Norwegian University of Life Sciences (NMBU)

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Irrigation Development, Land Tenure and Climate Shocks among Farmers in the Flood Plain of Malawi:

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By

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Summary

This is a plan for the final component of the "Experiments for Development of Climate Smart Agriculture" (SMARTEX), which is a collaborative research and capacity-building program with School of Economics and Business (SEB) at NMBU, Ås, Norway and Lilongwe University of Agriculture and Natural Resources (LUANAR), Malawi, as the main partners. The Project builds on the long-term Collaboration between SEB-NMBU and LUANAR, including under NORHED I, the project Climate-Smart Natural Resource Management and Policy (CLISNARP). LUANAR has established its own PhD-program in Economics and is in strong need to further develop and strengthen its capacity to run this program. SEB-NMBU will contribute to this within the area of Behavioral and Experimental Economics, Climate Economics and Land Tenure and Property Markets. Especially the use of experimental methods will be applied to issues associated with finding climate smart solutions for sustainable intensification of agriculture in Malawi. Malawi is a very densely populated country that is highly dependent on agriculture. Food security is a very important policy objective for the country which faces severe climatic risks in terms of frequent droughts and floods. Researchers from SEB-NMBU will in collaboration with two postdocs and senior researchers from LUANAR carry out joint research within two specific areas. The first is to assess ways to transform the existing input subsidy program (FISP) to a program that more strongly stimulates Climate Smart Agriculture through reducing storage losses and land degradation. The second component will focus on land and water rights in relation to irrigation agriculture which holds potential but where institutional challenges need more attention. The project has a Malawian postdoc in each of these areas. These two postdocs received their PhDs from SEB-NMBU under CLISNARP (NORHED I). The project will help equip LUANAR to do more pro-active experimental research on these high priority policy areas. The project will establish a strong database through targeted surveys combined with field experiments that will serve as the basis for joint research by the postdocs in team with senior researchers from SEB-NMBU and LUANAR. The Pre-Analysis Plan presented here for ethical approval at HH-NMBU is for the

second component of this project where Sarah Tione is the postdoc researcher. When the project started in 2021 neither NMBU or LUANAR had IRBs for ethical approval of research projects. However, as pre-registration and ethical approval have become the new international standard we have hereby prepared such a document for the remaining part of the project. The plan is to implement this fieldwork from early June 2024. The project will end July 31st, 2025 but the researchers involved expect to continue the analyses of the data for publication and dissemination purposes after that.

Keywords: Irrigation, flood shocks, impacts, irrigation group organization, performance, trust, social and economic preferences, welfare outcomes, land tenure, and land markets.

1.0 Introduction

Malawi is promoting irrigation farming amidst climate change that is affecting rainfed production. In the recent past, the flood plain of Malawi, Chikwawa and Nsanje districts, has been characterised by floods and prolonged dry spells that continue to affect agricultural production, food security and overall livelihoods (Government of Malawi, 2023). To address the agricultural challenge, Malawi is among the African countries that are promoting irrigation farming in areas with irrigation potential (Government of Malawi, 2022). The Government of Malawi, together with the development partners, is investing in the development of irrigation infrastructure and functional irrigation systems that should be sustainable and climate-sensitive to reduce the re-investment burden after climate shocks like floods.

In Malawi, irrigation farms or irrigation schemes are developing at different scales following the potential irrigable land and financial investment resources. According to the National Irrigation Policy (Government of Malawi, 2022), small-scale irrigation farms range from 1 to 10 hectares, where several people consolidate irrigable land to develop an irrigation system. Mostly, small-scale farms or irrigation schemes rely on less sophisticated irrigation systems like a treadle pump or simple gravity-fed systems due to limited investment capital. Their crop choice is often food crops like maize, beans, and vegetables. Often the small-scale farms or irrigation schemes are self-organised and manage the farms with agreed-upon operational laws and by-laws. The medium-scale irrigation farms or irrigation schemes range from 10 to 100 hectares. These medium-scale farms or irrigation schemes are mostly co-created by the government and the people. The Government facilitates the development of sophisticated irrigation infrastructure using either gravity-fed or pump-based systems. In this system, the landowners become the operators by self-organising the operations and management of the system. In medium-scale farms or irrigation schemes, they often standardise the crop to grow and do joint production like a cooperative. The common crop under medium scale is rice in Chikwawa district. Large-scale irrigation farms or irrigation schemes hold land areas above 100 hectares. These are often individual or company business entities producing and processing specific crops like sugarcane. All these categories of irrigation farms are operational in the Chikwawa district, one of the districts with high irrigation potential in Malawi (Government of Malawi, 2023). In this study, we focus on small and medium-scale irrigation farms or irrigation schemes in Chikwawa district.

Considering that irrigation farming is not entirely a new thing in Malawi, the sustainability of this farming system remains a critical issue in the agricultural sector. The Malawi National Irrigation Policy of 2022, highlight issues of maintenance of infrastructure, management of the farmland and marketing of the produce for a better return as some of the challenges affecting the sustainability of irrigation farming, especially in joint cooperative farming arrangements (Government of Malawi, 2022). In the irrigation schemes, irrigation groups are required to manage and maintain the water canals, irrigation intake equipment and catchment areas using resources generated from irrigation farming. That is, the performance of irrigation groups should depend on individual member characteristics, group organisation, environment, governance, marketing and other exogenous factors to achieve sustainable irrigation farming. Therefore, the question we pose in this study is “how can farmers in developed or joint

irrigation farming systems best improve their group organisations to sustain the investments and improve their livelihood?" The idea is to identify context-specific reasons for the productivity and management of irrigation farms and what policies can help enhance their management and productivity. With group organisation, resources under irrigation farming are considered to be Common Pool Resources (CPR) where the right of exclusion is assigned to a well-defined group compared to open access resources that are open to all (Baland & Platteau, 1996). Under irrigation schemes, group members can share water, land, and irrigation infrastructure resources with clear excludability laws for people outside the group.

Literature on the governance of Common Pool Resources (CPR) suggests that the management and sustainability of CPR can be influenced by several factors, including social and institutional factors (Baggio et al., 2016). The governance regimes are an interdependence of Design Principles (DPs) as suggested by Ostrom (1990). Specific to the performance of group irrigation systems, Baggio et al. (2016) indicated the importance of understanding the integration of social, technology and ecological systems in group performance under irrigation. Holden and Tilahun (2018) observed that to a large extent, rural business groups including irrigation groups in Ethiopia organised themselves according to Ostrom's design principles and that group performance positively correlates with the DPs. On social preferences, Holden and Tilahum (2021) observed that other-regarding social preferences like egalitarianism, and altruism (Fehr et al., 2013) were associated with norms of reciprocity among group members (including irrigation groups) and group trust and trustworthiness, and these have both direct and indirect effect on group performance.

Overall, the principles of group organisations, individual behaviour preferences of time, risk, trust, norms of reciprocity, and other-regarding social preferences are considered to be necessary conditions for group performance and sustainability. Thus, this study will focus on the integration of social preferences, economic factors, and investment decisions under the small and medium-scale irrigation schemes in the floodplain of Malawi. Through this study, we aim to contribute to the literature on the sustainability of water and land resources under irrigation farming or in irrigation schemes amidst climate change and population pressure. Furthermore, we study the correlations between farmer social preferences of time, risk and trust preference and the performance of irrigation groups in the Chikwawa district.

2.0 Objectives, Research Questions and Hypotheses

To contribute to this literature, this study aims to understand how individual preferences influence group organisation and the functioning of irrigation farms in the flood plain of Malawi – Chikwawa district. Specifically, the study focuses on four key objectives. Each objective has corresponding research questions and hypotheses, as follows:

1. Assess the performance of the irrigation projects and activities that the households participate in, including their group returns, key constraints, and potential for improvement.

RQ1.1: How important are Ostrom's Design Principles in the organisation and operation of irrigation farms among small and medium-scale farmers?

H1: Compliance with Ostrom's Design Principles by self-organised irrigation groups positively correlates with the group performance index based on several indicators (discussed in the identification strategy section) in irrigation farming.

H2: The degree of adherence to Ostrom's Design Principles by self-organised irrigation groups reduces group conflicts related to water distribution in the scheme.

2. Assess the vulnerability to flood shocks, flood shock impacts, and the resilience capacity after floods.

RQ1.2 Are flood shocks causing collective action to collapse or do shocks stimulate more collective action?

H3: Covariate flood shocks affect irrigation groups with a high degree of adherence to Ostrom's Design Principles by triggering more collective action to mitigate the negative shock effects (e.g. rebuilding damaged irrigation structures).

H4: A flood shock experienced in the past 3 years (recent shock) enhances farmers' risk tolerance.

H5: A flood shock experienced in the past 3 years (recent shock) reduces farmers' patience (increase their discount rates).

RQ1.3. How have recent flood and drought shocks affected the social, risk and time preferences of farmers and their willingness to invest in agricultural inputs (e.g. fertiliser intensity) and crop and livestock intensity?

RQ1.3a. How do climatic shocks influence the social, risk and time preferences of farmers in irrigation schemes?

RQ1.3b. How are the social, risk and time preferences affecting household investment decisions in crops and livestock?

RQ1.3c. How sensitive are the risk and time preference responses in the Multiple Choice Lists to the starting point in the Choice Lists?

RQ1.3d. How sensitive are the risk and time preference responses to the numeracy skills of the respondents?

H6: A high share of altruistic group members positively correlates with group performance indicated by perceptions of group performance (E.g. sharing of group work burden, ability to do agreed activities, participation in joint work, stated trust in group leaders).

H7: A high share of spiteful and selfish members negatively correlates with indicated perceptions of group performance (E.g. sharing of group work burden, ability to do agreed activities, participation in joint work, stated trust in group leaders).

H8: A flood shock experienced in the past 3 years (recent shock) positively correlates with high crop production in irrigated land parcels assuming flood-induced soil fertility replenishment and increased water availability.

H9: A flood shock experienced in the past 3 years (recent shock) negatively correlates with household asset wealth assuming asset damage during the flood or household selling of assets as a coping strategy after the shock.

The stated hypothesis are based on the following assumptions:

a. Flood shocks reduce access to irrigation water for affected households.
b. Collective action is important to regain water access after flood shocks.
c. Parcel-level input use intensity and land productivity are affected by access to water, flood damages, and collective action to ensure water supply.
d. Parcel-level input use intensity is influenced by parcel managers' risk and time preferences, and access to inputs.
e. Parcel-level crop productivity is affected by past flood shocks, group collective action to mitigate damages, seasonal input use (individual preferences and decisions), and stochastic seasonal weather conditions.

3. Assessing the extent to which rental and sales markets have developed for land under irrigation. We investigate whether these markets can facilitate access to rented land by landless and land-poor potential tenants.

RQ2.1: How active are land sales and rental markets in the irrigation areas and what are the key drivers on the supply and demand side?

H10: Renting in land in irrigation areas reduces with the land to labour endowment ratio of households (owned household agricultural land holding).

H11: Higher asset wealth increases the likelihood of participating in the rental market as a tenant in irrigation areas.

RQ2.2: How are climate shocks like floods influencing the activity in land sales and land rental markets, partner selection and willingness to accept a land sale or rental prices in agricultural land?

H12: Weather shocks (e.g. floods) lead to more distress renting out of land by vulnerable affected households.

H13: The probability of selling land increases with the household land to labour endowment ratio.

H14: The willingness to accept a rental and sales price increases with the number of experienced climatic shocks assuming people are looking for a way out of the affected area.

H15: The ratio of land shadow sale and rental prices is lower on irrigable land than on non-irrigable land. We consider relatively higher rental prices and lower sales prices on irrigable land assuming people are more willing to cover the short-term

cost of producing on irrigable land and not the long-term cost of managing the irrigation infrastructure.

4. Understanding perceptions of tenure security for land and water rights in irrigation schemes.

RQ3.1: What are the drivers of perceptions of tenure security for land and water rights in irrigation schemes?

H16: Stated trust in the national land governance system on a five-level Likert scale positively correlates with perceived land and water tenure security in irrigation schemes.

H17: The high within-group trust and trustworthiness increase perceived land and water tenure security in irrigation schemes.

3.0 Theory of Change

Agricultural decisions are founded on several factors. These include environmental, governance and individual characteristics that shape household and individual decisions. Thus, the performance of irrigation schemes should be a function of individual characteristics and the related group performance as well as external shocks (floods) and government policy. Irrigation households are assumed to be constrained utility maximisers facing stochastic shocks in a risky and uncertain world. They make state-contingent production, investment, and consumption decisions based on the information and available resources they have at the time of the decision-making. Farm input decisions have to be made before they know the weather outcomes, and are based on anticipated outcomes under different states of nature and past experiences. Past experiences influence their expectations, and possibly also their risk and time preferences. Weather shocks are mostly having negative effects on production outcomes and returns to investments compared to the outcomes and returns that are expected under normal weather conditions. Asset endowments of households and the returns to these may be used for the purchase of inputs, investments, as well as for consumption. They may serve as buffer stocks also to help in consumption smoothing and re-establish production after negative weather shocks (resilience). Flood damages are spatial nature and damages can vary substantially within localities. We will utilize this variation in our sampling and identification strategy. Vulnerability to weather shocks may therefore depend on the spatial location of production areas and thereby their flood exposure as well as asset endowments of households that help them buffer the consequences of the shocks. Public support following weather shocks as well as individual coping strategies may be important for the purchase of inputs and reconstruction of damaged irrigation infrastructure and thereby reduce the vulnerability and enhance the welfare of households, and the productivity of the irrigated lands. Households may also have unirrigated lands that are cultivated in the rainy season and such lands may also be affected by floods and droughts. Livestock may also be an important productive asset that helps in consumption smoothing and they may play an important role in investment decisions and serve as insurance as well as a source of food and cash.

4.0 Sampling of irrigation groups, households, and parcels

This study will use incentivized field experiments to elicit individual attitudes towards risk, time, trust, trustworthiness and other-regarding social preferences. These can be important for production and investment decisions and participation in collective action of importance in irrigation agriculture. We will complement this with survey data to understand and map organisation principles, production decisions and outcomes at the farm plot level (input and output levels), and the socio-economic and environmental factors of individuals and households. We explain the experimental design and survey tools later in this document.

The study will do a census of medium and small-scale irrigation schemes in the eastern part of Chikwawa district to map their hierarchical organizational structure for management of the irrigation schemes. The lowest level of group organization structure will be used as the basic sampling unit to map how they are organized based on the Ostrom Design Principles for collective action. We understand from our scoping mission that an irrigation scheme can be divided into sub-groups to manage water supply to separate production units where a number of farm households own private parcels. As such, we will use the smaller farmer group organisation to identify the total number of groups. Tables 1a and 1b give the indicative number of irrigation schemes in the area, the number of blocks, which is the smallest group organisation in the scheme and selected number of households on each block. Based on the minimum and maximum number of households per irrigation block, we will puporsivley select 12 households as a representative sample for both household survey and experiments. The total sample is estimated at 948. Figure 1 shows the distribution of the tarteged irrigation schemes on the map.

Based on the group census, we will make a spatial stratification of the schemes based on their proneness to floods. As the identification of flood impact is a major objective of our research, we may have to over-sample flood-affected groups and irrigation schemes as our scoping mission found that there was substantial variation in flood risk across the schemes. The flood-affected schemes will serve as our treatment sample in our spatial natural experiment approach. In addition, we will try to develop continuous flood exposure variables for the severity and intensity of the flood effects. This will require a denser sample from flood exposed areas compared to the counterfactual flood-unaffected areas that serve as controls.

At the household level, we are particularly interested in the parcel managers who make most of the production decisions and also participate in group activities to help in the maintenance of irrigation structures and the distribution of water and other group activities. There may be more than one person in each household (parcel owner) that is involved in such work. However, our sample strategy will focus on one representative from each household.

Table 1a: Irrigation Schemes in the Eastern Region of Chikwawa District.

1_District	1_Traditional authority	1_EPA	1_Section	Scheme Name	0_IMP domain	0_Irrigation technology	2_Start year operation
Chikwawa	Makhuwira	Livunzu		Malata		Gravity	
Chikwawa	Makhuwira	Livunzu		Limphangwi	Diversion	Gravity	2002
Chikwawa	Makhuwira	Livunzu		Mulunga	Diversion	Gravity	2002
Chikwawa	Makhuwira	Livunzu		Oleole	Groundwater	Motorized pumps	2007
Chikwawa	Makhuwira	Livunzu	Liphangwi	Matabwa	Diversion	Gravity	2011
Chikwawa	Makhuwira	Livunzu		Chagambatuka		Motorized pumps	2019
Chikwawa	Makhuwira	Livunzu	Nankhwazi	Phala	Diversion/dam	Gravity	2014
Chikwawa	Makhuwira	Livunzu	Mulunga	Namigoza	Diversion	Gravity	2007
Chikwawa	Makhuwira	Livunzu	Livunzu	Chilengo	Diversion	Gravity	
Chikwawa	Makhuwira	Livunzu	Chikunumbwi	Nkhate	Diversion	Gravity	
Chikwawa	Maseya	Livunzu	Nakatali	Kawaye	Diversion	Gravity	2007
Chikwawa	Maseya	Livunzu	Nakatali	Mtendere		Gravity	2001
Chikwawa	Maseya	Livunzu	Nanzolo	Nanzolo B	Diversion	Gravity	2008
Chikwawa	Maseya	Livunzu	Nanzolo	Nanzolo		Gravity	2003
Chikwawa	Maseya	Livunzu	Nakatali	Thima	Diversion	Gravity	2007

Table 1b: Number of Irrigation Schemes within the Eastern Region of Chikwawa District.

