5 highlight specific gender-related elements of the new land laws and assess the extent to which these were implemented and known and respected on the ground, by land administrations, and the court system responsible for enforcing the law and handling land-related disputes. Sections 12.6 and 12.7 look at the gender impacts of the 1st Stage LR&C and section 12.8 at the 2nd Stage LR&C, before drawing attention to some important future challenges.

2. Dag Einar Sommervoll and Stave Swidler (2021). [Hedging Home Equity Risk: Examination of a Nobel Idea](#). Journal of Housing Research, doi: 10.1080/10527001.2021.1985370

Abstract: Robert Shiller has long advocated the use of derivative real estate instruments to manage home equity risk and address the economic inefficiencies in the housing market. His body of work in this area is literally a Nobel, if not noble, idea, having led to his being awarded economics' most prestigious award in 2013. While Shiller carefully lays out the benefits of managing homeowner's equity risk, to date practical issues of hedging have been largely unexplored. With the 2006 listing of real estate futures contracts on the Chicago Mercantile Exchange (CME), it is now possible to examine hedging effectiveness using the CME derivatives. In the following analysis, we examine transaction data from Las Vegas and consider a simple futures rollover strategy along with hedging strategies whose payouts are related to changes in the underlying house price index. The results indicate that idiosyncratic risk is large and renders hedging strategies ineffective for many homeowners that lost money on the sale of their house during the financial crisis. The set of results include certain holding periods where hedge payouts are only a small fraction of their home equity losses and still other times when an individual would lose both on their home sale and on their derivatives position. Thus, the evidence suggests that while the idea of home equity risk management is a noble idea, hedging strategies can often lead to ineffective results.





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3. Yiquan Gu, Alexander Lord, Anders Eika, Perrine Dethier, D. Ary A.Samsura, Berit Irene Nordahl, Dag EinarSommervoll, Erwin van der Krabben, and Jean-Marie Halleuxhas (2021). [Fair shares? Advancing land economics through cooperative game theory](#). Land Use Policy, doi: 10.1016/j.landusepol.2021.105400

Abstract: Site consolidation is a perennial issue in the study of land economics. The emergence in many contexts of policies that follow variations on ‘land readjustment’ represent a common way for policy makers to overcome the barriers to wholesale [redevelopment](#). In several important respects the nature of the problems that land readjustment seeks to confront



are best thought of as questions in cooperative [game theory](#). In this contribution we seek to explore the underpinning logic of land-readjustment using fundamental concepts in cooperative game theory: the Shapley value and the Core. In addition, we present results of an experiment on coalition and value distribution in four European countries. Our results shed light on a range of important practical issues for the policy ranging from the conditions under which development might be self-initiated to coalition stability, and to the value of an animating agency such as urban planning.

4. Stein T. Holden and Mesfin Tilahun (2021). [Mobile phones, leadership and gender in rural business groups](#). World Development Perspectives, doi: 10.1016/j.wdp.2021.100370



Abstract: Digital information and communication technologies are recognized as vital tools for empowering marginalized groups such as women in low income developing countries through reducing the costs of communication and connectivity. This study aimed at assessing the gender difference in mobile phone ownership among youth business group members, and how it affects election into leadership and group board positions in rural

youth business groups in northern Ethiopia. We used [instrumental variable](#) methods on survey data on 1125 youths in 119 youth business groups where 32% of the members were female. Our results indicated that 37% of the females and 70% of the males owned mobile phones. Male members were twice as likely to become board members and five times as likely to become group leaders. Mobile phones had become instrumental for male members to become group leaders and board members while this was not the case for female members. Male members without mobile phone were not significantly more likely to become board members or group leaders than female members without and with mobile phones. The gender [digital divide](#) is thus a question of both ownership and the use of mobile phones for business and forgetting positions that can empower women in business. Further research should investigate whether provision of mobile phones and training of female business members in use of mobile phones for business can lead to female empowerment and thereby eliminate or reduce the observed [gender discrimination](#).

5. Sarah E. Tione and Stein T. Holden (2021). [Non-Convex Transaction Costs and Land Rental Market Participation in Malawi](#). *Land Economics*, doi: 10.3368/le.98.1.062620-0092R

The logo for 'LAND ECONOMICS' is displayed in white, uppercase letters on a dark red rectangular background. The text is arranged in two lines: 'LAND' on top and 'ECONOMICS' below it.

Abstract: We assess how non-convex transaction costs constrain access to and participation in the land rental market by smallholder farmers within Sub-Saharan Africa. The theory suggests a dynamic externality due to such transaction costs and that orchestrated participation can reduce such costs and enhance future participation. We use dynamic random effects probit and Tobit models with balanced panel data from Malawi to assess participation on the tenant side of the market. We observe that initial and earlier land rental market participation significantly increases participation in subsequent years, consistent with dynamic non-convex transaction costs and possible entry barriers in the market.