Number	Scheme	Members	No of blocks	Sampled blocks	HH/scheme	HHs	Experiments
1	Mtendere	103	6	6	12	72	72
2	Nkamalathu	103	3	3	12	36	36
3	Nanzolo B	170	5	5	12	60	60
4	Nanzolo A	56	7	7	12	84	84
5	Nkhate	1357	22	7	12	84	84
6	Limphangwi	200	7	7	12	84	84
7	Matabwa	183	7	7	12	84	84
8	Chilengo	108	7	3	12	36	36
9	Malata	96	3	3	12	36	36
10	Namigoza	170	6	6	12	72	72
11	Mulunga	200	4	4	12	48	48
12	Phala	108	7	7	12	84	84
13	Kazitche	75	4	4	12	48	48
	Total	2929	88	69	156	828	828
Additional Sample without randomising the starting point							
3	Nanzolo B	170	5	5	12	60	60
5	Nkhate	1357	22	5	12	60	60
	Overall sample						**948**

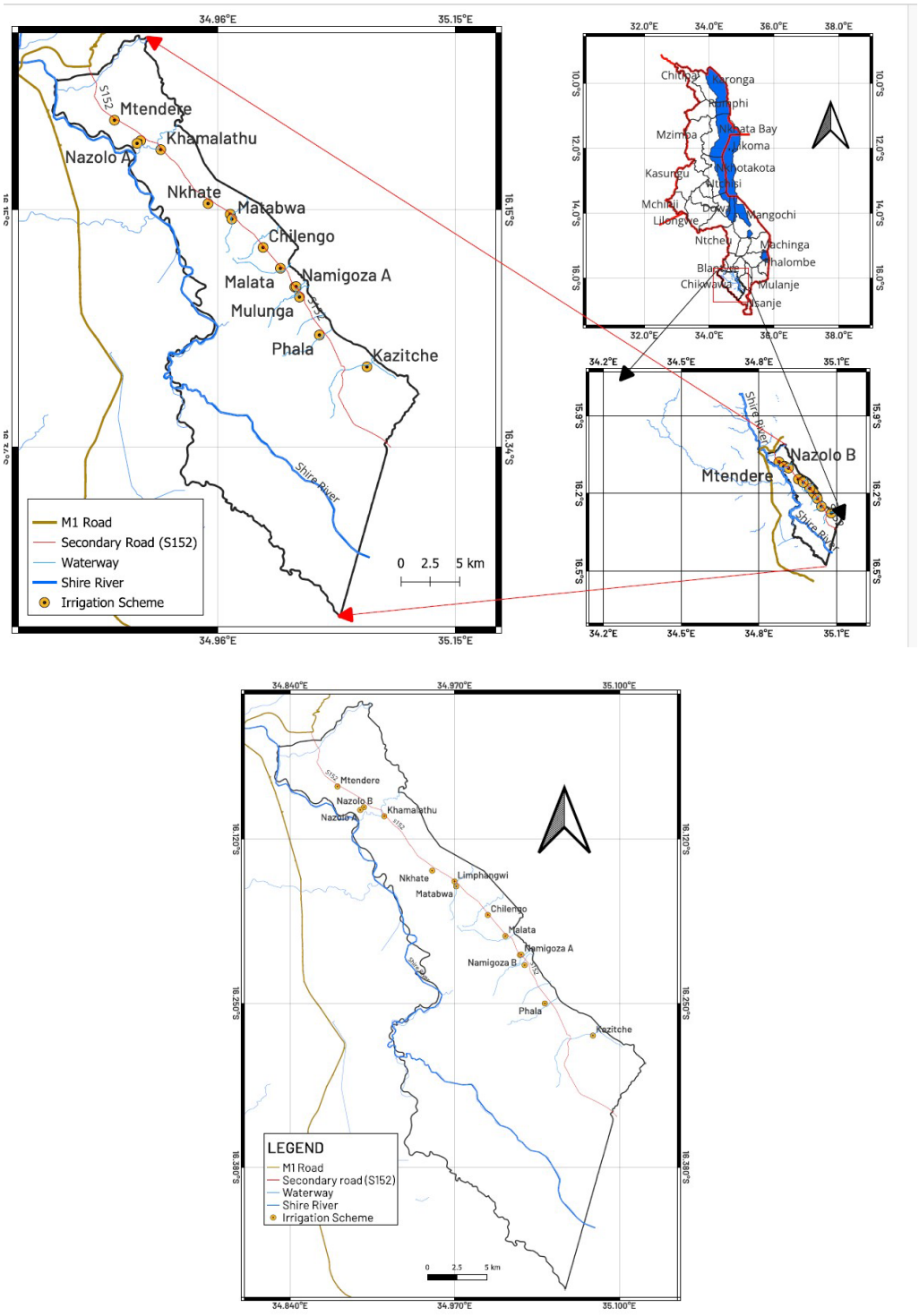

Figure: 1: Map showing the target irrigation schemes in Eastern Region of Chikwawa district.

5.0 Identification Strategy: Sampling strategy, outcome indicators and key explanatory variables

We will partly rely on a spatial design for the identification of flood impacts. The local variation on flood severity will be mapped and matched to parcel owners in flood affected and non-flood affected areas and further divided in degrees of severity and frequency of flood damages. One effect of floods may also be poorer water access after floods due to damaged irrigation infrastructure. Our main strategy is to take this variation as exogenous and assess how it has affected parcel level output and input levels in the following production seasons. Furthermore, implications at household level (coping strategies, assets, production decisions, welfare outcomes) and at group level (collective action to repair damages due to floods, group mobilization and organization, sharing of responsibilities).

This section outlines the outcome indicators and explanatory variables for the listed research questions and sub-questions above. The indicators and variables will be collected through a combination of survey instruments and experimental tools that will be used in the fieldwork.

RQ1.1: How important are Ostrom's Design Principles in the organisation and operation of irrigation farms among small and medium-scale farmers?

The idea of this research question is to assess the significance of the first 6 out of the 8 Ostrom DPs presented in Table 2 among the small or medium-scale irrigation schemes in the Chikwawa district. The DPs number 7 and 8 generally focus on the role of government policy in group organisation, which would not vary much across groups in the same area, Chikwawa district. From the table, DPs number 1 to 3 align more with group set-up and organisation while DPs number 4 to 6 align more with group operations, all of which are indicated to lead to the success of group performance (Baggio et al. 2016). Thus, for this RQ, we will assess the presence of the DPs among irrigation groups. We will further assess the correlation with group performance indicators (key dependent variables), which will include but not limited to (1) production volume and economic returns for the group or each member, (2) group existence period and member retention, (3) tenure of the executive officers, (4) group conflicts, and (5) trust in group leadership based on a 5 level Likert scales.

Table 2: Ostrom Design Principles (1990) sourced in Baggio et al. (2016) and Holden and Tilahun, (2018)

Number	Design Principle	Explanation
1a	User or social boundaries	Individuals with rights to the common pool resource (CPR) must be clearly defined and the same applies to the borders of the CPR
1b	Resource or biophysical boundaries	
2a	Congruence with local conditions and rules	There must be a balance between appropriation rules (benefit-sharing rules), and provision rules (required contributions by group members) and this must match the CPR
2b	Appropriation and provision (extraction proportionality)	
3	Collective choice arrangements	There must be an inclusive decision-making process related to the adjustment of rules for CPR utilization and management
4a	Monitoring users	There must be an accountable monitoring system in place that monitors CPR management and ensures its protection
4b	Monitoring the resource	

5	Graduated sanctions	Appropriators who violate the rules for CPR management or extraction face graduated sanctions depending on the seriousness of the violation or repetition of violations
6	Conflict resolution mechanism	Appropriators have a good and efficient (low-cost) system for conflict resolution among themselves and between appropriators and outsiders
7	Recognized rights to organize	Government bodies allow groups to self-organize by forming their own internal rules of conduct
8	Nested enterprises	Appropriation, provision, monitoring, enforcement, conflict resolution, and government activities are organized in multiple layers of nested enterprises

To respond to this RQ, the key variables of interest in the analysis will include:

Key Variables	**Name of Variable**
Key Dependent variable (s)	• Group trust. • Group performance indicators. • Currently used irrigation area/group member • Damages to irrigation structures • Per ha irrigated land production (kg/ha) and value (MK/ha/year) • Per capita net income (MK/person) • Group existence period. • Member retention
Key Independent variables	• The number of Ostrom's Design Principles that are followed by each irrigation group, changes in this with exposure to shocks. • Social preference type distribution in the groups, leaders and members • Number of land related conflicts • Number of water-related conflicts • Established mechanisms, laws, by-laws, and regulations on o membership, o benefit sharing, o use of resources, o conflict management, o monitoring o investments o group work. o individual work o tenure of office for committee leaders
Control variables	• Total irrigation scheme area/group member • Input use for group production or individual members where there are multiple crops. • Distance to marketing place. • Distance to water source for irrigation. • Irrigation system • History of establishment.

RQ1.2 Are flood shocks causing collective action failures or do shocks stimulate more collective action?

This research question focuses on climatic shocks and the success of Common Pool Resources (CPR) management. In these irrigation schemes it is the irrigation structures (and pumps) and the water that they are used to distribute to privately owned irrigation parcels that represent the CPRs. We focus on flood shocks that are frequently occurring in the floodplain of Malawi. We anticipate that with each shock, there are changes in land and water resources and irrigation and other infrastructure and investments hence the need for collective action to achieve sustainable management of the CPR. We aim to differentiate the success of the CPRs and the frequency of shock experiences in the past three years. We focus on floods because it has anticipated positive and negative effects. On the positive side, flood brings in fertile soils which is good for crop production but at the same time, the flood can submerge land for some time, damaging crops and irrigation infrastructure thereby affecting land use among group members. The effect can vary across household-farm parcel locations within an irrigation area based on placement or position in the scheme, thereby creating an asymmetry in exposure risks that can affect collective action motivation, outcomes, and group performance.

To respond to this RQ, the key variables of interest include:

Key Variables	**Name of Variable**
Key Dependent variable(s)	• Extent of collective action (investments made in labor and cash) to repair damages to irrigation structures caused by floods the last three years (total investments and per household in group) • Currently used irrigation area/group member and changes in this during the last three years •
Potential endogenous variables of relevance	• Group trust, possibly affected by shocks. • Member retention, possibly affected by shocks. • Group performance indicators, possibly affected by shocks. • Number of Ostrom's Design Principles followed by group and changes in these the last 3 years. • Group leader satisfaction among members, eventual changes in group leadership. • Number of land related conflicts, any related to flood damages • Number of water-related conflicts, any related to flood damages
Key Independent variables	• Flood exposure severity in the past three years. • Observed flood effect on land and water resources. • The shock impact on individual parcels/plots • Shock impact on irrigation infrastructure
Control variables	• Group existence period. • Group size. • Total irrigation scheme area • Currently used irrigation area

	• Input use for group production or individual members where there are multiple crops. • Distance to marketing place. • Distance to water source for irrigation. • Irrigation system • History of establishment.

RQ1.3. How have recent flood and drought shocks affected the social, risk and time preferences of farmers and their willingness to invest in agricultural inputs (seed and fertiliser intensity) and crop and livestock intensity?

- *RQ1.3a. How do climatic shocks influence the social, risk and time preferences of farmers in irrigation schemes?*
- *RQ1.3b. How are the social, risk and time preferences affecting household investment decisions in crops and livestock?*
- *RQ1.3c. How sensitive are the risk and time preference responses in the Multiple Choice Lists to the starting point in the Choice Lists?*
- *RQ1.3d. How sensitive are the risk and time preference responses to the numeracy skills of the respondents?*

These research questions will assess the linkage between climatic shocks (floods) on individual preferences of social, risk and time and link these to investment decisions, both on irrigable and rain-fed land, household non-agricultural assets, and livestock. Additionally, we assess how social preferences can influence the roles of monitoring, punishment, and leadership to enhance management of irrigation infrastructure, irrigation farmland and conservation of watershed, which requires collective action.

The variables of interest at the household level across these questions include:

Key Variables	**Name of Variable**
Key Dependent variable(s)	• Parcel-level input use per unit land, per season, and aggregated across seasons during last year in kg/ha and MK/ha crop grown in 2022/2023 production season
Intermediate (potentially endogenous) variables	• The social preferences of sharing, altruism, generosity, spitefulness, selfishness, and reciprocity norms of the main parcel manager(s) in the households • The risk and time preferences of the main parcel manager(s) in the households • Crop choice by season on each parcel of land. • Water access at parcel level by season • Group performance variables (Ostrom DPs, ++) • Numeracy skills of respondents
Key Independent (treatment) variables	• Climatic shock severity in the past three years at household level • Exogenous group characteristics • Starting point in Choice List and Sequencing of Rows in Choice List (Test for starting point bias)

Control variables	• Parcel manager and household characteristics (household size, workforce, gender, education, among others. • Household assets (agricultural and non-agricultural)

RQ2.1: How active are land sales and rental markets in the irrigation areas and what are the key drivers on the supply and demand side?

In Malawi, land is owned by the community or clan despite being designated as private land according to the 2016 land laws. This is the land that is bequeathed across generations and disposing of such land through sales is not often encouraged. However, people continue to sell land. The extent to which land markets are facilitating efficient allocation of land for farming under irrigation schemes remains under research despite irrigation farming being promoted amidst climate change. This research question focuses on establishing the extent of land markets and exploring the key drivers amidst households in the floodplain.

The key variables include:

Key Variables	**Name of Variable**
Key Dependent variable(s)	• Household participation in land sales and rental markets as sellers, buyers, landlords and/or tenants • Amounts of land (parcel-level data) sold, purchased, rented-in or rented out (ha) by year (last 3 years) and season for last year renting.
Key potentially endogenous variables	• Group responses to climate shocks that may reduce the flood impacts on households (reduce their vulnerability) • Assistance provided to flood affected households to help them recover from the shock
Key Independent variables	• Climatic shock severity in the past three years at household farm level. • Community development indicators (access to roads, water sources, forest, markets)
Control variables	• Household characteristics (household size, workforce, gender dynamics, education, among others). • Group membership. • Committee position in irrigation group. • Household assets (agricultural and non-agricultural)

RQ2.2: How are climate shocks like floods influencing the activity in land sales and land rental markets, partner selection and willingness to accept a land sale or rental prices in agricultural land?

Floods are often associated with damage to physical infrastructure including land. Flood water can render land less valuable if infrastructure is damaged or land is submerged. On the contrary, changes in water flow after a flood can also increase the land value for irrigation development. Flood risks can also affect land sale and rental prices and flood shocks may lead to substantial changes in such prices. Additionally, in areas where formal land valuation is not easily

accessible, land values are mostly a function of intrinsic value best known to the owners and (potential) users and will depend on supply and demand factors. Shocks may also lead to substantial changes in supply and demand depending on exposure, severity of the shocks, and the vulnerability of affected households, market access, and coping strategies. Thus, this question will zero in on the shock effect on the land market in irrigation areas. The key variables include:

Key Variables	**Name of Variable**
Key Dependent variable(s)	• Parcel level WTA sales price at the time of the survey (converted to MK/ha afterwards) • Parcel level WTA rental price for one year at the time of the survey (converted to MK/ha afterwards) • Rental prices for parcels rented out the last 3 years (MK/ha/year) • Sales prices for parcels sold the last 3 years (converted to MK/ha inflation-corrected values afterwards) • WTP rental price for an extra parcel of same size and attributes • WTP purchase price for an extra parcel of same size and attributes. • Number of parcels rented out vs total number of parcels. • Land rental contract period
Key (potentially) endogenous variables	• Group responses to climate shocks that may reduce the flood impacts on households (reduce their vulnerability) • Assistance provided to flood affected households to help them recover from the shock. • Household vulnerability indicators • Household risk and time preferences • Group characteristics
Key Independent variables	• Climatic shock severity in the past three years at parcel and household level (placement of parcel can be important for risk perceptions).
Control variables/Potential instruments	• Land disposed of or acquired in the past three years. • Community development indicators (access to roads, water sources, forest, markets) • Parcel manager and household characteristics (age, gender, education, household size, workforce, among others). • Household assets (agricultural and non-agricultural)

RQ3.1: What are the drivers of perceptions of tenure security for land and water rights in irrigation schemes?

In Malawi, most rural land is categorised as private customary land where the government can facilitate the process of registering ownership of land at the community level or Traditional Authority area while individual households are encouraged to register the individual parcels of

land. In Chikwawa district, the government has embarked on developing large-scale irrigation schemes to the west, central and southern parts of the district under the Shire Valley transformation project. To facilitate land ownership, the government adjudicated land in the community and compensated households affected by the development. Through the adjudication process, individual households registered their land at the household level and not community ownership. The government is, therefore, expected to issue land certificates as an investment into the irrigation scheme. This is believed to improve land tenure security among households. Although this is happening in Chikwawa, to the best of our knowledge, we know that the land registration program has not extended to the eastern part (commonly known as the east bank) of the Chikwawa district. Although land tenure security is considered to be high among rural households in Malawi (Matchaya, 2009), there is less focus on water rights tenure security. In the RQ, we assess how stated and elicited trust levels are associated with land and water tenure security in irrigation schemes.

The key variables of interest include:

Key Variables	**Name of Variable**
Key Dependent variable(s)	• Perception by parcel manager and/or head of household of tenure security at parcel level on rainfed land • Perception by parcel manager and/or head of household of tenure security at parcel level on irrigated parcel • Bequeathing perceptions of agricultural land
Key (potentially) endogenous variables	• Group responses to climate shocks that may reduce the flood impacts on households (reduce their vulnerability) • Assistance provided to flood affected households to help them recover from the shock. • Household vulnerability indicators • Household risk and time preferences • Group characteristics. • Generalised trust of parcel manager/household head • Trust in government and community leaders • Land disposed of or acquired in the past three years.
Key Independent variables	• Climatic shocks in the past three years at the parcel and household level.
Control variables	• Land inheritance system. • Landholding size and access to water resources. • Household expectations of land compensation in government projects • Community development indicators (access to roads, water sources, forest, markets) • Parcel manager and household characteristics (household size, workforce, gender dynamics, education, among others).

6.0 Data Sources

Following the above identified variables, Table 3 indicates the data source for the different variables. The variables are either from survey or experimental data. Within the survey, we have group level and household level variables. To cover these data needs, we have three different data tools. Firstly, we will use the irrigation group questionnaire to understand group performance across the irrigation schemes. secondly, we will do experiments to elicit individual time, risk and social preferences. Lastly, we will do a household questionnaire for the selected members in the irrigation scheme. See the Appendix for the detailed data tools.

Table 3: Data source for the variables

Variable	Survey data	Experimental data
Group level performance indicators		
Production volume (quantity) and income	x	
Economic returns in irrigation farming	x	
Group history. • Existence period of the irrigation scheme • Member retention • Tenure of existence of executive officers	x	
Trust in group leaders (executive officers)	x	
Group activities		
Frequency of group meetings (Number of days per month/week)	x	
Participation rate during group meetings	x	
Punishment system for non-participants	x	
Perception of performance of shared group work	x	
Number of conflicts related with water distribution in the irrigation scheme	x	
Individual level performance indicators		
Production volume (quantity) and income	x	
Agricultural input investment (quantity and costs)	x	
Household characteristics	x	
Experiential exposure to shock	x	
Number of groups or associations one belongs to	x	
Crop production (rainfed and irrigation)	x	
Livestock ownership	x	
Agricultural and non-agricultural assets	x	
Land sales (quantity and price)	x	
Land rentals (in or out quantity and price)	x	
Willingness to accept land sales and rental.	x	
Land inheritance systems.	x	
Risk and time preference		x
Trust and Trustworthiness		x
Other regarding preferences (spiteful, altruistic, egalitarian, selfishness)		x
Farm parcel level variables (from parcel managers)		
Parcel size (measured by GPS in acres)	x	
Parcel location (GPS coordinates)	x	
Parcel type (irrigated or rainfed)	x	

Irrigated parcel: Water access for number of crops per year	x	
Shock exposure by floods, last 3 years, by season and damage level	x	
Damages to irrigation structures and effect on water access	x	
Crops grown by season last 12 months	x	
Output harvested by season last 12 months, kg/parcel by crop	x	
Input used by crop by season last 12 months, kg/parcel by crop	x	
WTA sales and rental prices	x	
WTP purchase and rental prices for equivalent parcels	x	

7.0 Research Analysis

The analysis of the data will need a diversity of approaches. The analysis on how shocks affect collective action in irrigation groups will utilize both group level and within-group variables from the surveys and experiments. There will be a need to construct aggregate variables for shocks at different levels (household farms, groups, schemes, and by year (lagged variables)). A natural experiment approach will be applied to analyze the impacts from the shocks and with a careful assessment of the appropriateness of the natural experiment approach as an identification strategy. We will rely on the random spatial and inter-temporal variation in the severity of the flood and eventual drought shocks in the irrigation areas and utilize this spatial and inter-temporal variation in our sampling strategy to enhance the power of our statistical testing of the effects of these shocks.

We will rely on the actual existing group organization patterns in the irrigation groups and will have to treat these carefully as potential endogenous variables. This applies to our assessment of their compliance with the Ostrom Design Principles related to collective action and whether this compliance has been affected by the shocks or how such shocks influence the groups' abilities to cope with the shocks by organizing repair of damages to irrigation structures and other investments that are important for the productivity on irrigated land.

The identification of social preference types for group leaders and members will also be crucial and to investigate the extent of trust within and across groups can also influence the group and larger irrigation scheme performance. Social preferences and trust are hypothesized to be important in this regard. We will rely on assuming that these social preference types are exogenous to assess how they may affect group trust and group performance. The leaders are likely more important than the members in this regard. The election of leaders and eventual replacement of poor-performing leaders may play an important role that needs to be considered in this analysis.

8.0 Research dissemination strategy

This research will produce Working Papers for early availability. Papers will be refined for submission to appropriate international scientific journals. The data will also be made available to MSc- and PhD-students for the writhing of thesis papers. The findings will also be used for teaching purposes in LUANAR. Papers will also be presented in conferences and workshops with policy makers in Malawi and internationally. The key study findings will also be

disseminated to national policy makers, the Chikwawa district council and irrigation group representatives.

9.0 Ethical considerations

This section presents ethical consideration focusing on issues of informed consent, data management, use of incentivised experiments, intellectual property and ethical approval by the NMBU Internal Review Board.

9.1 Prior informed consent

All participants will be informed about the nature of the project, the project objectives, responsible institutions, and the type of data that will be collected from them as presented in the data collection tools below. The participants will be asked whether they are willing to participate and informed that they can opt out at any time during the discussion. When doing the incentivised experiments, participants will be informed of the nature of the experiments before consent and that the cash incentive considered to elicit behaviour. This money incentive is not a reward for participation but an outcome of their decisions in the experiments. In either the survey or the experiment, we don't anticipate any harm to the research subjects and participants will be informed of expected time to complete the discussion. All data collection rests on their willingness to participate in the survey and experiments.

9.2 Anonymity

Participants will be informed that their identities will be protected and not disclosed to anybody outside the research team. The identities of the participants will be kept confidential with the research team for future studies and kept separately from the data shared and uploaded to public depositories and data banks based on the open access sharing requirements in relation to publication of research findings. The project will avoid using any identity information and pictures of project participants to ensure their anonymity. In some of the social experiments, participants are paired and play with each other. In all such cases, the participants will never know who the other person that they play with is. If they play with another member of their own irrigation group, the pairing of the members is always randomized and anonymized. Privacy is ensured in the provision of payouts to each member.

9.3 Use of incentivized experiments

This research uses standard experimental tools applied by behavioral and experimental economists in field experiments to elicit subjects' social and economic preferences. Monetary incentives are used in these experiments to elicit behavior. The experiments are designed to reveal important behavioral aspects related to the functioning of the irrigation schemes and to obtain measures of subjects' risk and time preferences, trust and trustworthiness that are important for understanding their investment behavior as individuals and as group members. The respondents will be informed that the payout from the experiments partly depends on their decisions and priorities, and partly depend on luck based on the use of a randomization tool used in the experiments.

9.4 Intellectual property rights

The Lilongwe University of Agriculture and Natural resources (LUANAR) and School of Economics and Business at the Norwegian University of Agriculture and Natural Resources (SEB-NMBU) will jointly be responsible for data storage, cleaning, and sharing of anonymized data. The project research team from LUANAR and NMBU will collect or generate data about people. The team will process sensitive or personally identifiable data. The Pre-Analysis Plan is evaluated by the Institutional Review Board of SEB-NMBU.

9.5 Principal coordinators for data management and storage

The SMARTEX Research Fellow, Sarah Tione, PhD will be in charge of the data collection in the field, uploading and checking of the raw data and will take the main responsibility for management and storage of the data, and the protection of the anonymity of the respondents with backup by the other responsible researchers where needed. Sarah Tione will also be responsible for safe storage of the data at LUANAR while Stein Holden, the project leader, takes the responsibility for this at NMBU. The data and the person, household, and community identifiers will be separated and only be used for data merging by key project staff members authorized to do this.

9.6 Data structuring and versioning

Standard procedures for variable description will be followed. The data will be complemented with the survey instruments and experimental protocols used for data collection and experimental implementation.

9.10 Data security and access control

All data will be anonymised and stored at both the School of Economics NBMU server and LUANAR data server. The data will be password protected, and the two data sources will serve as a backup to each other. Data storage and backup. At NMBU the standard data storage system will be used for the anonymized data. The anonymized raw and cleaned data will also be stored in the national SIKT database in Norway.

10.0 Research Budget

The study will be at three stages. Firstly, we will do a census of groups across the irrigation schemes to understand group organisations We assume to interact with 76 groups from different irrigation blocks across the schemes. This study is expected to take 7 days. This will be followed by experiments to elicit preferences for household head, spouse and one older child and one older child (3 people per household) of the 15 households randomly selected from the 76 irrigation blocks. We anticipate 40 days of field work with enumerators doing two experiments per day. The las round will be for the household survey for the estimated 1140 households across the scheme. With a roughly a 3-hour questionnaire and measuring of field plots, we also anticipate 40 field days. Table 4give the budget summary of MK236,505,369.29 (1,478,158.56 NOK). Table 8 gives the study timelines.

Table 3: Summary of field days

Block Census	
Number of blocks	69
Questionnaires/day/person	3
Enumerators	1
Number of days	**25**
Experiments	
Number of households	948
Questionnaires/day/person	3
Enumerators	12
Number of days	**28**
Number of households	828
Survey	
Questionnaires/day/person	2
Number of households	948
Enumerators	24
Number of days	**22**
Extra Experiment	
Number of households	120
Questionnaires/day/person	2
Enumerators	12
Number of days	**6**
GIS Expert	**1**
Number of days	22

Table 4: Summary budget

#	**Activity**	**Amount (MK)**	**Amount (NOK)**
1	Census	11,235,594.29	70,222.46
2	Survey	93,027,865.00	581,424.16
3	Experiments	132,241,910.00	826,511.94
	Total	**236,505,369.29**	**1,478,158.56**

Tabe 5: Census budget

ITEM	Number	Units	Rate (MK)	Total (MK)	Notes
Draft and review of questionnaires					
Questionnaire preparation	2	5	60,000.00	600,000.00	Allowance for 2 individuals assisting in questionnaire preparation
Programming of electronic questionnaires	1	3	60,000.00	180,000.00	Allowance for data manager to finalise electronic programming of questionnaires
Sub total				**780,000.00**	
Training of Research Assistants, Plus Pre-testing					**One day for recruitment and 5 days for training RAs**
Recruitment: Refreshments, snacks & water	3	1	25,000.00	75,000.00	Refreshments for research team of 10
Research Assistant	2	1	60,000.00	120,000.00	Allowance for the field supervisor
Drivers	2	1	60,000.00	120,000.00	Daily working fee for the drivers
Sub total				**315,000.00**	
Field Data Collection					
Allowances					
Research team	2	24	140,000.00	6,720,000.00	DSA for accommodation and meals for research team
Research Assistant	2	25	60,000.00	3,000,000.00	Daily working fee per Supervisor
Drivers	1	24	60,000.00	1,440,000.00	Daily working fee per Drivers
Field guides	1	24	30,000.00	720,000.00	Lunch allowance for the field guides to be identified across the villages to help locate households and support other local logistics within their areas for an 8 hour working day.
Administrative Support					
Accounting Assistants	1	2	90,000.00	180,000.00	Allowance for an accounting staff member tasked to prepare and disburse funds prior to field work
Administrative Assistants	1	2	80,000.00	160,000.00	Allowance for an administrative assistant supporting Research Team during the study
Sub total				**5,500,000.00**	
Hire of Equipment and vehicles					
Vehicle hiring per day	1	24	160,000.00	3,840,000.00	Daily charge per vehicle.
Fuel and Lubricants per litre	1	249	2,734.00	679,594.29	Using fuel consumption rate of 7Km/litre
Sub Total				**4,519,594.29**	
Stationery and consumables					
Reams of paper	2	1	10,000.00	20,000.00	
Pens (box)	1	1	6,000.00	6,000.00	
Writing pads	10	1	2,500.00	25,000.00	

Printing tonner	3	1	150,000.00	450,000.00	
Sub total				**51,000.00**	
COMMUNICATION					
Research team	2	1	20,000.00	40,000.00	
Research Assistant	2	1	15,000.00	30,000.00	
Sub total				**70,000.00**	
Total				**11,235,594.29**	

Table 6: Budget for household survey

ITEM	Number	Units	Rate (MK)	Total (MK)	Notes
Draft and review of questionnaires					
Questionnaire preparation	2	5	60,000.00	600,000.00	Allowance for 2 individuals assisting in questionnaire preparation
Programming of electronic questionnaires	1	10	60,000.00	600,000.00	Allowance for data manager to finalise electronic programming of questionnaires
Sub total				**1,200,000.00**	
Training of Research Assistants, Plus Pre-testing					**One day for recruitment and 5 days for training RAs**
Refreshments, snacks & water	33	6	25,000.00	4,950,000.00	Refreshments for research team of 26
Supervisors	2	6	60,000.00	720,000.00	Allowance for the field supervisor
Enumerators	25	6	60,000.00	9,000,000.00	Allowance for research assistants
Drivers	2	2	60,000.00	240,000.00	Daily working fee for the drivers
Sub total				**14,910,000.00**	
Hire of vehicles for pretesting					
Vehicle hiring per day	1	24	220,000.00	5,280,000.00	Daily charge per vehicle
Fuel and Lubricants per litre (litres)	2	200	2,734.00	1,093,600.00	Using fuel consumption rate of 7Km/litr
Sub total				**6,373,600.00**	
Field Data Collection					
Allowances					
Research team	2	23	140,000.00	6,370,000.00	DSA for accommodation and meals for research team
Supervisors	2	23	60,000.00	2,730,000.00	Daily working fee per Supervisor

Enumerators	25	23	60,000.00	34,125,000.00	Daily working fee per Enumerators
Drivers	2	23	60,000.00	2,730,000.00	Daily working fee per Drivers
Field guides	2	23	30,000.00	1,365,000.00	Lunch allowance for the field guides to be identified across the villages to help locate households and support other local logistics within their areas for an 8 hour working day.
Administrative Support					
Accounting Assistants	1	2	90,000.00	180,000.00	Allowance for an accounting staff member tasked to prepare and disburse funds prior to field work
Administrative Assistants	1	4	80,000.00	320,000.00	Allowance for an administrative assistant supporting Reserch Team during the study
Sub total				**47,820,000.00**	
Hire of Equipment and vehicles					
Vehicle hiring per day	3	23	220,000.00	15,015,000.00	Daily charge per vehicle. Hire Cruzer with capacity of 15 people
Fuel and Lubricants per litre	3	883	2,734.00	7,238,265.00	Using fuel consumption rate of 7Km/litre
Sub Total				**22,253,265.00**	
Stationery and consumables					
Reams of paper	2	1	10,000.00	20,000.00	
Pens (box)	1	1	6,000.00	6,000.00	
Writing pads	50	1	2,500.00	125,000.00	
Printing tonner	3	1	150,000.00	450,000.00	
Sub total				**151,000.00**	
COMMUNICATION					
Research team	2	1	20,000.00	40,000.00	
Supervisors	2	1	15,000.00	30,000.00	
Enumerators	25	1	10,000.00	250,000.00	
Sub total				**320,000.00**	
Total				**93,027,865.00**	

Table 7: Budget for Experiments

ITEM	Number	Units	Rate (MK)	Total (MK)	Notes
Draft and review of questionnaires					
Questionnaire preparation	2	5	60,000.00	600,000.00	Allowance for 2 individuals assisting in questionnaire preparation
Programming of electronic questionnaires	1	10	60,000.00	600,000.00	Allowance for data manager to finalise electronic programming of questionnaires
Sub total				**1,200,000.00**	
Training of Research Assistants, Plus Pre-testing					**One day for recruitment and 5 days for training RAs**
Refreshments, snacks & water	28	8	25,000.00	5,600,000.00	Refreshments for research team
Supervisors	2	8	60,000.00	960,000.00	Allowance for the field supervisor (Used the rate for Intern)
Enumerators	16	8	60,000.00	7,680,000.00	Allowance for research assistants. We will train 16 people but select 12 for the experiment (Used the rate for Intern)
Experiments support	5	8	60,000.00	2,400,000.00	Allowance for research assistants (Used the rate for Intern)
Drivers	3	2	60,000.00	360,000.00	Allowance for the drivers for pre-testing (Used the rate for Intern)
Sub total				**17,000,000.00**	
Hire of vehicles for pretesting					
Vehicle hiring per day	3	2	160,000.00	960,000.00	Daily charge per vehicle
Fuel and Lubricants per litre (litres)	3	200	2,734.00	1,640,400.00	Using fuel consumption rate of 7Km/litre
Sub total				**2,600,400.00**	
Field Data Collection					
Allowances					
Research team	2	34	140,000.00	9,613,333.33	DSA for accommodation and meals for research team
Supervisors	2	34	60,000.00	4,120,000.00	Daily working fee per Supervisor
Enumerators	12	34	60,000.00	24,720,000.00	Daily working fee per Enumerators
Experiments support	5	34	60,000.00	10,300,000.00	Allowance for research assistants
Drivers	3	34	60,000.00	6,180,000.00	Daily working fee per Drivers
Field guides	2	34	30,000.00	2,060,000.00	Lunch allowance for the field guides to be identified across the villages to help locate households and support other local logistics within their areas for an 8 hour working day.
Administrative Support					
Accounting Assistants	1	10	90,000.00	900,000.00	Allowance for an accounting staff member tasked to prepare and disburse funds prior to field work
Administrative Assistants	1	10	80,000.00	800,000.00	Allowance for an administrative assistant supporting Research Team during the study
Sub total				**58,693,333.33**	

Hire of Equipment and vehicles					
Vehicle hiring per day	2	34	220,000.00	15,106,666.67	Daily charge per vehicle. Hire Cruzer with capacity of 15 people
Fuel and Lubricants per litre	2	883	2,734.00	4,825,510.00	Using fuel consumption rate of 7Km/litre
Sub Total				**19,932,176.67**	
Stationery and consumables					
Reams of paper	2	1	10,000.00	20,000.00	
Pens (box)	1	1	6,000.00	6,000.00	
Writing pads	50	1	2,500.00	125,000.00	
Printing tonner	3	1	150,000.00	450,000.00	
Sub total				**601,000.00**	
COMMUNICATION					
Research team	2	1	20,000.00	40,000.00	
Supervisors	1	1	15,000.00	15,000.00	
Enumerators	12	1	10,000.00	120,000.00	
Sub total				**175,000.00**	
Experiment payouts					
Number of beneficiaries	1,068	1	30,000.00	32,040,000.00	Assuming an average of 30,000/individual but would vary
Sub total				**32,040,000.00**	
Total				**132,241,910.00**	

Tabe 8: Timelines

Month	**Activity**			
June	**Mapping of schemes**	**Scheme census**	**Survey (Training and field)**	**Experiments (Training and field)**
Week 1				
Week 2-4	**Ethical Approval**			
July				
Week 1				
Week 2				
Week 3				
Week 4				
August				
Week 1				
Week 2				
Week 3				
Week 4				
September				
Week 1				

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APPENDIX

SMARTEX project. Irrigation Scheme Questionnaire

Are you interested in taking part in the research project "Experiments for Development of Climate Smart Agriculture (SMARTEX)"?