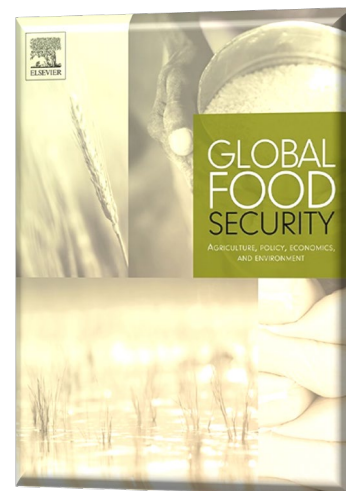
6. Stein T. Holden and Mesfin Tilahun (2021). [Preferences, trust, and performance in youth business groups](#). *PLOS ONE*, doi: 10.1371 / journal.pone.0257637

Abstract: We study how social preferences and norms of reciprocity are related to generalized (outgroup) and particularized (ingroup) trust among members of youth business groups in northern Ethiopia. The Ethiopian government promotes youth employment among land-poor rural youth by allocating them rehabilitated communal lands for the formation of sustainable businesses. The typical sustainable production activities that the groups can invest in include apiculture, forestry, horticulture, and livestock production. Our study used incentivized experiments to elicit social preferences, trust, and trustworthiness. We use data from 2427 group members in 246 functioning business groups collected in 2019. Altruistic and egalitarian preferences were associated with stronger norms to reciprocate, higher outgroup and ingroup trustworthiness and trust while spiteful and selfish preferences had opposite effects. The social preferences had both direct and indirect effects (through the norm to reciprocate) on trustworthiness and trust. Ingroup trust was positively correlated with a number of group performance indicators.



7. Thomas S. Jayne, Jordan Chamberlin, Stein Holden, Hosaena Ghebru, Jacob Ricker-Gilbert and Frank Place (2021). [Rising land commodification in sub-Saharan Africa: Reconciling the diverse narratives](#). *Global Food Security*, doi: 10.1016 / j.gfs.2021.100565

Abstract: Scholarship on African land markets has proliferated in recent years. We contend that this scholarship consists of distinct literatures that examine non-overlapping parts of the system and diverge in their conclusions. Some studies view rising land markets as providing greater options for smallholder farmers and positive impacts on agricultural productivity and equity, while others emphasize large-scale land acquisitions and disenfranchisement as the dominant narrative. This article reviews these disparate literatures, identifies points of convergence and disagreement, and outlines steps required to achieve greater consensus on the effects of rising commodification of land. We conclude that land prices are rapidly rising throughout the region, that smallholder participation in land rental and purchase markets are generally rising, and that increased land market activity is generating complex distributional effects that remain poorly understood.



8. Sarah E. Tione and Stein T. Holden (2021). [Can rainfall shocks enhance access to rented land? Evidence from Malawi](#). *Agricultural Economics*, doi: 10.1111 / agec.12663



Abstract: This study investigates the spatial downside and upside rainfall shock effects on tenant household renting behavior and access to rented land in the short-term and medium-term. We model the tenant households' demand decisions within the state-contingent framework with renting-in of land as a risky input choice. Our data are a 3-year balanced household panel, combined with the corresponding seasonal district-wise rainfall shock data across regional agro-ecological

zones in Malawi. Using the correlated and dynamic random effects panel probit and Tobit models that control for unobserved heterogeneity, spatial heterogeneities were revealed. Land rental markets were found to be more active in the Central Region of Malawi with intermediate population density. The 1-year and 2-year lagged downside rainfall shocks

enhanced tenant households' land access. For the more land constrained Southern Region of Malawi, with less prevalence of land rental markets, the 2-year lagged downside rainfall shock is associated with less access to rented land. The revealed dynamic and spatial effects of covariate rainfall shocks on land rental market activity call for further studies on how policies could facilitate rental markets to enhance land-use efficiency and land access for the most land-constrained households in Malawi.

9. Bethelhem Legesse Debela, Gerald E. Shively and Stein T. Holden (2021). [Implications of food-for-work programs for consumption and production diversity: Evidence from the Tigray Region of Ethiopia](#). *Agricultural and Food Economics*, doi: 10.1186 / s40100-021-00189-1



Abstract: Food-based transfer programs have the potential to change diets or alter basic crop mixes. This study empirically investigates the associations between participating in food-for-work (FFW) programs and the diversity of food consumption and production. Four waves of panel data from the Tigray Region of Northern Ethiopia, covering the period 2001–2010, are used to estimate a series of panel data regressions. A doseresponse model is used to measure how the intensity of FFW participation

aligns with dietary outcomes. Results show that FFW participants had greater household dietary diversity compared with non-participants, with an average magnitude equivalent to one-fifth of a standard deviation in the food variety score. When items directly provided by the FFW program are excluded from the variety score, the overall effect is statistically weaker, but similar in sign and magnitude, suggesting modest “crowding in” of dietary diversity from FFW participation. FFW participation was not correlated with changes in production diversity, suggesting that the labor demands of the program did not alter crop choice. Findings have relevance for interventions that aim to improve food security and promote dietary quality in low-income populations.

10. Stein T. Holden and Mesfin Tilahun (2021). [Endowment effects in the risky investment game?](#) *Theory and Decision* , doi: 10.1007 / s11238-021-09821-4

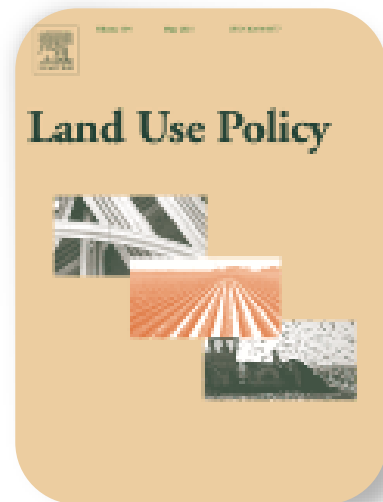


Abstract: The risky investment game of Gneezy and Potters (Q J Econ 112(2):631–645, 1997) has been proposed as a simple tool to measure risk aversion in applied settings,

especially attractive in settings where participants may have limited education. However, this game can produce a significant endowment effect (attached to the initial position), so that analysis of the behavior in this game should not be done in the Expected Utility Theory (EUT) framework. The paper illustrates this point, by showing that risk tolerance can be much higher when the initial endowment concerns a risky lottery.