Purpose of the project

You are invited to participate in a research project where the main purpose is to *study irrigation group performance, flood impacts, land market activity (sales and rentals) in irrigation schemes, tenure and utilisation of land and water resources*.

The objectives are to assess irrigation group performance, impacts of floods on land management and welfare, level of land markets in irrigation schemes and tenure and utilisation of land and water resources.

This is a research study under the Experiments for Development of Climate Smart Agriculture (SMARTEX) project that LUANAR is doing in collaboration with the Norwegian University of Life Sciences (NMBU) with financial support from NORHED II.

Some of the data may be used for teaching at LUANAR.

Which institution is responsible for the research project?
NMBU and LUANAR are responsible for the project (the data controller).

Why are you being asked to participate?
You have been randomly selected in this irrigation scheme to participate in this study as a leader of your irrigation block. We encourage you to provide answers to the best of your knowledge and personal opinions. You are responsible for organizing your irrigation block and our questions relate to the challenges you and your irrigation scheme face in relation to organized the production and marketing activities. Your participation is voluntary, and you can choose to opt out at any time during our discussion. However, we hope you will participate in the survey as a group representative and giving your views are important for generating knowledge about what can help improve the performance of irrigation schemes in this area.

What does participation involve for you?
If you choose to participate in this project, we will have a discussion and I will record your answers on the digital tablet. The interview will take roughly 1 hour to complete. The survey questions include irrigation scheme and block characteristics, agricultural production activities and flood shock effects, group organization activities, and land governance.

Participation is voluntary
Participation in the project is voluntary. If you choose to participate, you can withdraw your consent at any time without giving a reason. All information about you will then be made anonymous. There will be no negative consequences for you if you choose not to participate or later decide to withdraw.

Your personal privacy – how we will store and use your personal data
We will only use your personal data for the purpose(s) specified here and we will process your

personal data in accordance with data protection legislation (the GDPR). The research team from LUANAR will process your personal data and anonymise the data before sharing. The personal data will be stored in anonymized form on a password-protected server. Only the Principal Investigator, Dr Sarah Tione, LUANAR, will keep the personal data and will keep them separate from the other data to protect your identity. Your personal data are replaced with a code in the stored data. The anonymized data will be shared with NMBU, and stored in the Norwegian SIKT database. The project leader there is Professor Stein Holden, who is responsible for this. Your names will never be used in any output from the research.

What will happen to your personal data at the end of the research project?
The planned end date of the project is *August 2025. All the data will be stored on the NMBU (SIKT) and LUANAR servers under a password-protected system, which will be accessible only by the research team. For data sharing, we will anonymise all the data by removing all the personal ID data.*

The personal identification data will be stored separately by Dr. Sarah Tione at LUANAR. This is for the purpose that there may be a follow-up project to study future changes at the household level where the data from the project can serve as a useful baseline.

Your rights
So long as you can be identified in the collected data, you have the right to:

- access the personal data that is being processed about you
- request that your personal data be deleted
- request that incorrect personal data about you be corrected/rectified
- receive a copy of your personal data (data portability), and
- send a complaint to the LUANAR Data Protection Officer regarding the processing of your personal data

What gives us the right to process your personal data?
We will process your personal data based on your consent.

This is based on an agreement with Sikt, the Data Protection Services of Sikt – Norwegian Agency for Shared Services in Education and Research, who has assessed that the processing of personal data in this project meets requirements in data protection legislation.

Where can I find out more?
If you have questions about the project or want to exercise your rights, contact:
LUANAR:

- If you have questions or comments, you can ask me now. For further details, you can contact Sarah Tione, PhD of 0999522664 the Director of Research and Outreach at LUANAR, Associate Prof Sam Katengeza on 0888446202.
- Our Data Protection Officer: *Sarah Tione, PhD, LUANAR*

NMBU:

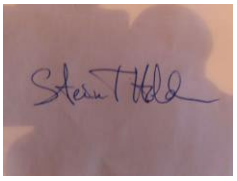
- You can contact the Project Leader: Professor Stein T. Holden, at +47-94970615
- School of Economics and Business, ethics committee:
    - Kirsti Pettersen: +47-91168060
    - Nicolay Andre Melsæter Worren: email: +47-67231124

Regarding your rights or possible complaints:

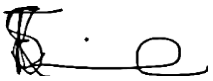
- *If you need advice on how to exercise your rights, please contact:*
- NMBU's Data Protection Officer Hanne Pernille Gulbrandsen
- Tel: +47 402 81 558
- E-mail: personvernombud@nmbu.no
- *Any complaint/allegation/suspicion of breach of ethics and good research practice must be given in the form of written notification to the Dean of the School of Economics and Business:*
- Professor Casper Claudi Rasmussen
- Tel. +47 901 68 120
- E-mail: casper.claudi.rasmussen@nmbu.no
- Or contact:
- Datatilsynet, Norway: +47- 22 39 69 00

The personal information will be kept safely at LUANAR for the purpose of future follow-up research to assess long-term changes in the study areas.

Yours sincerely,



Stein T. Holden
Professor, NMBU
Project Leader
(Researcher/supervisor)



Sarah Tione
Research Fellow
Student (if applicable)

Consent form

I have received and understood information about the project *Experiments for Development of Climate Smart Agriculture (SMARTEX)* and have been given the opportunity to ask questions. I give consent:

- ☐ to participate in interviews about the irrigation scheme farming activities
- ☐ for information about me to be stored separately from the data and protected at LUANAR to facilitate future data collection from the same households

Name of Respondent: _____

Signature: Date:

(Signed by participant, date)

SMARTEX project. Irrigation Scheme Questionnaire

- **Ask the Chairperson or secretary of the Scheme Committee**

Identification	
Date of Interview	**DD/MM/YYYY**
Name of Interviewer	
GPS Coordinates – Latitude and Longitude and Elevation *(enumerator record GPS Coordinates)*	
Start Time	**Hours_____ Minutes_____**
End Time	**Hours _____ Minutes_____**

General questions

No.	Questions	Unit	Response
1	District Name 1.Chikwawa	CODE	
2	TA.	CODE	
3	Group Village Headman (GVH) Name	CODE	
4	Village Name		
5	Extension Planning Area (EPA) Name	CODE	
6	Name of Respondent	Text	
7	Telephone number for respondent	Number	
8	Age of respondent	Number	
9	Are you a leader in the irrigation scheme? *1.Yes 2.No*	CODE	
10	What is your position? *1. Chairperson, 2. Vice Chairperson, 3. Secretary, 4. Treasurer, 5. Member*	CODE	
	How long have you been on this position? Number of years, if months calculate to approximate year		
11	Gender of respondent. *1.Male, 2.Female*	CODE	
12	Education level. *1.Junior primary,(std1-4) 2.senior primary(std5-8), 3.Junior sec(form1-2), 4.Senior sec(3-4), 5.University diploma, 6. University degree*	CODE	
13	What is the distance water intake point to the opposite furthest point in the **irrigation scheme area**?	Number	
14	Distance from the irrigation scheme to the nearest trading Centre or market		
15	Distance from the irrigation scheme to the closest urban market (town)		
16	What is the distance from the irrigation scheme to the nearest primary school?		
17	What is the distance to the irrigation scheme secondary school?		

B. Irrigation Background

S.No.	Question	Unit	Response
1	Irrigation Scheme name	Name	
2	Year of establishment of irrigation scheme	Year	
3	How was the irrigation group formed? 1. *Self-mobilised* 2. *Government* 3. *NGOs* 4. *Local leaders*	Code	
3	Is the Scheme sub-divided into separate management blocks? 1=Yes 2=No		
4	If Yes, how many blocks are in the irrigation scheme?	Number	

5	Do the blocks operate with separate committee independent of the main scheme committee? 1=Yes, 2=No		
6	If Yes, what are the duties of the group/block leaders?	Text	
7	Do the blocks operate with separate by-laws from the main scheme laws and by-laws? 1=Yes, 2=No If yes, on which by-laws	Code Text	
8	How are these blocks defined or demarcated in the scheme?	Text	
9	Average number of people per block in the scheme? If one block, indicate the total number for the scheme	Number	
10	Does each block have their own committee in the scheme? 0 = No, 1 = Yes	Code	
11	How many people did you start with, in the first year of establishing the irrigation scheme?	Number	
12	Of these, how many females?	Number	
13	Of these, how many males?	Number	
14	How many people have dropped out in the irrigation scheme (except death) since you started?	Number	
15	Of these, how many females?	Number	
16	Of these, how many males?	Number	
17	If some members have dropped out, what were the reasons? *1=Lack of motivation, 2=Migrated, 3=Lack of complementary income, 4=Activity of group not rewarding enough, 5=Lack of training/skills for the activity, 6=Lack of funds to invest in the activity, 7=Internal conflicts in the group, 8=Health problem, 9=Other, specify:*	Multiple reasons	
18	If some have permanently left, were they compensated for their investments while being in the group? 0=No, 1=Yes, 2=Partly (specify)	Code	
19	How many people do you have now in the irrigation scheme?	Number	
20	Of these, how many females?	Number	
21	Of these, how many males?	Number	
22	What is the total irrigation area for the scheme (acres)	Number	
23	What is the current irrigation area in use in the scheme (acres)	Number	
24	What is the average individual land use in the scheme (acres)/ Individual plot allocation?	Number	
25	How many household members are allowed to use individual plots per one household in the irrigation scheme?	MwK	
26	Which type of irrigation systems are found in your scheme (possible to answer more than one alternative): *1. Gravity fed,* *2. River diversion,* *3. Solar pumps,* *4. Treadle pump,* *5. Watering cane,* *6. Electricity pump,* *7. Others (specify)*	Code Multiple answer	
27	Who introduced the irrigation system in your irrigation scheme/block? Codes: *1. Government* *3. Own group members* *4. NGO/ Church or Charity organization* *5. Other village members* *6. Other , specify_____*	Code Multiple answer	
28	What is the main type of irrigation system in your irrigation scheme/block? *1. Gravity fed,* *2. River diversion,*	Code	

	3. Solar pumps, *4. Treadle pump,* *5. Watering cane,* *6. Electricity pump,* *7. Others (specify)*	Single answer	
29	Why did you choose this main type of irrigation system? List the top three reasons. 1. ---------- 2. ---------- 3. ----------	Text	
30	How far is the main water source from the furthest farm plot in the irrigation scheme?	Km	
31	What are the major crops grown in the scheme (Crops Code)		
32	What informed the crop choice?	Text	
33	Can individuals freely choose what crops to grow in the irrigation scheme? 1=Yes, 2=No		
34	If NO, why not?	Text	
35	How many crop production seasons do you manage in a year? 1. One rainy crop production season 2. One dry crop production season 3. Two crop production seasons (rainy and dry season) 4. Three crop production seasons		
36	What are type of investment did the group make at the start of the irrigation scheme? *1. Land* *2. Money* *3. Labour* 4. *Others (specify)*	Code	
37	If it was money, how much was invested?	MwK	
38	If land, what was the source of land? *1. Individual contribution,* *2. Local leader allocation* *3. Government allocation* 4. *Others(specify)*	Code	
39	How much INCOME did the scheme realize from crop production between Jan 2022 and June 2023 production season?	MwK	
40	How much INCOME did the scheme realize from the crop production between Jan 2023 and June 2024 production season?	MwK	
41	How are members elected in the scheme committee? *1.Popular election,* *2. 1.Popular election,* *2. Self-appointed* *3.Appointed by local leaders* *4.Appointed by district officials,* *5.Appointed by Central government officials,* *99.Others (Specify)*	Code	
42	How often do committee leaders in your irrigation scheme meet in a week?	Number	
43	How often do committee leaders in your irrigation scheme meet in a month?	Number	
44	What is the tenure of office for the committee members (years)	Number	
45	How often have you changed the committee members since you started the irrigation scheme?		
46	How often do members in your irrigation scheme meet in a month?		
47	How often do members in your irrigation scheme meet in a year?		

48	Does the scheme have its own written bylaws? 1=Yes, 0=No	Code	
49	When were these bylaws prepared first time?	Year GC	
50	Have there been any changes in these bylaws since they first were established? 0=No changes, 1=Yes, some changes in the first specified bylaws, 2=Some new elements added to the bylaw, 3=Some elements removed from the first bylaw, 4=Other, specify:	Codes (more than one may be relevant)	
51	Specify the changes made: 1. 2. 3. 4.	Text	
52	If there have been changes in the bylaws, what were the main reasons for the changes? 1=Dissatisfaction with the performance of the group, 2=Dissatisfaction with the performance of some group members, 3=Dissatisfaction with how responsibilities and benefits are shared within the group, 4=Need for clearer specification of responsibilities within the group, 5=Need for introducing better monitoring system, 6=Need for introducing better enforcement system, 7=Other, specify:	Codes (more than one may be relevant)	
53	Is the scheme governed by laws established by government? 1=Yes, 2=No		
54	List any three key laws? 1. 2. 3.	Text	
55	How does the scheme members perceive these laws related to group functionality? 1=Very good and useful, 2=Quite good and useful, 3=Not very important, 4=Has negative effect on the group's activity and motivation, 5=Has strong negative effect on the performance of the group.	Code	
56	If strong positive or negative effects, explain why this is so?	Text	
57	What is the current membership fee	MK	
58	Is there a limit to the number of members in the irrigation scheme? 0=No, 1=Yes	Code	
59	If YES, what is the limit	Number	
60	Do you have a Water Users Association/Water use regulator? *1=Yes, 2=No*	CODE	
61	What are the core functions of these water use regulators? *1=Distribution of water, 2=Ensure efficient use of water, 3=Determine water use charges*	CODE	
62	If yes, are there guiding laws on water distribution in the area/scheme? *1=Yes, 2=No* Get a copy if possible	CODE	

Natural Disasters

Questions	Unit/Code
1.Has there been natural disasters that has affected the irrigation scheme the last four years? *1.Yes, 2.No*	CODE
2. How many incidents were there in total?	Number

Fill the table below.

Shock	3. Year 2021 1= Yes, 2= No	4. Year 2022 1= Yes, 2= No	5. Year 2023 1= Yes, 2= No	6. Year 2024 1= Yes, 2= No	7. What was the extent of damage [for the selected shock] on water intake infrastructure? 1. Severe 2. Moderate 3. Minor 4. None	8. What was the extent of damage [for the selected shock] on water canal infrastructure? 1. Severe 2. Moderate 3. Minor 4. None	9. What was the extent of damage [for the selected shock] on water canal distribution on plots? 1. Severe 2. Moderate 3. Minor 4. None	10. What percentage of the scheme area was damaged [by the selected shock]? 1. Less than 10% 2. 10% to 30% 3. Above 30% to 50% 4. Above 50% to 80% 5. Above 80%	11. How many parcels were affected [by the selected shock] in total in the irrigation scheme? Number	12. How many households were affected in total in the irrigation scheme? Number
Floods										
Dry Spells										
Drought										
Pest and Disease outbreak										

Question	Unit	Response
13. Do households receive compensation for being displaced in Monetary Value? *1.Yes, 2.No*	CODE	
14. If Yes, what is the average Monetary Value per hectare?	MwK/Ha	
15. Are there household that are given alternative land holing as in-kind compensation? *1.Yes, 2.No*		
16. For these households, how was the size of the given land compared to what was taken? *1.Equal, 2.More than what was taken, 3.Less than what was taken, 4. Don't know*	CODE	
17. For these households, how was the quality of the land compared to what was taken? *1.Equal quality, 2.Better quality that what was taken, 3.Poorer quality than what was taken*	CODE	

SMARTEX project. Irrigation Scheme Block Questionnaire

Are you interested in taking part in the research project "Experiments for Development of Climate Smart Agriculture (SMARTEX)"?

Purpose of the project

You are invited to participate in a research project where the main purpose is to *study irrigation group performance, flood impacts, land market activity (sales and rentals) in irrigation schemes, tenure and utilisation of land and water resources*.

The objectives are to assess irrigation group performance, impacts of floods on land management and welfare, level of land markets in irrigation schemes and tenure and utilisation of land and water resources.

This is a research study under the Experiments for Development of Climate Smart Agriculture (SMARTEX) project that LUANAR is doing in collaboration with the Norwegian University of Life Sciences (NMBU) with financial support from NORHED II.

Some of the data may be used for teaching at LUANAR.

Which institution is responsible for the research project?
NMBU and LUANAR are responsible for the project (data controller).

Why are you being asked to participate?
You have been randomly selected in this irrigation scheme to participate in this study as a leader of your irrigation block. We encourage you to provide answers to the best of your knowledge and personal opinions. You are responsible for organizing your irrigation block and our questions relate to the challenges you and your irrigation block face in relation to organized the production and marketing activities. Your participation is voluntary, and you can choose to opt out at any time during our discussion. However, we hope you will participate in the survey as a group representative and giving your views are important for generating knowledge about what can help improving performance of irrigation schemes in this area.