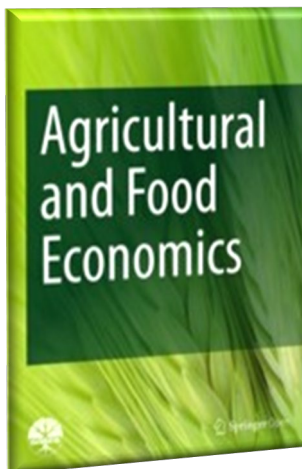
11. Stein T. Holden and Mesfin Tilahun (2021). [Are land-poor youth accessing rented land? Evidence from northern Ethiopia](#). *Land Use Policy*, doi: 10.1016 / j.landusepol.2021.105516

Abstract: Continued population growth in densely populated parts of Sub-Saharan Africa makes it harder for youth to choose agriculture as main source of income. We investigate whether near landless youth can access rented land as a source of income. We used data collected in 2016 (from 1138 youths in 119 youth business groups) and 2019 (from 2427 youths in 246 business groups), in five districts of Tigray region of Ethiopia. We find that 42% of the youth had access to rented land in 2016 and 47% in 2019. The average area rented land was 0.66 ha in 2016 and 0.74 ha in 2019. Access to rented land, though constrained, accounted close to 70% in 2016 and 61% in 2019 of the average operated land by youth group members.



Male youth who own oxen and ploughs are much more likely to rent land whereas female youth group members appeared generally disadvantaged in their access to rented land and other complementary sources of income. Sharecropping dominated as the main form of land rental contract covering 94% of the contracts in 2016 and 90% of the contracts in 2019. Utilizing a trust game to elicit trust and trustworthiness of the youth, we found a positive association between trustworthiness and particularly accessing land from non-relatives. The prohibition of land sales limits the potential of the “agricultural ladder” to facilitate youth climbing out of poverty through purchase of land. Overall, the land rental market has become more important for land access of land-poor youth and is likely to grow in importance to facilitate rural transformation and diversification of rural livelihoods as land scarcity grows and market access improves. Thus, it appears that the land rental market has helped many of these very land-poor youth to establish sustainable land-based livelihoods. While the land rental market does not function perfectly, we recommend not to intervene to change the fundamental characteristics or to impose area restrictions in the market as has been attempted recently in Ethiopia. Such restrictions can easily cause more harm than good.

12. Menasbo Gebru, Stein T. Holden and Frode Alfnes (2021). [Adoption analysis of agricultural technologies in the semiarid northern Ethiopia: a panel data analysis](#). *Agricultural and Food Economics*, doi: 10.1186 / s40100-021-00184-6



Abstract: Agricultural technology change is required in developing countries to increase the robustness to climate-related variability, feed a growing population, and create opportunities for market-oriented production. This study investigates technological change in the form of adoption of improved wheat, drought-tolerant teff, and cash crops in the semiarid Tigray region in northern Ethiopia. We analyze three rounds of panel data collected from smallholder farms in 2005/2006, 2009/2010, and 2014/2015 with a total sample of 1269 households. Double-hurdle models are used to assess how the likelihood (first hurdle) and intensity of technology adoption (second hurdle) are affected by demographic, weather, and market factors.

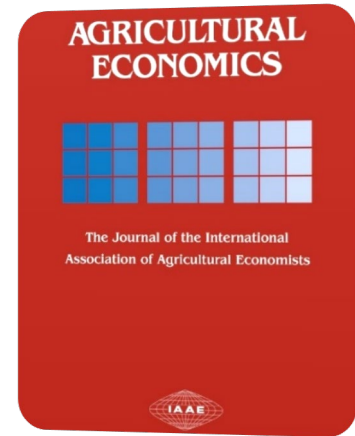
The results indicate that few smallholders have adopted the new crops; those that have adopted the crops only plant small shares of their land with the new crops, and that there has been only a small increase in adoption over the 10-year period. Furthermore, we found that high population density is positively associated with the adoption of improved wheat, and previous period's rainfall is positively associated with the adoption of drought-tolerant teff. The adoption of cash crops is positively associated with landholding size and access to irrigation. The policy implications of these results are that the government should increase the improved wheat diffusion efforts in less dense population areas, make sure that drought-tolerant teff seed is available and affordable after droughts, and promote irrigation infrastructure for production of cash crops.

13. Katengeza, SP Holden, ST (2021). [Productivity impact of drought tolerant maize varieties under rainfall stress in Malawi: A continuous treatment approach](#). *Agricultural Economics*, doi: 10.1111 / agec.12612

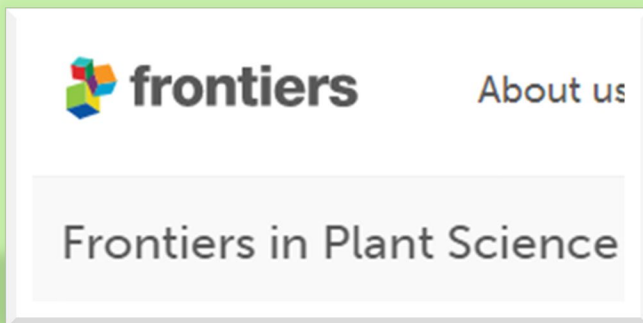
Abstract: Drought tolerant (DT) maize varieties have received massive support in sub-Saharan Africa because of their potential to protect smallholder farmers against drought-related maize yield losses. Using four waves of household farm panel data from six districts in Malawi, we examine the impact heterogeneity of this technology on maize productivity using a continuous treatment approach. We find strong evidence of positive correlation between maize yield and adoption of DT maize varieties. On average, an increase by one hectare in the area allocated to DT varieties increases maize yield by 547

Kg/ha representing a 44% increase from the average maize yield of 1,254 Kg/ha for our sample.

Our findings give evidence that DT maize technology has potential to protect smallholder farmers against drought-related production losses. Policies that promote increased allocation of maize area to DT maize hold potential to enhance food security. Smallholder farmers especially in drought-prone areas should be encouraged to allocate at least one-third of the maize plot to DT varieties while breeders continue with the efforts of breeding a DT variety that is not only drought tolerant but also adapted to all weather conditions. More importantly, the government should ensure provision of timely ex ante weather information to guide farmers on decision-making with respect to maize varietal choices.



14. Rachel Wynberg, Regine Andersen, Sarah Laird, Kudzai Kusena, Christian Prip & Ola Westengen (2021). [Farmers' Rights and Digital Sequence Information: Crisis or Opportunity to Reclaim Stewardship Over Agrobiodiversity?](#) *Frontiers in Plant Science*, Vol. 12, doi: 10.3389/fpls.2021.686728/full



Abstract: Contestations about the way in which digital sequence information is used and regulated have created stumbling blocks across multiple international policy processes. Such schisms have profound implications for the way in which we manage and conceptualize agrobiodiversity and its benefits. This paper explores

the relationship between farmers' rights, as recognized in the International Treaty on Plant Genetic Resources for Food and Agriculture, and the dematerialization of genetic resources. Using concepts of "stewardship" and "ownership" we emphasize the need to move away from viewing agrobiodiversity as a commodity that can be owned, toward a strengthened, proactive and expansive stewardship approach that recognizes plant genetic resources for food and agriculture as a public good which should be governed as such. Through this lens we analyze the relationship between digital sequence information and different elements of farmers' rights to compare and contrast implications for the governance of digital sequence information. Two possible parallel pathways are presented, the first envisaging an enhanced multilateral system that includes digital sequence information and which promotes and enhances the realization of farmers'

rights; and the second a more radical approach that folds together concepts of stewardship, farmers' rights, and open source science. Farmers' rights, we suggest, may well be the linchpin for finding fair and equitable solutions for digital sequence information beyond the bilateral and transactional approach that has come to characterize access and benefit sharing under the Convention on Biological Diversity. Existing policy uncertainties could be seized as an unexpected but serendipitous opportunity to chart an alternative and visionary pathway for the rights of farmers and other custodians of plant genetic resources.

15. Knut Boge, Daniel Amin Haddadi, Ole Jonny Klakegg, Alenka Temeljotov Salaj (2021). [Facilitating building projects' short-term and long-term value creation](#). *Buildings*, Vol. 11, 332 p. 1-26, doi: 10.3390/buildings11080332

Abstract: Real estate and buildings are some of facility managers' most costly resources. Thus, knowledge about how to get the most out of building or renovation projects both in the short term and in the



buildings

long term are of great importance for facility managers. This paper investigates which factors are most important for building and renovation projects' output or short-term value creation, and outcome or long-term value creation, i.e., the completed building's effect for owners and users. Thus, the focus is not primarily financial and the buildings' asset value. The study is based on a national questionnaire survey in Norway (550 respondents). Multivariate statistics (Principal Component Analysis and Linear Multiple Regressions validated with bootstrapping) were used to test the hypotheses. Short-term project management priorities, such as early involvement of technical contractors and FM providers, contract strategy and involvement of owners and users largely decide the qualities of the building, and thus the potential for long-term value creation. The most important factors for long-term value creation, i.e., buildings that facilitate the demand organisation's value creation are the qualities of the completed building, project governance and involvement of owners and users during early phase planning.

16. Tewodros Tadesse, Tsegay Berhane, Dawit W. Mulatu, and Meley Mekonen Rannestad (2021). [Willingness to accept compensation for afro-montane forest ecosystems conservation](#). *Land Use Policy*, Vol 105, doi: 10.1016/j.landusepol.2021.105382

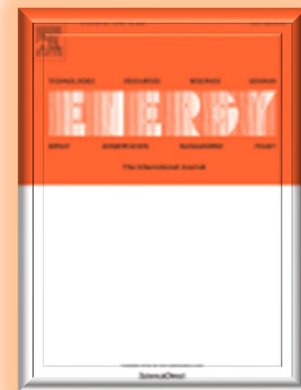


Abstract: This study explored local communities' willingness to accept compensation for the conservation of Desa'a state forest, which is located in northern Ethiopia. For this purpose, a sample of two hundred forty rural households living around the forest was randomly selected. A choice experiment approach encompassing three forest-related choice attributes namely, biodiversity, soil and water conservation and agro-forestry, was used to elicit willingness to accept compensation for conservation of the forest. Mixed logit model that helps account for differences in household preferences was then used to estimate marginal willingness to accept compensation for forest conservation. Results show

that households would be willing to accept an average compensation of 7.7 USD to work for 5–10 additional days of public work on soil and water conservation as part of contributing to Desa'a forest conservation. On the other hand, households' preferences to work on biodiversity conservation and agroforestry expansion were found to be negligible as the respective marginal willingness to accept estimates show. Given costs that the government of Ethiopia incurs for environmental rehabilitation programs through soil and water conservation, strengthening such investments in and around forestlands could prove useful in creating incentives for households to sustainably conserve and use forests.