What does participation involve for you?
If you choose to participate in this project, we will have a discussion and I will record your answers on the digital tablet. The interview will take roughly 1 hours to complete. The survey questions include irrigation scheme and block characteristics, agricultural production activities and flood shock effects, group organization activities, and land governance.

Participation is voluntary
Participation in the project is voluntary. If you chose to participate, you can withdraw your consent at any time without giving a reason. All information about you will then be made anonymous. There will be no negative consequences for you if you chose not to participate or later decide to withdraw.

Your personal privacy – how we will store and use your personal data
We will only use your personal data for the purpose(s) specified here and we will process your personal data in accordance with data protection legislation (the GDPR). The research team from LUANAR will process your personal data and anonymise the data before sharing. The person data will be stored in anonymized form in password protected server. Only the Principal Investigator, Dr. Sarah Tione, LUANAR, will keep the personal data and will keep them separately from the other data

to protect your identify. Your personal data are replaced with a code in the stored data. The anonymized data will be shared with NMBU, and stored in the Norwegian SIKT database. The project leader there is professor Stein Holden, who is responsible for this. Your names will never be used in any output from the research.

What will happen to your personal data at the end of the research project?
The planned end date of the project is *August 2025. All the data will be stored on the NMBU (SIKT) and LUANAR servers under password protected system, which will be accessible only by the research team. For data sharing, we will anonymise all the data by removing all the personal id data.*

The personal identification data will be stored separately by Dr. Sarah Tione at LUANAR. This is for the purpose that there may be a follow-up project to study future changes at the household level where the data from the project can serve as a useful baseline.

Your rights
So long as you can be identified in the collected data, you have the right to:

- access the personal data that is being processed about you
- request that your personal data is deleted
- request that incorrect personal data about you is corrected/rectified
- receive a copy of your personal data (data portability), and
- send a complaint to the LUANAR Data Protection Officer regarding the processing of your personal data

What gives us the right to process your personal data?
We will process your personal data based on your consent.

This is based on an agreement with Sikt, the Data Protection Services of Sikt – Norwegian Agency for Shared Services in Education and Research, who has assessed that the processing of personal data in this project meets requirements in data protection legislation.

Where can I find out more?
If you have questions about the project, or want to exercise your rights, contact:
LUANAR:

- If you have questions or comments, you can ask me now. For further details, you can contact Sarah Tione, PhD of 0999522664 the Director of Research and Outreach at LUANAR, Associate Prof Sam Katengeza on 0888446202.
- Our Data Protection Officer: *Sarah Tione, PhD, LUANAR*

NMBU:

- You can contact Project Leader: Professor Stein T. Holden, at +47-94970615
- School of Economics and Business, ethics committee:
  - Kirsti Pettersen: +47-91168060
  - Nicolay Andre Melsæter Worren: email: +47-67231124

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- Tel: +47 402 81 558
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- Professor Casper Claudi Rasmussen
- Tel. +47 901 68 120
- E-mail: casper.claudi.rasmussen@nmbu.no
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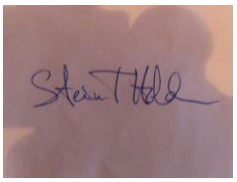
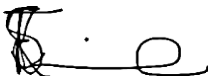
Yours sincerely,



Stein T. Holden
Professor, NMBU
Project Leader
(Researcher/supervisor)



Student (if applicable)

Consent form

I have received and understood information about the project *Experiments for Development of Climate Smart Agriculture (SMARTEX)* and have been given the opportunity to ask questions. I give consent:

- ☐ to participate in interviews about the household and its farming activities
- ☐ to participate in behavioural experiments on social and economic preferences
- ☐ for information about me to be stored separately from the data and protected at LUANAR to facilitate future data collection from the same households

Name of Respondent: _____

Signature: Date:

(Signed by participant, date)

SMARTEX project. Irrigation Block Questionnaire

- **Ask Block Chairperson or Secretary**

Identification	
Date of Interview	**DD/MM/YYYY**
Name of Interviewer	
GPS Coordinates – Latitude and Longitude and Elevation *(enumerator record GPS Coordinates)*	
Start Time	**Hours_____ Minutes_____**
End Time	**Hours _____ Minutes_____**

To ask Irrigation group leader

General questions

No.	Questions	CODE
1	District Name 1.Chikwawa	CODE
2	TA.	CODE
3	Group Village Headman (GVH) Name	CODE
4	Village Name	
5	Extension Planning Area (EPA) Name	CODE
6	Name of Respondent	Text
7	Telephone number for respondent	Number
8	Age of respondent	Number
9	Are you a leader in the irrigation group? *1.Yes 2.No*	CODE
10	What is your position? *1. Chairperson, 2. Vice Chairperson, 3. Secretary, 4. Treasurer, 5. Member*	CODE
11	Gender of respondent. *1.Male, 2.Female*	CODE
12	Education level. *1.Junior primary,(std1-4) 2.senior primary(std5-8), 3.Junior sec(form1-2), 4.Senior sec(3-4), 5.University diploma, 6. University degree*	CODE
13	What is your religion? *1.Christianity, 2.Islam, 3.Traditional, 4.No Religion, 99.Others (Specify)*	CODE
14	What is your Main occupation? *1.Farmer, 2.Formal employment, 3.skilled employment, 4.Petty trader, 5.Casual Labourer i.e. ganyu, 99. Others (Specify),*	CODE

B. Block Background

S.No.	Question	Unit	Response
1	Irrigation Scheme name	Name	
2	How was the irrigation block formed? 1. *Self-mobilised* 2. *Government* 3. *NGOs* 4. *Local leaders*	Code	
3	How many members are in this irrigation block	Number	
4	How many people did you start with, in the first year of establishing the irrigation block?	Number	
5	Of these, how many females?	Number	
6	Of these, how many males?	Number	

7	How many people have dropped out in the irrigation block (except death) since you started?	Number	
8	Of these, how many females?	Number	
9	Of these, how many males?	Number	
10	If some members have dropped out, what were the reasons? *1=Lack of motivation, 2=Migrated, 3=Lack of complementary income, 4=Activity of group not rewarding enough, 5=Lack of training/skills for the activity, 6=Lack of funds to invest in the activity, 7=Internal conflicts in the group, 8=Health problem, 9=Other, specify:*	Multiple reasons	
11	How many people do you have now in the irrigation block now?	Number	
12	Of these, how many females?	Number	
13	Of these, how many males?	Number	
14	What are type of investment did the group make at the start of the irrigation block? *1. Land* *2. Money* *3. Labour* 4. *Others (specify)*	Code	
15	If it was money, how much was invested?	MwK	
16	If land, what was the source of land? *1. Individual contribution,* *2. Local leader allocation* *3. Government allocation* 4. *Others(specify)*	Code	
17	What is the total irrigation area for the block (acres)	Number	
18	What is the current irrigation area in use in the block (acres)	Number	
19	What is the average individual land use in the block (acres)/ Individual parcel allocation?	Number	
20	How many household members are allowed to use individual parcels per one household in the irrigation block?	MwK	
21	How far is the main water source from the furthest farm parcel in the irrigation block?	Km	
22	What are three major crops grown in the block (Crops Code) 1. 2. 3.		
23	Give two reasons that informed the crop choice? 1. 2.	Text	
24	Can individuals freely choose what crops to grow in the irrigation block? 1=Yes, 2=No		
23	If NO, what are the two major reasons? 1. 2.	Text	
24	How many crop production seasons do you manage in a year in this irrigation block? 1. One rainy crop production season 2. One dry crop production season 3. Two crop production seasons (rainy and dry season) 4. Three crop production seasons		
25	How are members elected in the block committee? *1.Popular election* *2. Self-appointed* *3.Appointed by local leaders,*	Code	

	99.Others (Specify)		
26	How often do committee leaders in your irrigation block meet in a week?	Number	
27	How often do committee leaders in your irrigation block meet in a month?	Number	
28	What is the tenure of office for the committee members (years)	Number	
29	How often have you changed the committee members since you started the irrigation block?		
30	How often do members in your irrigation block meet in a month?		
31	How often do members in your irrigation block meet in a year?		
32	Is the sharing of work and responsibilities in the group and the sharing of income regulated by the by-law of the group? 1=Yes, 0=No, 2=Partly.	Code	
33	If NO or Partly, explain three major reasons. 1. 2. 3.		
34	If yes, has there been any changes in these by-laws since they were first established? 0=No changes, 1=Yes, some changes in the first specified bylaws, 2=Some new elements added to the bylaw, 3=Some elements removed from the first bylaw, 4=Other, specify:	Codes (more than one may be relevant)	
35	If Yes, Specify the changes made: 1. 2. 3. 4.	Text	
36	If there have been changes in the bylaws, what were the main reasons for the changes? 1=Dissatisfaction with the performance of the group, 2=Dissatisfaction with the performance of some group members, 3=Dissatisfaction with how responsibilities and benefits are shared within the group, 4=Need for clearer specification of responsibilities within the group, 5=Need for introducing better monitoring system, 6=Need for introducing better enforcement system, 7=Other, specify:	Codes (Multiple response)	
37	What is the current annual membership fee for the irrigation block?	MK	
38	Is there a limit to the number of members in the irrigation block? 0=No, 1=Yes	Code	
39	If YES, what is the limit	Number	
40	Does the irrigation block have a by-law that specifies the frequency of meetings in the group? 1=Yes, 0=No If yes, get a copy if possible	Code	
41	If yes, what is the frequency of such meetings? 1=Weekly, 2=Biweekly, 3=Monthly, 4=Other, explain.	Code	
42	Does the irrigation block have a by-law for penalties for absence from group meetings? 1=Yes, 0=No If Yes, get a copy if possible	Code	
43	If yes, what are the penalties for absence from such meetings? In the case of absence once, twice and three times?	Penalty amount in MK, Once	

		Twice Three times	
44	Has any block member been penalized for such absence this year? 1=Yes, 0=No.	Code	
45	If yes, how many members have been penalized? How many times per member? (frequency like twice, three times etc)	Number Times, Frequency	
46	Does the block have a by-law for penalties for late arrival in meetings? 1=Yes, 0=No Get a copy if possible	Code	
47	If yes, what are the penalties for such late arrival? In the case of late arrival once, twice and three times or more?	Penalty amount in MK Once Twice Three times	
48	Have any of the block members been punished for late arrival in meetings? 1=Yes, 0=No	Code	
49	If yes, how many members have been penalized this year? How many times per member? (frequency like twice, three times etc)	Number Times, Frequency	
50	How many times can a member be penalised for coming late to meetings in a year? Once, twice and three times or more?	Times	
51	Have any of the block members been punished for not coming to block work activities this year? 1=Yes, 0=No	Code	
52	If yes, how many members have been penalized for not coming to block work activities this year?	Number	
53	How many times can a member be penalised for not coming to block work activities? Once, twice and three times or more?	Times	
54	Does the block have a by-law for penalties for late coming to work activities of the group? 1=Yes, 0=No Get a copy if possible	Code	
55	If yes, what are the penalties for late coming to group work activities? In the case of absence once, twice, and three times?	Penalty amount in MK Once Twice Three times	
56	Have any of the group members been punished for late coming to group work activities this year? 1=Yes, 0=No	Code	
57	If yes, how many members have been penalized for late coming to work activities this year?	Number	
58	How many times can a member be penalised for late coming to work activities in a year? Once, twice and three times or more?	Times	
59	How well are the borders of the land area for your irrigation block demarcated? 1=Very clearly demarcated and fenced, 2=Clearly demarcated but not fenced, 3=Partly well demarcated, 4=No clear borders for part of the area	Code	
60	Is there any traffic by outsiders through the irrigation block?	Code	

	1=Yes, a path/road goes through, 2=It is common by outsiders to walk through the area, 3=Livestock of outsiders commonly enter the area, 4=Uncommon, but it happens, 5=No, it is well protected and no traffic by outsiders.		
61	Does the group experience any illegal harvesting by outsiders in the irrigation block? 1=It is frequent (>1 per week), 2=It happens now and then (>1 per month), 3=It happens rarely (<1 per month), 4=It happens very rarely (<1 per year), 5=Has never happened since start of the group/scheme	Code	
62	What does the group do to protect the land against such violations if they are a problem? 1=Continuously guarding the area (rotating the responsibility among group members), 2=Guarding the area during daytime (rotating responsibility), 3=Hired a guard to protect the area, 4=No guard is considered necessary.	Code	
63	What does the group do in case it identifies individuals or animals that encroach on the block? 1=Gives a warning and ask the violators to leave/chase away animals, 2=Allow some trespassing by people and animals, 3=Report trespassers/encroachers scheme leaders, 4=Impose penalty/fine on resource thieves, 5=Other, specify:	Code(s)	
64	Are there guiding by-laws on water distribution in the block? *1=Yes, 2=No* If Yes, get a copy if possible	CODE	
65	Has there been a change in these by-laws on use of water since you started activities in this block? *1=Yes, 2=No*	Code	
66	If Yes, list the major four changes 1. 2. 3. 4	Text	
67	What is the main reason that prompted these changes? 1= Shortage of water supply from flood related infrastructure damage, 2= Shortage of water supply from drought or dry spells, 3= More water supply from the water source 4= Improved and rehabilitated water distribution infrastructure 5= Others (specify)	Code	
68	Can member(s) of household **bequeath irrigation** parcels in the block? *1.Yes, 2.No*	Code	
69	Can member(s) of household **sale irrigation** parcels in the block? *1.Yes, 2.No*	Code	
70	Can member(s) of household **rent out irrigation** parcels in the block? *1.Yes, 2.No*	Code	
71	What is the minimum rent out period of irrigation parcels in the block? MONTHS/YEARS	MONTHS/ YEARS	
72	What is the maximum rent out period of irrigation plots? YEARS	YEARS	
73	Are there rules based on law or by-law for acquiring land for irrigation development? *1.Yes, 2.No* If Yes, get a copy if possible	Code	
74	If Yes, has there been any changes in these laws recently? *1.Yes, 2.No*	Code	
75	If Yes, when did they change? YEAR	YEAR	

76	Are there rules based on customs for acquiring land for irrigation development? *1.Yes, 2.No*	Code	
77	If Yes, state the three key rules 1. 2. 3.	TEXT	
78	Has there been any changes in these rules recently? *1.Yes, 2.No*	Code	
79	If Yes, when did they change? YEAR	YEAR	
80	Does the group follow/have a by-law for how to handle thieves found stealing in the block? 1= group by-law (get a copy if possible), 2=Village court, 3=community by-laws, 4= Report to police as a general criminal case, 5=other(specify)	Code	
81	Are there gradually increasing penalties for resource theft/damage by the same persons/animals? 1=Yes, the first violation results in warning, the second violation leads to reporting, and more serious repeated violations are penalized by fines (or modifications to this), 2=No, there are no gradually increasing sanctions, 3=Only serious violations are penalized with fines (such as cutting of trees), 4=Other, specify:	Code	
82	How is the work required in the irrigation block (canal clearing, intake management, etc) shared among the group members? 1=Equal sharing for all, 2=Different requirement for males and females but equal sharing among males and among females, 3=Sharing modified to the ability of each member and adjusted to skills and work power, 4=Sharing based on the individual motivation to work modified also other activities of individual members, 5=Other, specify:	Code	
83	Has there been a change in the sharing of work responsibilities within the block? 1=Yes, 0=No	Code	
84	If yes, explain the three major modifications. 1. 2. 3.	Text	
85	Explain why this change was made: 1=Some members were unable to do their part, 2=Some members were unwilling to do their part, 3=Members who did more than others disliked the equal sharing of output, 4=Other, specify:	Codes	
86	Is there a gender difference in the sharing of responsibilities and benefits in the group? 0=No, all are equally treated, 1=Females do less of the heavy work but get equal benefit, 2=Females do less of heavy work and get less of the benefit as well, 3=Females do more of some activities, and get equal share, 4=Other, specify:	Code	
87	Which of the positions in the group are currently held by a female in the irrigation block? 1=Chairman, 2=Vice chairman, 3=Secretary, 4=Accountant, 5=Treasury, 0=None	Code(s)	
89	Who are the most dominant in making decisions in the group and enforcing consensus decisions?	Code	

	1=Male group, 2=Female group, 3=Male chairman, 4=Female chairman, 5=The elected group (officials), 6=All are equally influential and participate in decision-making, 7=Other, specify:		
90	Has the block experienced any conflicts since the establishment? 1=Yes, some serious disputes, 2=Yes, some less serious disputes, 0=No disputes	Code	
91	If the block experiences the dispute (response 1 or 2 in previous question), who were involved in the dispute(s)? 1=The group versus some outsiders, 2=Some group members versus outsiders, 3=internal dispute within the group, 4=Other, specify:	Code (Multiple response)	
92	List the most recent three disputes experienced by members in the irrigation block? 1. 2. 3.		
93	For the listed dispute experiences, how were these mainly resolved (indicate in each case if more than one case)? 1=Solved among the parties themselves, 2=Resolved with help of local conflict mediators (elders), 3=Resolved with help from local Land Administration Committee, 4=Resolved with help from district officials, 5=Unresolved, 8=Other, specify:	Code Dispute 1: Dispute 2: Dispute 3:	
94	Are you satisfied with how disputes are resolved in the block activities? 1=Yes, 0=No	Code	
95	If no, what is the main problem? Explain		
96	If no, what could be done to reduce the problem? Explain		
97	Has the irrigation group received any training in any topic in the past 3 years? 0=No training, 1=water management, 2=Business plan, 3=Accounting, 4=land management, 5=Specific technical activity training, 6=other (specify)	Code (multiple response)	
98	How many members from your group were trained in these trainings	Number	
99	Who provided the training? 1=Government 2=NGO 3=Other specify	Code (Multiple response)	
100	How do you rank the social relations among members in the irrigation group overall? 1=Very good, 2=Quite good, 3=Ok, 4=Not so good, 5=Very bad	Code	
101	Is the irrigation group fractioned in polarized sub-groups that compete or do not work well together? 1=Yes, 0=No	Code	
102	If yes, what are the two reasons that have prompted these divisions? Explain 1. 2.	Text	
103	Is poor cooperation in the group affecting the performance of the activities? (motivation to work among members) 1=Yes, very much, 2=To some extent, 3=No, there is no such problem	Code	
104	How would you rate the overall trust among group members?	Code	