17. Wassie, Y.T., Rannestad, M.M. and Adaramola, M.S. (2021). [Determinants of household energy choices in rural sub-Saharan Africa: An example from southern Ethiopia](#). *Energy*, Vol 221, p.119785, doi: 10.1016/j.energy.2021.119785

Abstract: This study analyses the determinants of rural household energy choices for cooking and lighting in southern Ethiopia by using data from a cross-sectional study of 660 sample households and direct observational studies. Chi-square tests and Multivariate Probit (MVP) model were used to analyse the data. The findings showed that most of the rural households depend on fuelwood (90.70%) while only 3.14% use clean fuels as primary sources of energy for cooking. In contrast, 50% use kerosene, 29% electricity, 19% solar, and 1.98% biogas as primary lighting energy sources. The Chi-square tests revealed that a statistically significant relationship exists between household cooking fuel choices



and distance to wood source, household size, income level, and location. Empirical results of the MVP model showed that rural household energy choices for lighting are significantly influenced by income level, family size, access to road, location, education level, cost of technology, and distance to market. Wealthier and more educated households residing near road access were more likely to use cleaner lighting fuels while poorer households residing in areas with limited road access use kerosene and dry-cell batteries. However, higher-income level and grid-connection have not led households to completely forgo the use of traditional cooking and lighting fuels. While income remains a principal factor, the study finds that various non-income factors also play a major role in determining household energy choices and transition. And hence, policymakers and energy planners in Ethiopia and sub-Saharan Africa at large need to consider these diverse factors when designing energy policies and interventions to rural areas.

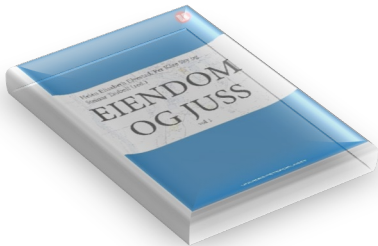
18. Trygstad, Veronica and Boge, Knut (2021): "Da Statens Kartverk møtte jordskifterettene" [When the Norwegian Mapping Authority met the Land Consolidation Courts], *Kart og Plan*, Vol. 114, No. 3/4, pp. 225-253. <https://doi.org/10.18261/issn.2535-6003-2021-03-04-08>

Abstract: The topic of this article is cadastral records of older cases conducted by the Norwegian land consolidation court. The analytical framework is based on historical institutionalism. The methods used is a case study based on literature review, document study, and questionnaire survey. The data was analyzed by using content analysis and descriptive statistics. The main findings are that the land consolidation courts, and the cadastral authority have operated according to different logics. Initially, the land consolidation court was obliged to map and position the verdicts. Several legislative amendments in the 19th and 20th century relived the requirements for mapping and positioning. This may have been a contributing factor to the lack of cadastral records of some cases conducted by the land consolidation courts. Furthermore, it is recommended the ministries involved initiate and cover the costs of cadastral registration of old cases carried out by the land consolidation court.



Books/e-Books

1. Per Kåre Sky, Helén E. Elvestad & Steinar Taubøll (2021). *Eiendom og juss* [Property and law vol. 1], Vol. 1. Oslo: Universitetsforlaget



Property and law vol. 1 (in Norwegian) deals with topics such as the distribution of planned values, voluntary land transfer, the relationship between the Land Registry Act and the Land Transfer Act, grazing arrangements according to the Land Transfer Act, land lease and land transfer, differences in the valuation principles for land transfer and expropriation, property rights and the property information in the cadastre, the visibility of

easements in the land register and a historical review of the meaning of area easements. The book also deals with the negotiation process for land acquisition and negotiations for private proposals for development plans.

2. Gunnhild Storbekkrønning Solli (2021). *Ute av syne, ute av sinn. Om rettigheter til og forvaltning av grunnvann i norsk rett* [Out of sight, out of mind]. Oslo: Karnov.

Out of sight, out of mind (in Norwegian) Who owns the groundwater in Norway, and what does owning groundwater mean? What considerations are emphasized when awarding a public license for the use of groundwater? Are we able to safeguard the groundwater when planning land use, where other interests are also involved? *Out of sight, out of mind* seeks to provide answers to these questions and deals with the three main instruments we have in Norwegian law to regulate and manage groundwater: ownership, concession and planning. Who owns the right to groundwater, and what the regulations for managing the resource are, has both private law and public law significance and is therefore relevant and useful for case managers, parties, lawyers and judges as well as researchers.



3. Katrine Broch Hauge, Fredrik Holt & Ingrid Wang Larsen (2021). *Ekspropriasjonsrett, Kort forklart* [Expropriation law briefly explained]. Oslo: Universitetsforlaget.

Expropriation law briefly explained (in Norwegian) introduces the legal rules on expropriation. According to the Norwegian Constitution, anyone who is subject to expropriation is entitled to full compensation. The book provides a broad presentation of the many legal issues that expropriation raises. It deals with what characterizes the right of expropriation as a legal field, and which rights are protected by the special protection provided by the Constitution. Other key topics are the handling of expropriation cases in the administration and in the courts as well as the rules and principles for assessing compensation.



Ph.D. Dissertations

1. Veronica Trygstad (2021). *Matrikkelføring av saker utført av jordskifteretten [Cadastral records of cases conducted by the land consolidation court]*. Department of Property and Law, LANDSAM, Norwegian University of Life Sciences, Aas.

Introduction Chapter Abstract: The topic of the thesis is cadastral records of cases conducted by the Land Consolidation courts. Today's cadastre has a long history. It contains data obtained from the land register, old bills of quantity (measurement letters), road cases, economic mapping, new and older land consolidation maps, and more. The data of the cadastre is often referred to as "incomplete". Textual information and digital map data are combined in the cadastre. As a result of the status as a foundational register and national shared component, the cadastre is an important register for Norwegian information infrastructure. After a case in the Land Consolidation court is legally settled, it is presumed that the results are recorded in the land register and entered in the cadastre. Thus, there must be correspondence between boundaries of parcels in the field, and how the property appears digitally. However, this is not always the case.



The objective of the thesis is to obtain knowledge about the interaction between historical development, legislation, and technology in a cadastral and land consolidation context, as well as examine the significance these components have for cadastral registration of cases conducted by the Land Consolidation courts. There is special focus on exploring the reasons that some cases carried out by the

Land Consolidation court have not been registered. This leads to the question of what significance lack of cadastral records of cases carried out by Land Consolidation court has for users of cadastral data and society in general. This is important since both public authorities and other users will assume that the cadastre is a uniform and up-to-date register in line with standards and regulations. Additionally, the dissertation focuses on questions about what alternative solutions exist to address these problems.

2. Tione, S. E. (2020). [Land markets and agricultural household decisions nexus in Malawi](#). PhD dissertation. School of Economics and Business, Norwegian University of Life Sciences, Aas.

Introduction Chapter Abstract: The general trend of agricultural land in Sub-Saharan Africa (SSA) continues to tilt towards land scarcity emanating from farm household-level population pressure and increase in urbanisation rates. Understanding the agricultural household decisions nexus or linkages in ownership and access to agricultural land and non-land factor of production is of interest in policy research for development and transformation of rural economies in SSA. This thesis contributes to this scholarly literature. The objective is to assess the changing trends in land transactions, opportunities and constraints in institutions that facilitate transfers and distribution of agricultural land among smallholder farm households in Malawi, a country in SSA. Four independent but related empirical research papers in chapters two to five of this thesis address this objective, with a summary of the overall policy implications in the introduction chapter.



The first research paper assesses the important spatial and intertemporal changes in the land shadow values or prices that shape patterns of agricultural land valuation and transactions. Paper two analyses the dynamic nature of transaction costs in the land rental markets that can facilitate land transactions in a market. Paper three addresses the question of whether downside and upside lagged rainfall shock effects, can kick-start access to rented land among potential tenants. Lastly, the fourth paper jointly assesses the farm household decisions to either rent-in land or hire out labour for casual work in seasonal agricultural labour markets.

Almost a decade after global policy discussions on large-scale land transfers in SSA, this thesis recommends the need to refocus land policy discussions to improving farm household-level access to agricultural land. The agricultural development policies and land use strategies should promote land campaigns that can improve low-cost access to land market information at the local or community level. These policies and strategies

should also aim at easing the capital burden or liquidity constraints amongst potential tenant households in the agricultural sector. The land information dissemination initiatives can take advantage of the existing agricultural extension and information systems. On the other hand, initiatives like establishing a land bank or implementing subsidies, can ease the capital burden and support agricultural operations or other household needs among farming households. With recurring rainfall shocks in Malawi, these initiatives should also target rural areas most affected by downside rainfall shocks. Overall, reducing the friction in the land markets can sustain livelihoods and contribute to the transformation of both rural and urban areas, as land scarcity challenges continue in Malawi.

3. Menasbo Gebru Tesfay (2021). [Land rental markets, technology adoption, and smallholders' commercialization in a semi-arid economy](#). PhD dissertation. School of Economics and Business, Norwegian University of Life Sciences, Aas.

Introduction Chapter Abstract: The

main goals of the thesis are two folds. First, in a risky agriculture, presence of high transaction cost, input and out market imperfections, examining how the recent land reform enables smallholder farmers to participate in the land rental and then in the output markets after improving land tenure security due to certification.



Second, to assess the influence of farm level population density, weather shocks and accessibility of public service on adoption of improved agricultural technologies. Using observational data and various econometrics methods, results revealed that state dependency and previously weather variability strongly and positivity affect current participation and intensity of participation of potential tenants in land rental market. This has been further improves output market integration and enables to create an entrepreneurial farmers. Adoption analysis indicates that labor-endowed families are engaged in the production of cash crops that demand multiple treatments and labor-intensive tasks and more likely to adopt improved wheat to feed the growing population. Improving the long term implication of land certification, landholders with the second stage certificates have significantly improved land tenure security compared to their counterparts.