	1=Very high, 2=Quite high, 3=Ok, 4=Not so good, 5=Very poor		
105	If limited trust, what are the two main reasons? Explain 1. 2.	Text	
106	Does the group face problems with accessing important input markets that provide inputs for the block activity? 1=Yes, 0=No	Code	
107	If Yes, specify the input market access problems (more than one can be given): 1=Lack of credit access, 2=Long distance to where fertilizer and seeds can be bought (Poor input market access), 3=Lack of water access (irrigation), 4=Irregular water access, 5=Lack of transport means for inputs, 6=Lack of other specific inputs, specify:	Code (Multiple response)	
108	What are the most important/serious threats to the sustainability of the group (possibly threatening its survival. Rank by importance, Rank 1=Most important)? 1=Too low productivity of the land due to water scarcity/lack of water, 2=Poor market access for input markets, 3=Poor market access for outputs, 4=Lack of skills/training, 5=Lack of capital/credit, 6=Lack of complementary income for members, 7=Lack of motivation among group members, 8=Internal cooperation problems in group, 9=Other, specify:	Codes Rank 1: Rank 2: Rank 3: Rank 4:	
109	If Yes, specify the input market access problems (more than one can be given): 1=Lack of credit access, 2=Long distance to where fertilizer and seeds can be bought (Poor input market access), 3=Lack of water access (irrigation), 4=Irregular water access, 5=Lack of transport means for inputs, 6=Lack of other specific inputs, specify:	Code (Multiple response)	
110	What are the most important/serious threats to the sustainability of the group (possibly threatening its survival. Rank by importance, Rank 1=Most important)? 1=Too low productivity of the land due to water scarcity/lack of water, 2=Poor market access for input markets, 3=Poor market access for outputs, 4=Lack of skills/training, 5=Lack of capital/credit, 6=Lack of complementary income for members, 7=Lack of motivation among group members, 8=Internal cooperation problems in group, 9=Other, specify:	Codes Rank 1: Rank 2: Rank 3: Rank 4:	
111	What was the GROSS INCOME that the block realized from crop production between Jan 2023 and June 2024 production season?	MwK	
112	What was the GROSS INCOME that the block realized from the crop production between Jan 2022 and June 2023 production season?	MwK	
113	What was the GROSS INCOME that the block realized from the crop production between Jan 2021 and June 2022 production season?	MwK	
114	How much INCOME did each member get from crop production between Jan 2023 and June 2024 production season?	MwK	
115	How much INCOME did each member get from the crop production between Jan 2022 and June 2023 production season?	MwK	

116	How much INCOME did each member get from the crop production between Jan 2021 and June 2022 production season?	MwK	
117	How do you rate the performance of your block? 1=Very good, 2=Good, 3=Average, 4=Below average, 5=Poor performance	Code	
118	Give two reasons for your answer. 1. 2.	Text	
119	Do you think the group will still exist for another 5 years? 1=Yes, 2=No	Code	
120	If No to existing for 5 years, what are the two main reasons? 1. 2.	Text	
121	If Yes to existing 5years, Do you think the group will still exist for another 10 years? 1=Yes, 2=No	Code	
122	If No to 10 years, what are the two main reasons? 1. 2.	Text	

Natural Disasters

Questions	Unit/Code
122. Has there been natural disasters that has affected the irrigation scheme the last four years? *1.Yes, 2.No*	CODE
123. How many incidents were there in total?	Number

Fill the table below.

Shock	124. Year 2021 1= Yes, 2= No	125. Year 2022 1= Yes, 2= No	126. Year 2023 1= Yes, 2= No	127. Year 2024 1= Yes, 2= No	128. What was the extent of damage [for the selected shock] on water intake infrastructure? 5. Severe 6. Moderate 7. Minor 8. None	129. What was the extent of damage [for the selected shock] on water canal infrastructure? 5. Severe 6. Moderate 7. Minor 8. None	130. What was the extent of damage [for the selected shock] on water canal distribution on plots? 5. Severe 6. Moderate 7. Minor 8. None	131. What percentage of the scheme area was damaged [by the selected shock]? 6. Less than 10% 7. 10% to 30% 8. Above 30% to 50% 9. Above 50% to 80% 10. Above 80%	132. How many parcels were affected [by the selected shock] in total in the irrigation scheme? Number	133. How many households were affected in total in the irrigation scheme? Number
Floods										
Dry Spells										
Drought										
Pest and Disease outbreak										

Question	Unit	Response
134. Do households receive compensation for being displaced in Monetary Value? *1.Yes, 2.No*	CODE	
135. If Yes, what is the average Monetary Value per hectare?	MwK/Ha	
136. Are there household that are given alternative land holing as in-kind compensation? *1.Yes, 2.No*		
137. For these households, how was the size of the given land compared to what was taken? *1.Equal, 2.More than what was taken, 3.Less than what was taken, 4. Don't know*	CODE	
138. For these households, how was the quality of the land compared to what was taken? *1.Equal quality, 2.Better quality that what was taken, 3.Poorer quality than what was taken*	CODE	

SMARTEX 2024

HOUSEHOLD SURVEY

PARCEL MANAGER SURVEY INSTRUMENT

Informed consent form

Good morning/afternoon. My name is _____ (Name of interviewer) from Lilongwe University of Agriculture and Natural Resources (LUANAR), Bunda College.

Are you interested in taking part in the research project "Experiments for Development of Climate Smart Agriculture (SMARTEX)"?

Purpose of the project

You are invited to participate in a research project where the main purpose is to *study irrigation group performance, flood impacts, land market activity (sales and rentals) in irrigation schemes, tenure and utilisation of land and water resources*.

The objectives are to assess irrigation group performance, impacts of floods on land management and welfare, level of land markets in irrigation schemes and tenure and utilisation of land and water resources.

This is a research study under the Experiments for Development of Climate Smart Agriculture (SMARTEX) project that LUANAR is doing in collaboration with the Norwegian University of Life Sciences (NMBU) with financial support from NORHED II.

Some of the data may be used for teaching at LUANAR.

Which institution is responsible for the research project?
NMBU and LUANAR are responsible for the project (data controller).

Why are you being asked to participate?
You have been randomly selected in this irrigation scheme to participate in this study hence we will be asking you to respond to a set of questions related to your farming activities. We encourage you to provide answers to the best of your knowledge and personal opinions and preferences where this is required. We also include some experiments where you can win some money. The purpose of the experiments is to understand your social preferences, response to risks and make investment decisions. Your participation is voluntary, and you can choose to opt out at any time during our discussion. However, we hope you will participate in the survey as a member of this irrigation scheme and block, and giving your views are important for generating knowledge about what can help improving performance of irrigation schemes in this area.

What does participation involve for you?
If you choose to participate in this project, we will have a discussion and I will record your answers on the digital tablet. The interviews and experiments will take roughly 3 hours to complete over two visits. The survey questions include household characteristics, agricultural production activities and flood shock effects, asset ownership, and land governance. The experiments include sharing games, trust games, and investment under risk and time delays. We are particularly interested in interviewing the persons in the household that are responsible for managing the farm parcels. This may be more than one person in the household, but we would like to talk to the one household member who is more responsible for managing parcels for this household.

Participation is voluntary.
Participation in the project is voluntary. If you choose to participate, you can withdraw your consent at any time without giving a reason. All information about you will then be made anonymous. There will be no negative consequences for you if you choose not to participate or later decide to withdraw.

Your personal privacy – how we will store and use your personal data.
We will only use your personal data for the purpose(s) specified here and we will process your personal data in accordance with data protection legislation (the GDPR). The research team from LUANAR will process your personal data and anonymise the data before sharing. The personal data will be stored in anonymized form in password protected server. Only the Principal Investigator, Dr. Sarah Tione, LUANAR, will keep the personal data and will keep them separate from the other data to protect your identity. Your personal data are replaced with a code in the stored data. The anonymized data will be shared with NMBU, and stored in the Norwegian SIKT database. The project leader there is Professor Stein Holden, who is responsible for this. Your names will never be used in any output from the research.

What will happen to your personal data at the end of the research project?
The planned end date of the project is *August 2025. All the data will be stored on the NMBU (SIKT) and LUANAR servers under password protected system, which will be accessible only by the research team. For data sharing, we will anonymise all the data by removing all the personal id data.*

The personal identification data will be stored separately by Dr. Sarah Tione at LUANAR. This is for the purpose that there may be a follow-up project to study future changes at the household level where the data from the project can serve as a useful baseline.

Your rights
So long as you can be identified in the collected data, you have the right to:

- access the personal data that is being processed about you
- request that your personal data be deleted
- request that incorrect personal data about you be corrected/rectified
- receive a copy of your personal data (data portability), and
- send a complaint to the LUANAR Data Protection Officer regarding the processing

of your personal data

What gives us the right to process your personal data?
We will process your personal data based on your consent.

Based on an agreement with *Lilongwe University of Agriculture and Natural Resources (LUANAR)*, The Data Protection Services of Sikt – Norwegian Agency for Shared Services in Education and Research has assessed that the processing of personal data in this project meets requirements in data protection legislation.

Where can I find out more?
If you have questions about the project or want to exercise your rights, contact:
LUANAR:

- If you have questions or comments, you can ask me now. For further details, you can contact Sarah Tione, PhD of 0999522664 the Director of Research and Outreach at LUANAR, Associate Prof Sam Katengeza on 0888446202.
- Our Data Protection Officer: *Sarah Tione, PhD, LUANAR*

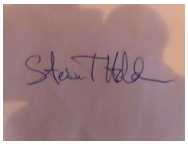
If you have questions about how data protection has been assessed in this project by NMBU and Sikt, contact:
NMBU

- You can contact the Project Leader: Professor Stein T. Holden, at +47-94970615
- School of Economics and Business, ethics committee:
    - Kirsti Pettersen: +47-91168060
    - Nicolay Andre Melsæter Worren: +47-67231124

Regarding your rights or possible complaints:

- *If you need advice on how to exercise your rights, please contact:*
- NMBU's Data Protection Officer Hanne Pernille Gulbrandsen
    - Tel: +47 402 81 558
    - E-mail: personvernombud@nmbu.no
- *Any complaint/allegation/suspicion of breach of ethics and good research practice must be given in the form of written notification to the Dean of the School of Economics and Business:*
- Professor Casper Claudi Rasmussen
    - Tel. +47 901 68 120
    - E-mail: casper.claudi.rasmussen@nmbu.no
- Or contact:
    - Datatilsynet, Norway: +47- 22 39 69 00

The personal information will be kept safely at LUANAR for the purpose of future follow-up research to assess long-term changes in the study areas.
Yours sincerely,



Stein T. Holden
Professor, NMBU
Project Leader
(Researcher/supervisor)

Sarah Tione
Research Fellow
Student (if applicable)

Consent form

I have received and understood information about the project *Experiments for Development of Climate Smart Agriculture (SMARTEX)* and have been given the opportunity to ask questions. I give consent:

- ☐ to participate in interviews about the household and its farming activities
- ☐ to participate in behavioural experiments on social and economic preferences
- ☐ for information about me to be stored separately from the data and protected at LUANAR to facilitate future data collection from the same households

I give consent for my personal data to be processed until the end of the project.

Name of Respondent: _____

Signature: Date:

(Signed by participant, date)

MODULE A: SURVEY INFORMATION

Date of interview: _____ Time: _____

SECTION A: SURVEY INFORMATION

To enumerator: For this registered randomly sampled plot manager/member in this block, assess whether the registered person is the most appropriate person to interview as a parcel manager. The person to interview should be the real/most important manager of the parcels owned or operated by the household of the registered member/manager. We define the most important parcel manager as the one making most of the important production decisions such as crop choice, input purchase, work organization, harvesting, marketing and participation in block collective action.

Q1. Is the registered person as member/parcel manager in the early dry season 2024, the person that makes the most important parcel management decisions in the household of the member?

1= Yes

0= No, the most important parcel manager is (NAME), who should be interviewed in this survey if s/he is available during our survey and experiments: _____

Enumerator Instruction: If there are more than one parcel manager in the household of the registered member, select the one with more responsibility and more knowledge and influence in production decisions.

Parcel Manager ID	**Parcel Manager Name in the household**	**Sex 1=Female 0=Male**	**Age (years)**	**Education (completed years in school)**	**Main mobile phone number**	**Alternative mobile phone number**
1	Registered:					
2	Real:					

General Question	**Response**
Name of interviewer (code of enumerator)	
District	
Name of village	
Name of Irrigation Scheme (code 1-12)	
Name of Irrigation block (code)	
Name of Supervisor (code)	
Household ID (Number within Block)	

HOUSEHOLD SECTION

MODULE B: HOUSEHOLD CHARACTERISTICS

			MODULE B: HOUSEHOLD ROSTER							
Line no	**Household location**	**Household members**	**Member ID**	**Relationship to head of household**	**Sex**	**Age**	**Year of birth**	**Month of birth**	**Marital status**	**Ever attended school**
B01	**B01a**	**B02**	**B02a**	**B03**	**B04**	**B05**	**B05a**	**B05b**	**B06**	**B07**
	Household location of the respondent	Please tell me the name and sex of each person who lives here, starting with the household head. For our purposes today, household members are adults or children that live together and eat from the 'same pot'	Give the Name a Member ID **Use two series numbers e.g 01, 02,03**	What is the relationship of [NAME] to the head of household?	Is [NAME] male or female Female … 1 Male …. 2	How old is [NAME]? (in Years) [USE 00 IF THE CHILD IS LESS THAN 1 YEAR]	Which year was [NAME] born?	Which month was [NAME] born?	What is [NAME's] current marital status?	Has [NAME] ever attended school? Yes … 1 No …. 2

Line no	**Household location**	**Education level**	**[if age 5-24 yrs] Currently in school**		**Occupation**	**[if age 15 or older]** **Employment**	**[if age 15 or older] Household labour**
B01	**B01a**	**B08**	**B09**	**B10**	**B11**	**B12**	**B13**
	Household location of the respondent	How many years of schooling did [NAME] complete?	Is [NAME] currently attending school in 2021 academic year? Yes … 1 No …. 2	In what class is [NAME] at the moment? [CONVERT TO YEARS OF SCHOOLING]	What is the current occupation of [NAME]?	Has [NAME] done any work in the last 12 MONTHS? READ DEFINITION OF WORK Yes …. 1 No ….. 2	Has [NAME] done any work for the household in the last 12 months (including farm work and household chores) Yes …. 1 No ….. 2

CODES

CODES FOR B03: RELATIONSHIP TO HEAD OF HOUSEHOLD	CODES FOR B06: MARITAL STATUS	DEFINITION OF WORK (B11): Work includes jobs in the formal and informal sector, full time, part time or seasonal that is done or outside the home.	CODES FOR B11: OCCUPATION	CODES FOR B05b: Month of birth
01=Head	01=Never married		01=Student	1=January
02= Wife or husband	02= Married or living together		02= Farmer	2-February
03=Son or Daughter	03= Divorced or Separated		03= Self-employed	3=March
04= Son-in-law or daughter-in-law	04= Widowed		04= Employed (formal employment)	4-April
05=Grandchild			05= Employed (informal employment)	5-May
06=Parent			06= Business operator	6=June
07=Parent-in-law			07=Other	7=July
08= Brother or Sister				8=August
09= Other relative				9=September
10= Not Related				10=October
999= Don't know				11-November
				12=December
				13=Don't know

Line No	[if age 15 or older] Household work	[if age 15 or older] Irrigation work	[if age 15 or older] Non-farming irrigation scheme work	[if age 15 or older] Employment	[if age 15 or older] Apprenticeship	[if age 15 or order] Casual, part- time or *ganyu* labour	[if age 15 or older] Small business	[if age 15 or older] Small business
B01	**B14**	**B15**	**B16**	**B17**	**B18**	**B19**	**B20**	**B21**
	What type of household work has [NAME] been mostly involved with? CODE	In **past seven days**, how many days did you spend on farming under irrigation activities? NUMBER	In the **past seven days**, how many days did you spend on non-farming irrigation scheme work activities NUMBER	In the last 12 months, did you work as an employee for a wage, salary, commission, or any payment in kind: including doing paid apprenticeship, domestic work or paid farm work, excluding *ganyu* , even if only for one hour? YES ..... 1 NO 0	In the last 12 months, did you engage in an unpaid apprenticeship for anyone that is not a member of the household, even if only for one hour? YES ..... 1 NO 0	In the last 12 months, did you engage in casual, part- time or *ganyu* labour, even if only for one hour? YES ..... 1 NO 0	In the last 12 months, did you engage in small business? YES ..... 1 NO 0	If yes to B20, what is the business category Selling agricultural products.....1 Selling forest products ... 2 Selling non-agricultural products ... 2 Others (specify) ... 99

CODES FOR B14: OCCUPATION
01=Farming under rainfed
02= Farming under irrigation
03= Non-farming irrigation scheme work
04= Collecting firewood
05= Fetching water
06= Cleaning the house
07= Looking after children
08= Looking after livestock
09=Running a family business
10= Other, specify.