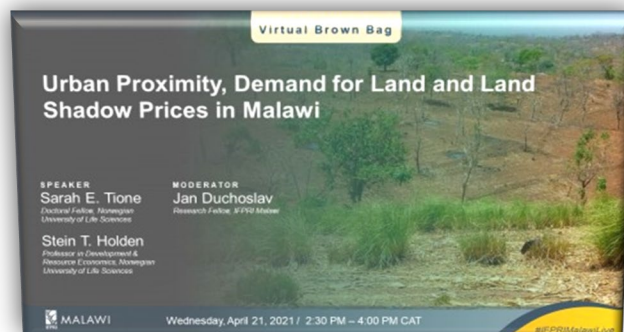
The research questions addressed in thesis reflect to the current situation in developing countries where market imperfections, high transaction cost, weather shocks, and high population pressure to be the main challenges of agricultural growth. This insights to policy makers of developing countries to deploy all-encompassing economic reforms and programs for smallholder agriculture. The study makes important contributions to scant

literature on the link between the land rental–output market participation of potential tenants and explore the benefit packages of second stage land certification compared to the first stage land certification. In developing countries, where agriculture remains a risky activity, applying better agricultural practices could help farmers to smooth out production and consumption. This could still be an important policy focus, at least in areas with high population density, land scarcity or the potential for irrigation development. The study also enriches the existing literature on the subject matter by using rich and long panel data and various econometric methods to account for unobserved heterogeneity and endogeneity.

Conference Presentations and Workshops

1. Presentation at an [IFPRI virtual brown bag seminar](#) held on 21st April 2021 by Dr Sarah Tione, a Doctoral Fellow with the Norwegian University of Life Sciences and CLTS member.

As part of disseminating CLTS related work, Sarah Tione presented a study at an [IFPRI brown bag seminar](#) that explored the spatial and intertemporal variation in farmland prices in Malawi around this critical period of land scarcity. This work was co-authored by Stein Holden and the full presentation can be downloaded from the [IFPRI webpage](#).



The full published paper is available in Land Use Policy journal and can be [downloaded here](#), doi: 10.1016 / j.landusepol.2020.104509.

Abstract of the paper. We assess the spatial and intertemporal variation in farmland prices using per hectare minimum willingness to accept (WTA) sales and rental (shadow) prices between 2010 and 2016 in Malawi. We use quintiles based on distance from the nearest major city within the agrarian political economy perspectives on global and national land transactions. Results show that farmland shadow sales prices increased more sharply between 2010 and 2013 in rural areas (+100% vs +30% in urban proximity), a trend that was reversed by 2016 to three times higher in urban proximity. However, rental prices remain higher in rural areas. This indicates that the sharp increase in global demand for large-scale land transfers following the spike in energy and food prices also affected rural smallholders' land valuation, even in remote rural areas of Malawi. With

increasing land scarcity, land valuation and land markets should be central to the development agenda in Malawi.

2. At the International Conference of Agricultural Economists (ICAE) 31st Triennial virtual meeting held from 17th to 31st August 2021, three CLTS related papers were presented.



The presentations for the invited papers presented at the [ICAE 31st Triennial](#) across the different organized sessions are:

- i. Stein T. Holden and Mesfin Tilahun (2021). [Mobile Phones, Leadership and Gender in Rural Business Groups](#), presented by Mesfin Tilahun on 23rd August 2021 under the session "[Adoption of Technology and Farm Practices](#)"
 - ii. Sarah E. Tione and Stein T. Holden (2021). [Non-convex transaction costs and land rental market participation in Malawi?](#) presented on 24th August 2021 under the session "[Land Access/Land Tenure/ Land Market/Land Rights/Land Rent/Deforestation/Lan Investment/ Land Use/Land Productivity 3](#)"
 - iii. Stein T. Holden and Mesfin Tilahun (2021). [How Large is the Endowment Effect in the Risky Investment Game?](#) presented on 30th August 2021 under the session "[Survey/Method 1](#)"
3. Boge, Knut (2021). *The affordable housing puzzle*. PLPR 2021 Online Sessions - The International Academic Association on Planning, Law and Property Rights (PLPR); 2021-02-01 - 2021-02-25.



CLTS Papers statistics at S-WoPEc and RePEc

S-WoPEc acts as a clearing house and central repository for bibliographic data about Nordic working papers in Economics. CLTS working papers are also available in electronic form and can be downloaded from S-WoPEc and EconStor. S-WoPEc is part of RePEc (Research Papers in Economics), an online platform with an effort to coordinate the dissemination of information about Working Papers in Economics. Based on RePEc statistics, Table 1 and Figure 1 shows that the total number of abstract views and downloads in 2020 were 1,371 and 346, respectively. The abstract views in 2021 reduced by an average of 19 percent compared to 2020. Again, the number of downloads reduced by 25 percent in 2021 compared to 2020, a similar trend observed between the year 2019 and 2020. A long trend in Figure 2 shows an upward trend of the abstract views since 2012.

Table 1. CLTS Visibility statistics from RePec in 2020 and 2021

| Month | 2020 Abstract Views | 2021 Abstract Views | Change | 2020 Downloads | 2021 Downloads | Change |
|-----------|---------------------|---------------------|--------|----------------|----------------|--------|
| January | 187 | 133 | -29% | 36 | 28 | -22% |
| February | 111 | 99 | -11% | 33 | 20 | -39% |
| March | 112 | 107 | -4% | 53 | 24 | -55% |
| April | 129 | 98 | -24% | 26 | 18 | -31% |
| May | 113 | 115 | 2% | 29 | 34 | 17% |
| June | 124 | 77 | -38% | 37 | 16 | -57% |
| July | 90 | 69 | -23% | 19 | 14 | -26% |
| August | 111 | 107 | -4% | 18 | 9 | -50% |
| September | 101 | 64 | -37% | 25 | 18 | -28% |
| October | 109 | 67 | -39% | 31 | 46 | 48% |
| November | 83 | 88 | 6% | 20 | 17 | -15% |
| December | 101 | 79 | -22% | 19 | 11 | -42% |

*Downloads are the files downloaded from RePec.

Source: RePec

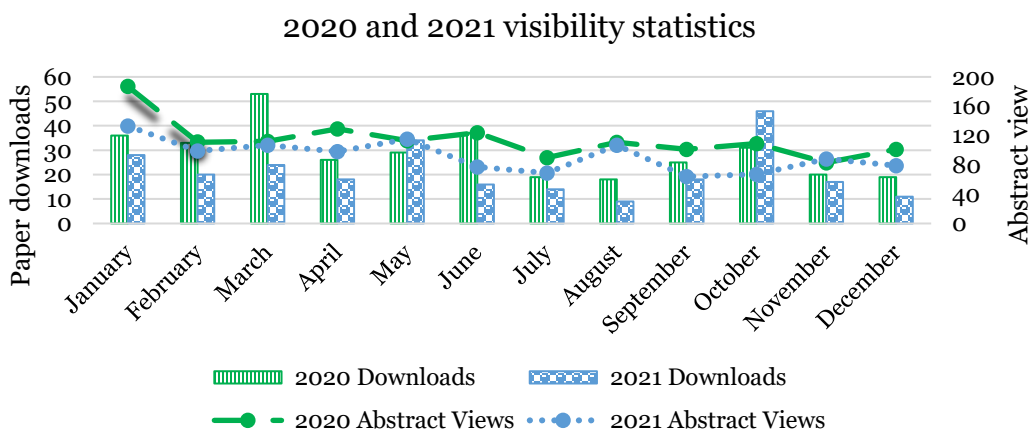


Figure 1. 2020 and 2021 CLTS Visibility statistics from RePec

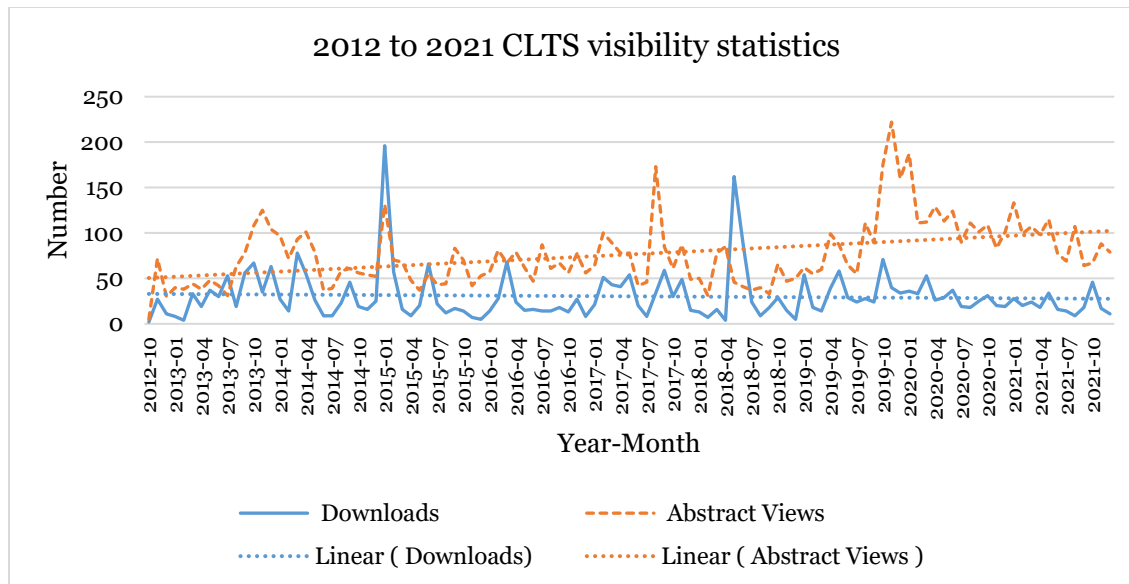


Figure 2. 2012 to 2020 CLTS Visibility statistics from RePec

CLTS Websites

- The activities of the centre are documented at the website www.nmbu.no/clts.
- Our main page is in English, but we also have a Norwegian website:
- <https://www.nmbu.no/fakultet/hh/forskning/forskningscentre/clts>, where research and activities are published in Norwegian.

Brage

All of CLTS Working Papers and Reports can be obtained in Brage:

- **CLTS Working Papers:** <https://nmbu.brage.unit.no/nmbu-mlui/handle/11250/2446458>
- **CLTS Reports:** <https://nmbu.brage.unit.no/nmbu-xmlui/handle/11250/2446455>

LandPortal

- The CLTS research work is also accessible through the Landportal webpage: <https://landportal.org/organization/centre-land-tenure-studies>

EconStor

- The CLTS working papers and reports are available through **EconStor**. <https://www.econstor.eu/handle/10419/242695>