MODULE C. DURABLE GOODS AND HOUSEHOLD ASSETS

ITEM	C1. Does your household own a [ITEM] 0= No → Next ITEM 1=Yes	D23. How many of the ITEM do you own? July 2024	C2. If you wanted to sell one of this [ITEM] today, how much would you receive? IF MORE THAN ONE, AVERAGE VALUE. (MK)
DURABLE GOODS			
Mortar/pestle (mtondo)			
Bed			
Table			
Chair			
Fan			
Air conditioner			
Radio (Wireless)			
Radio with flash drive/ micro cd			
Television			
VCR			
Sewing machine			
Paraffin stove			
Electric/gas stove; cooker; hot plate			
Refrigerator			
Washing machine			
Bicycle			
Motorcycle / scooter			
Car			
Minibus			
Lorry			
Beer-brewing drum			
Sofa set			
Coffee table (for sitting room)			
Cupboard / drawer			
Lantern (paraffin)			

Desk			
Clock			
Iron (for pressing clothes)			
Computer equipment and accessories			
Satellite dish			
Solar panel			
Generator			
Electric kettle			
IMPLEMENTS			
Hand hoe			
Slasher			
Axe			
Sprayer			
Panga knife			
Sickle			
Treadle pump			
Water pump			
MACHINERY			
Ox cart			
Ox plough			
Tractor			
Tractor plough			
Ridger			
Cultivator			
Generator			
Motorized pump			
Grain mill			
Other (specify)			
STRUCTURES/BUILDINGS			
Chicken house			
Livestock kraal			
Poultry kraal			
Storage house			
Granary			
LIVESTOCK			
Pigeons			
Chickens			
Ducks			
Pigs			
Goats			
Sheep			
Cattle			
Donkeys			

AGRICULTURE SECTION

MODULE E: LAND OWNERSHIP AND LAND RENTING: Parcel-level information

E0. Does anyone in the household use or own or hold any agricultural land (Yes …..1, No ….. 2)

E0	E0	E1	E1a	E2	E3	E3a	E4	E5
Parcel manager ID	Does anyone in the household use or own or hold any agricultural land? 1=Yes 0=No	List all agricultural [PARCELS] including all parcels owned by the household/parcel manager (owner-operated and rented out parcels), irrigated and rainfed, as well as rented-in parcels **PARCEL ID** **(Start with the irrigated parcel within the irrigation scheme (ID 11)– basis for being sampled), other irrigated parcels (owned or rented) (ID 12 etc), then rainfed parcels (ID 21 etc)**	Indicate the parcel ownership and rental status in current season (early dry season 2024) 1=Cultivated by parcel manager 2=Rented out 3=Rented in 4=Fallow	Indicate placement of parcel 1=Within irrigation block, 2=In other irrigation block, 3=Outside irrigation scheme	Indicate distance to parcel from homestead of parcel manager Km	How many minutes does it take to get to the [PARCEL]	How was this [PARCEL] acquired? 1=Granted by local leaders 2=Inherited by the death of a family member 3=Bride price 4=Purchased 5=Rented-in 6=Borrowed for free 7=Moved in without permission 8=Other (specify)	Under which tenure system is this [PARCEL]? Customary....1 Freehold.....2 Leasehold....3 State.....4 Community/Group Right....5 Cooperatives.....6 Other (Specify)...7
		11						

E1	E6	E7	E8	E9	E10	E11	E12
List all [PARCELS] including cultivated under rainfed, cultivated under irrigation or dimba, rented out or rented-in or homestead or any other parcel you own **PARCEL ID (same as above)**	For parcels owned by the household, who in this household owns this parcel? Indicate the member Name and ID code recorded in B02a (e.g, if the husband was listed as 01, then indicate name and ID 01)	Does your household currently have **a title or formal ownership** document for this [PARCEL]? 1=Yes 0=No	If YES in E7, when was the title/document obtained? YEAR	Does your household currently have **an informal document** that certifies your ownership rights to this Land? 1=Yes 0=No	If YES in E9, when was the document obtained? YEAR	Who is likely to inherit this [PARCEL]? 1=First born child 2=Firstborn son 3=First born daughter 4=Divided to all children 5=Nieces/Nephews of the husband 6=Nieces/Nephews of the wife 7=Other relatives 8=Not applicable (rented in plots) 9=Other (specify):	Does anyone in the household have the right to sell this Parcel? (applies to parcels owned by the household) 1=Yes 0=No

E1a	E13	E14	E15	E16	E17	E17b
List all rented in and rented out [PARCELS] including cultivated under irrigation, cultivated under rainfed, or dimba, **PARCEL ID**	What is the rental contract period for rented in and rented-out parcels? 1=One season 2=2 dry seasons 3=One year 4=Two years 5=Three years 6=Four years 5=Five years 6=Open-ended (renewed till one party cancels the contract	Rental price for the parcel MK	What period is the rental price for? 1=One season 2=2 dry seasons 3=One year 4=Two years 5=Three years 6=Four years 5=Five years	Who determine the rental price? 1=Agreed by landowner and tenant, 2=Decided by landowner committee, 3=Decided by irrigation block leaders, 4=Decided by irrigation scheme leaders	What type of rental contract do you have for this rented parcel? 1=Oral contract with rental partner, 2=Oral contract wih witnesses, 3=Written contract, 4=Written contract with witnesses, 5=Written contract that is reported/kept by the landowner committee, 6=-Written contract that is reported to block chairperson, 7=Other, specify:	Criteria used for tenant selection: RANK by importance (up to 3): 1=Most important, 2 etc 1=Relative of owner, 2=Neighbour you know 3=Trusted person (reliable and cooperative) 4=Good farmer (reputation) 5=Resident in village 6=preferred by Block chairperson, 7=Preferred by landowner committee, 8=Offer the best price for the parcel, 9=Other, specify:

E1	E18	E19	E20	E21	E22	E23	E24
List all [PARCELS] including cultivated under in the irrigation scheme, outside the scheme, owned and rented in and out **PARCEL ID**	Have you ever had any disputes or disagreements related to ownership of this [PARCEL]? 1=Yes 0=No	If YES, who was the source of dispute or disagreements? Husband .. 1 Wife …. 2 Children … 3 Relatives .. 4 Neighbour … 5 Local leaders .. 6 Other Specify .. 7	Have you ever had any disputes or disagreements about to use of this [PARCEL]? YES …. 1 NO ….. 2	If YES, who was the source of dispute or disagreements? 0=No dispute 1=Husband 2=Wife 3=Children 4=Relatives 5=Neighbour 6=Local leaders 7=Other Specify	Who resolved the most recent dispute or disagreement over this [PARCEL]? 0=No dispute 1=Unresolved 2=Block chairperson(s) 3=Village headman 4=Neighbours 5=Conflict mediation committee in Scheme 6=Local court 7=Magistrate 8=Resolved among the parties 9=Other (specify)	If you were to sell this [PARCEL] (for parcels you OWN), how much would you charge (Minimum acceptable price ? MK	If you were to rent out this [PARCEL] for one growing season, how much would you charge (minimum acceptable rental price)? MK

E1	E25	E26	E27	E28	E29
List all [PARCELS] including cultivated under rainfed, cultivated under irrigation or dimba, rented out and homestead? **PARCEL ID**	How would you rate the the level of soil fertility/ productivity on this [PARCEL]? 5=Very high, 4=High, 3=Medium, 2=Low, 1=Very low	For parcels you own, do you see a change in the soil fertility/productivity on this parcel over the last 5-100 years¨? 5=Much improved 4=Improved 3=Stable (no change) 2=Reduced 1=Much reduced 0=Do not know	If the fertility/ productivity of the parcel has changed over the last 5-10 years, what do you think are the major reasons? 1=Change in water access, 2=Erosion (soil loss), 3=Weed infestation 4=Pest problems 5=Fertilizer use 6=Use of organic manure, 7=Use of pesticides 8=Other, specify	What is the method of irrigating plants/pouring water on the plants on this [PARCEL]? 1=Gravity - canals 2=Watering can 3=Hose pipe 4=Sprinkler 5=Drip irrigation 6=Other (specify)	What is the source of water on this [PARCEL]? READ ANSWERS Well..1 Borehole..2 Lake / Pond..3 River / Stream..4 Rainfed only 5 6=Other (Specify)

PARCEL LEVEL CLIMATIC SHOCK

Enumerator instruction: Ask the Parcel Manager about the parcel level shock effect for the past three years, which are 2023/24, 2022/23 and 2021/22 production seasons in that order. Use July 1, as the cutoff point between production years (based on the timing of our survey, or the break between the early dry cropping season and the late dry (cropping) season to be consistent. The effects on infrastructure is related to water intake point and distribution canals connected to the parcel and water supply across the seasons for the irrigated parcels.

July 1, 2023 to July 1, 2024 production year

E1	E30	E31	E32	E33	E34	E35	E35a
List all [PARCELS] cultivated [IN] and [OUTSIDE] the irrigation scheme. **PARCEL ID**	In the past 3 years, have you experienced any climatic shocks on this [PARCEL] YES …. 1 NO ….. 0	Did you experience the shock [Dec 2023 to May 2024] season? YES …. 1 NO ….. 2	What was the shock in [2023/24 PRODUCTION SEASON]? 1=Excessive rains/ flooding 2=Prolonged dry spells 3=Drought	What was the extent of the crop damage in [2023/24 PRODUCTION SEASON]? None …. 1 Below 20% … 2 20% - 50% … 3 50% - 90% … 4 Above 90% … 5	What was the effect of the shock(s) on water distribution to this parcel during and after the shock? [2023/24 PRODUCTION SEASON]? 0=None 1=Reduced water access 2=Flood 3=First flood, then reduced water access 4=Damage by sand and stones from flood 5=Loss of fertilize soil 6=Other, specify	If the shock affected the irrigation infrastructure/water intake, indicate how it affects the water supply to this parcel now and in the future: 1=Intake was damaged but has been repaired by the scheme itself so water supply was not or only temporarily affected on this parcel 2=Intake and canals were severely damaged and have not been fully repaired by the scheme, the damage substantially reduces the water supply to this parcel, 3=The damage was so severe and the scheme unable to repair it, so this parcel no longer has or has very little access to irrigation water.	If the shock affected the irrigation infrastructure/water intake, what specific actions we re taken to repair the scheme?

July 1, 2022 to July 1, 2023 production year

E1	E30	E36	E37	E38	E39	E40
List all [PARCELS] cultivated [IN] and [OUTSIDE] the irrigation scheme. **PARCEL ID**	In the past 3 years, have you experienced any climatic shocks on this [PARCEL] YES …. 1 NO ….. 0	Did you experience the shock [July 2022 to July 2023] season? YES …. 1 NO ….. 0	What was the shock in [2022/23 PRODUCTION SEASON]? 1=Excessive rains/ flooding 2=Prolonged dry spells 3=Drought	What was the extent of the crop damage in on this parcel [2022/23 PRODUCTION SEASON]? None …. 1 Below 20% … 2 20% - 50% … 3 50% - 90% … 4 Above 90% … 5	What was the effect of the shock(s) on water distribution to this parcel during and after the shock? [2022/23 PRODUCTION SEASON]? 0=None 1=Reduced water access 2=Flood 3=First flood, then reduced water access 4=Damage by sand and stones from flood 5=Loss of fertilize soil 6=Other, specify	If the shock affected the irrigation infrastructure/water intake, indicate how it affects the water supply to this parcel **now and in the future**: 1=Intake was damaged but has been repaired by the scheme itself so water supply was not or only temporarily affected on this parcel 2=Intake and canals were severely damaged and have not been fully repaired by the scheme, the damage substantially reduces the water supply to this parcel, 3=The damage was so severe and the scheme unable to repair it, so this parcel no longer has or has very little access to irrigation water.

July 1, 2021 to July 1, 2022 production year

E1	E30	E41	E42	E43	E44	E45
List all [PARCELS] cultivated [IN] and [OUTSIDE] the irrigation scheme. **PARCEL ID**	In the past 3 years, have you experienced any climatic shocks on this [PARCEL] YES …. 1 NO ….. 0	Did you experience the shock [July 2021 to July 2022] season? YES …. 1 NO ….. 0	What was the shock in [2021/22 PRODUCTION SEASON]? 1=Excessive rains/ flooding 2=Prolonged dry spells 3=Drought	What was the extent of the crop damage in on this parcel [2021/22 PRODUCTION SEASON]? None …. 1 Below 20% … 2 20% - 50% … 3 50% - 90% … 4 Above 90% … 5	What was the effect of the shock(s) on water distribution to this parcel during and after the shock? [2021/22 PRODUCTION SEASON]? 0=None 1=Reduced water access 2=Flood 3=First flood, then reduced water access 4=Damage by sand and stones from flood 5=Loss of fertilize soil	If the shock affected the irrigation infrastructure/water intake, indicate how it affects the water supply to this parcel **now and in the future**: 1=Intake was damaged but has been repaired by the scheme itself so water supply was not or only temporarily affected on this parcel 2=Intake and canals were severely damaged and have not been fully repaired by the scheme, the damage substantially reduces the water supply to this parcel, 3=The damage was so severe and the scheme unable to repair it, so this parcel no longer has or has very little access to irrigation water.

					6=Other, specify	

SHOCK COMPENSATION AND MITIGATION

E1	E46	E47	E48		E49
List all [PARCELS] cultivated [IN] and [OUTSIDE] the irrigation scheme. **PARCEL ID**	Did you receive any compensation/support for the damage by any of the climatic shocks you experienced over the last 3 years? [PARCEL]? YES …. 1 NO ….. 0	If yes, from who? Government .. 1 NGO or charity organisation .. 2 Neighbours .. 3	What was the kind of support? 1=Money 2=In-kind 3=The scheme was supported to rebuild irrigation infrastructure		As a household, what are the mechanisms in place to mitigate this shock effect on this land [PARCEL]? 1=Cooperation within the group/ block to repair damages 2=Cooperation at the scheme level to repair water intake and canals 3=Money collection to fund repairs of damages, 4=Other, specify
			Type	Amount (MK)	

MODULE M: LAND DISPOSAL

M0. Has your household sold, given away, rented out, or lost any [PARCEL] in the past 5 years (YES …. 1, NO ….. 2)

M1	M2	M3	M4	M5	M6
PARCEL ID	What kind of land was this [PARCEL] Agricultural land under rainy farming …. 1 Agricultural land under irrigation farming … 2 Fallow land … 3 Forest land … 4 Grazing land … 5 Other (specify) … 99	How did your household part with this [PARCEL]? Multiple Response READ THE RESPONSES Sold … 1 Gave away … 2 Taken by government … 3 Taken by local leaders … 4 Taken by individuals … 5	What year did your household part with this [PARCEL]? YEAR	What was the area of this [PARCEL] [***Farmer own estimate***] Acre … 1 Hectare … 2 Square Meters … 3	If sold [PARECL], how much did you sell? MK

		Abandoned … 6 Traded for another plot .. 7 Other (specify) …. 8				
				Area	Unit	
L01						
L02						

MODULE F: PARCEL -SEASON-PLOT IN IRRIGATION SCHEME AND OUTSIDE

Enumerator instruction: Ask these questions on [PARCELS] within the scheme as reported in question E22 for each of the production seasons indicated in E25. Capture the Season ID and Parcel ID

A parcel is defined as a continuous piece of land that is owned or rented by a parcel manager. A plot is an area within a parcel that has a uniform cropping pattern and management. A plot must be continuous and should not be split by a path of more than one metre in width. Plot boundaries are defined according to the crops grown and the operator. An irrigated parcel may be planted one, two or three times per year. An irrigated parcel is therefore subdivided in three seasons: Season 1=Early dry season 2024(current), 2=Rainfed season 2023-24, 3=Late dry season 2023. The structure of plots within parcels within seasons may vary across seasons within parcels. The appropriate order is therefore parcel-season-plot-plot details. The plot structure therefore needs to be established by season within parcels for each irrigated plot. An important first step in identification of the cropping pattern on irrigated parcels is therefore to map each parcel by activity (land management) by season and plot with unique land management. We aim to collect detailed input and output data for the last year (up to three production seasons: (1=Early dry season 2024, 2=Rainy season 2023-24, 3=Late dry season 2023). Map the irrigated parcels within the irrigation scheme by season and plot first, then the rainfed/outside the scheme parcels of the parcel manager afterwards.

PARCEL, SEASON AND PLOT LEVEL DETAILS

E0	E1	F1	F2	F3	F3b	F3c	F3d	F3e	F4	F5	F6	F7
Parcel Manager ID (unique ID within block)	**PARCEL ID Irrigated (inside scheme):** 11, 12, 13, **etc, Outside scheme (Irrigated and Rainfed):** 21, 22, 23, etc.	**Season ID (1-3)**	**Plot ID (within season)**	**Parcel area, Ha** GPS-measured ENUMERATOR: MEASURE area of this Parcel? USING GPS.	Is this Parcel under irrigation scheme	**Was the Parcel measured?**	**Why wasn't the Parcel measured?**	**Plot area, square meters** (use measurement tape for current season)	**Plot area, square meters** (use measurement tape for current season)	**Main crop** 0=No crop 1=Maize, 2=Rice, 3=Beans, 4=Sweet potatoes, etc.	**Main crop variety** for maize and rice **LIST (codes)**	**Seed source** 1=Own seed, 2=Bought commercial, 3=Bought with coupon 4=Bought on credit …. 5=Given for free

*Note: Plot areas should sum to parcel area within parcels (based on farmer recall the previous two seasons).

E0	F8	F9	F9a	F10	F10a	F11	F12
Parcel Manager ID (unique ID within block)	**Cost of seed, MK**	**Do you practice intercrop 1=Yes 0=No**	**Intercrop(s) LIST by significance 0=No intercrop**	**Did you apply fertilizer**	**Fertilizer application Kg/plot**	**Type of fertilizer LIST (codes)**	**Cost of fertilizer, MK**

The same format can be used for all parcels operated (irrigated and rainfed) by the parcel manager. This unique structure of parcels-seasons-plots is therefore retained for the parcel manager for the recording of all input use and output on the parcels by season and plot. For rainfed parcels we only have one season.

Continuation of Table above:Should have the same unique structure into parcels, seasons, and plots as above

E0	**E1**	**F1**	**F13a**	**F13**	**F14**	**F15**	**F15a**	**F16**	**F17**	**F18**	**F19**	**F20**	**F21**	**F22**
Parcel Manager ID (unique ID within block)	**PARCEL ID Irrigated:** 11, 12, 13, **etc, Rainfed:** 21, 22, 23, etc.	**Season ID (1-3)**	**Did you use hired labor?**	**Hired labour, work days**	**Hired labour cost, MK**	**Did you use agro-chemicals?**	**Pesticide application, Times applied**	**Type of pesticide LIST (codes)**	**Cost of pesticide application, MK**	**Organic manure application 1=Yes, 0=No**	**Type of organic manure 1=compost, 2=animal manure, 3=Mbeya manure, 4=**	**Quantify of organic manure**	**Unit of organic manure**	**Cost of organic manure, MK**

Continuation of Table above:Should have the same unique structure into parcels, seasons, and plots as above

E0	**E1**	**F1**	**F2**	**F23**	**F24**	**F25**	**F26**	**F27**	**F28**	**F29**	**F30**	**F31**
Parcel Manager ID (unique ID within block)	**PARCEL ID Irrigated:** 11, 12, 13, **etc, Rainfed:** 21, 22, 23, etc.	**Season ID (1-3)**	**Plot ID (within season)**	**Crop output, main crop** Kg/plot	**Crop output, intercrop 1, kg/plot**	**Crop output, intercrop 2, kg/plot**	**Crop output, intercrop 3, kg/plot**	Was the area harvested less than the area planted? 1=Yes, 0=No	What share of the plot was harvested? 1=< 25%, 2=25-50%, 3=50-75%, 4=75-90%, 5=100%	Why was the area harvested less than the area planted? 1=Drought, 2=Fire, 3=Insects, 4=Animals, 5=Crop theft, 6=Diseases 7=Flood damage **8=Other**	**What do you consider a satisfactory amount of production on this plot for the main crop in this season? Kg/plot (with average water supply)**	**How much has this production level been reduced due to flood damages over the last three years that are still affecting the water supply? % reduction on the plot**
				F23b	**F24b**	**F25b**	**F26b**					
				Was this shelled or unshelled 1=Shelled 2=Unshelled #=Not applicable	Was this shelled or unshelled 1=Shelled 2=Unshelled #=Not applicable	Was this shelled or unshelled 1=Shelled 2=Unshelled #=Not applicable	Was this shelled or unshelled 1=Shelled 2=Unshelled #=Not applicable					

MODULE G: HOUSEHOLD INCOME (CROP and NON-CROP)

	What are your main sources of income for your household?	
	G. Income Source	**D2. Total Income from Source in the past year (MK)**
G1	Selling crop produces by season: 1. Net income from crop sales early dry season 2024 2. Net income from crop sales rainy season 2023/24 3. Net income from crop sales late dry season 2023	
G2	Selling livestock produce 1.July 2023-1.July, 2024	
G3	Casual labour (Ganyu) (on-farm): 1.July 2023-1.July, 2024	
G4	Selling natural resources sales (charcoal, firewood, timber etc.): 1.July 2023-1.July, 2024	
G5	Formal employment: 1.July 2023-1.July, 2024	
G6	Casual labour (*ganyu*) (off-farm): 1.July 2023-1.July, 2024	
G7	Semi-skilled work (brick-laying, etc.): 1.July 2023-1.July, 2024	
G8	Land rentals (rented out parcels): 1.July 2023-1.July, 2024	
G9	Gifts/Remittances: 1.July 2023-1.July, 2024	
G10	Pension: 1.July 2023-1.July, 2024	
G11	Artisanal skills (weaving, brewing, carpentry etc.): 1.July 2023-1.July, 2024	
G12	Other (specify): 1.July 2023-1.July, 2024	

MODULE H: HOUSEHOLD LEVEL INPUT EXPENSES

	H. Input access and purchases	**D2. Total expenses (MK)**
H1	How much did the parcel manager spend on purchase of seeds by production season during last year for all her/his parcels operated? 1. Early dry season 2024 2. Rainy season 2023-24 3. Late dry season 2023	 **1.** **2.** **3.**
H2	How much did the parcel manager spend on purchase of fertilizer by production season during the last year for all her/his parcels operated? 1. Early dry season 2024 2. Rainy season 2023-24 3. Late dry season 2023	 **1.** **2.** **3.**
H3	How much did the parcel manager spend on purchase of other agrochemicals (pesticides, fungicides, herbicides) by production season during the last year for all her/his parcels operated? 1. Early dry season 2024 2. Rainy season 2023-24 3. Late dry season 2023	 **1.** **2.** **3.**
H4	How much did the parcel manager spend on hired labour by production season during the last year for all her/his parcels operated? 1. Early dry season 2024	 **1.**

	2. Rainy season 2023-24 3. Late dry season 2023	**2.** **3.**
H5	How much did the parcel manager spend on membership fee, water fee, and other fees by production season during the last year for all her/his parcels operated? 1. Early dry season 2024 2. Rainy season 2023-24 3. Late dry season 2023	 **1.** **2.** **3.**
H6	How much did the parcel manager spend on land rental fees for rented-in parcels by production season during the last year for all her/his parcels operated? 1. Early dry season 2024 2. Rainy season 2023-24 3. Late dry season 2023	 **1.** **2.** **3.**
H7	How much did the parcel manager spend on other agricultural investments (tools, equipment, buildings,etc.) by production season during the last year for all her/his parcels operated? 1. Early dry season 2024 2. Rainy season 2023-24 3. Late dry season 2023	 **1.** **2.** **3.**
H8	Has the parcel manager household received some free or subsidized inputs during the last production year? 1=Yes, 0=No	
H9	If yes, specify type of input (code), quantity received, and price paid (total by input), season received, source (name of provider) Inputs: 1: Seeds (specify type of seed), 2:Fertilizer, 3=Pesticides, 4=Other, specify Season: 1=Early dry season 2024, 2=Rainy season 2023-24, 3=Late dry season 2023	**Input type(s)** **Quantity by input type (kg)** **Price paid (total by input)** **Season:** **Provider (name):**
H10	Did the parcel manager (household) obtain any credit during the last production year? 1=Yes, 0=No	
H11	If yes, what type of credit? 1=For purchase of farm inputs, 2=For other investment (investment loan), 3=Consumption loan, 4=Other, specify:	
H2	If yes, how big is the loan in MK, by loan type code?	
H13	If yes, what is the duration of the loan? Months, years	
H14	Did the parcel manager (household) try to apply for loan but failed to get? 1=Yes, 0=No	
H15	Does the parcel manager (household) perceive that s/he has access to some types of loan if they want but did not try to get a loan? 1=Yes, 0=No	
H16	If yes, what type of loan does the parcel manager think s/he can get if s/he applies for it? 1=For purchase of farm inputs, 2=For other investment (investment loan), 3=Consumption loan, 4=Other, specify:	
H17	What is the maximum perceived amount s/he can get for such a loan (MK)	
H18	What is the source of such a potential loan? Name → codes	

MODULE M: TRUST

Enumerator instruction : Ask these questions to the parcel manager.

M1. How much do you trust the following types of persons in general?					
	5=Very high trust	4=High trust	3=Average trust	2=Low trust	1=Don't trust
MPs					
Traditional authorities					
Village headman					
Extension workers					
Police					
Traders					
M2. How much do you in general trust the following people in your locality?					
Your family members					
Distant family members					
People from your irrigation scheme					
People from your irrigation block					
Irrigation scheme leaders					
People in other irrigation schemes in East Bank, Chikwawa					
People from your village that are not in the irrigation scheme					

MODULE N: COLLECTIVE ACTION PARTICIPATION IN YOUR BLOCK

Enumerator instruction : Ask these questions to the parcel manager.

N1.	N2.	N3.	N4.	N5.
Which of these activities were collectively arranged and did you participate in in your block/scheme during the last 12 months (July 2023-July 2024)?	Which of these is collectively arranged and did you participate? 1=Yes, collective and participate, 2=Yes, but did not participate, 0=No	How many days did you work/participate in each of these activities from July 2023 to July 2024 (12 months) Number of days	Are there any of these activities that are collectively organized that you prefer are not collectively organized?	Are there any of these activities that are not collectively organized in your block but that you think should be collectively organized?
1. Maintain irrigation canals in your block	1:	1:	1:	1:
2. Repair irrigation system after flood damages	2:	2:	2:	2:
3. Block meeting for planning activities.	3:	3:	3:	3:
4. Joint water management to irrigate the land	4:	4:	4:	4:
5. Collective seed purchase and planting/timing of planting	5:	5:	5:	5:
6. Collective input purchase of fertilizer and pesticides, application of pesticides	6:	6:	6:	6:
7. Collective organization of organic manure preparation and application on irrigated land	7:	7:	7:	7:
8. Collective guarding of areas against theft of water and crops	8:	8:	8:	8:
	9:	9:	9:	9:

9. Building and maintaining fences around irrigation areas and guarding against damages by animals	10:	10:	10:	10:
10. Meetings to organize land rental contracts in the block	11:	11:	11:	11:
11. Meetings to deal with conflict resolution within the block and the scheme	12:	12:	12:	12:
12. Organizing of joint marketing of crop produce	13:	13:	13:	13:
13. Other, specify:				

S.No.	Question: Reasons for wanting to change collective action activities	Unit	Response
N6	If you prefer that some activities that are collectively organized change to becoming the responsibility of the parcel managers alone, give your reasons for this opinion: 1=I prefer to make these decisions on my own, 2=I prefer to do these things my own way, 3=I can do better if allowed to do it my way, 4=It takes too much time to organize this collectively, 5=Collective action does not work well in my block, 6=Other, specify:	Codes	
N7	If there are more activities in your block that you think should be collectively organized but that are not, give your reasons for this opinion: 1=It is important that these activities are coordinated to better utilize the water and other resources, 2=Coordination helps save time for all members in the block, 3=Coordination leads to better land management on all parcels in the block, 4=Cooperation helps better protect the crops against damages by floods, pests, animals, 5=Other, specify:	Codes	

MODULE O: IRRIGATION GROUP PERFORMANCE (Ask parcel manager)

S.No.	Question	Unit	Response
O1	How often do members in your irrigation block have planning meetings for each season, by season?	Meetings - early dry season, Meetings – late dry season, Meetings – rainy season	
O2	Have you ever missed a meeting and had to pay a penalty? 1=Yes, 0=No.	Code	
O3	If yes, how many times have you missed a meeting over the last year and what was the total penalty amount?	Times, Amount (MK)	
O4	Have you ever been penalised for coming late for compulstory work activities related to scheme activities? 1=Yes, 0=No	Code	
O5	If yes, how many times over the last year and what was the total penalties for such late arrival?	Times, Penalty amount MK	
O6	Do you experience any illegal harvesting by outsiders in your irrigation parcel(s)?	Code	

	1=It is frequent (>1 per week), 2=It happens now and then (>1 per month), 3=It happens rarely (<1 per month), 4=It happens very rarely (<1 per year), 5=Has never happened since start of the group/scheme		
O7	What do you do to protect the land against such violations if they are a problem? 1=Continuously guarding the area (rotating the responsibility among group members), 2=Guarding the area during daytime (rotating responsibility), 3=Hired a guard to protect the area, 4=No guard is considered necessary.	Code	
O8	What do you do in case you identify individuals or animals that encroach your parcel? 1=Gives a warning and ask the violators to leave/chase away animals, 2=Allow some trespassing by people and animals, 3=Report trespassers/encroachers scheme leaders, for them to impose penalty/fine on resource thieves/animal owners, 4=Other, specify:	Code(s)	
O9	Can land owners **sell irrigation** parcels in the scheme? 1=Yes, 0=No, 2=Only sales to other members of the community are allowed.	Code	
O10	Can landowners themselves decide who they rent their irrigated land to? 1=Yes, 2=No, it must be approved by the block chairperson, 3=No, it must be approved by the landowner committee in the block, 4=They can only rent to residents in the community, 5=Other, specify:	Code	
O11	What is the maximum rental period for a tenant for a parcel within your block?	Years	
O12	Has the block experienced any conflicts since the establishment? 1=Yes, some serious disputes, 2=Yes, some less serious disputes, 0=No disputes	Code	
O13	If the block experiences the dispute (response 1 or 2 in previous question), who were involved in the dispute(s)? 1=The group versus some outsiders, 2=Some group members versus outsiders, 3=Internal dispute within the group, 4=Other, specify:	Code(s)	
O14	If there have been dispute experiences, how were these resolved (indicate in each case if more than one case)? 1=Solved among the parties themselves, 2=Resolved with help of local conflict mediators, 3=Resolved with help from local Block leader, 4=Resolved with help from Scheme officials (conflict mediation committee), 5=Outside court, 6=Unresolved, 7=Other, specify:	Code Dispute 1: Dispute 2: Dispute 3:	
O15	Are you satisfied with how disputes are resolved in the block activities? 1=Yes, 0=No	Code	
O17	If no, what is the main problem? Explain		
O18	If no, what could be done to reduce the problem? Explain		
O19	How do you rank the social relations among members in the irrigation group overall? 5=Very good, 4=Quite good, 3=Ok, 2=Not so good, 1=Very bad	Code	
O20	Is the irrigation group fractioned in polarized sub-groups that compete or do not work well together? 1=Yes, 0=No	Code	
O21	If yes, what has prompted these divisions? Explain		

O22	Is poor cooperation in the group affecting the performance of the activities? (motivation to work among members) 1=Yes, very much, 2=To some extent, 3=No, there is no such problem	Code	
O23	How would you rate the trust among group members overall? 5=Very high, 4=Quite high, 3=Ok, 2=Not so good, 1=Very poor	Code	
O24	If limited trust, what are the reasons? Explain		
O25	Does the group face problems with accessing important input markets that provide inputs for the block activity? 1=Yes, 0=No	Code	
O26	If Yes, specify the input market access problems (more than one can be given): 1=Lack of credit access, 2=Long distance to where fertilizer and seeds can be bought (Poor input market access), 3=Lack of water access (irrigation), 4=Irregular water access, 5=Lack of transport means for inputs, 6=Lack of other specific inputs, specify:	Code(s)	
O27	What are the most important/serious threats to the sustainability of the group (possibly threatening its survival. Rank by importance, Rank 1=Most important)? 1=Too low productivity of the land due to water scarcity/lack of water, 2=Poor market access for input markets, 3=Poor market access for outputs, 4=Lack of skills/training, 5=Lack of capital/credit, 6=Lack of complementary income for members, 7=Lack of motivation among group members, 8=Internal cooperation problems in group, 9=Other, specify:	Codes Rank 1: Rank 2: Rank 3: Rank 4:	
O28	How do you rate the performance of your irrigation block? 1=Very good, 2=Good, 3=Average, 4=Below average, 5=Poor performance	Code	
O29	Explain the basis for your rating:	Text	
O30	How much NET INCOME did you realize from crop production in the irrigation scheme between July 1, 2023 and July 1, 2024 production year?	MK	
O31			
O32	Do you think the group will still exist for another 10 years? 1=Yes, 0=No	Code	
O33	If No to existing for 10 years, what are the two main reasons? 1. 2.	Text	
O34	How satisfied are you with the group (block) leader(s) in your irrigation block? 1=Very good, 2=Good, 3=Average, 4=Below average, 5=Poor performance	Number	
O35	How satisfied are you with the water access in your parcel(s) within the block? 1=Very good, 2=Good, 3=Average, 4=Unreliable, 5=Poor	Code	

O36	If not satisfied, what can be done to improve management of water?	Text	
O37	How satisfied are you with the organization of group activities in your group/block? 1=Very good, 2=Good, 3=Average, 4=Below average, 5=Poor performance	Number	
O38	If scale is 1 or 2 (not satisfied), what can be done to improve the group organization?	Text	

MODULE P: HOUSEHOLD LEVEL SHOCKS AND FOOD STRESSORS (Ask Parcel Manager)

P1	P2	P3
Did your household experience any other shock apart from climatic shock in 2023/24 production season? YES .. 1 NO .. 0	What was the shock? Livestock disease … 1 Human disease outbreaks .. 2 Theft or destruction of assets … 3 Theft of livestock .. 4 Delaying food assistance … 5 Increasing food prices … 6 Increased prices of agricultural or livestock inputs …. 7 Decreased prices for agricultural or livestock products … 8 Loss of land/rental property .. 9 Unemployment for youths .. 10 Other (Specify) .. 99	How severe was the impact of shock on your household's income over the last 12 months? No impact .. 1 Slight decrease .. 2 Severe decrease .. 3 Worst ever happened .. 4 Don't know … 5 Refused .. 6

P4	P5
How severe was the impact of shock on your household's food consumption over the last 12 months? No impact .. 1 Slight decrease .. 2 Severe decrease .. 3 Worst ever happened .. 4 Don't know … 5 Refused .. 6	To what extent has your ability to meet food needs returned to the level it was before all the shocks and stressors you experienced in the last 12 months at this point in time? Ability to meet food needs will be the same as before the shock … 1 Ability to meet food needs will be better than before the shock …. 2 Ability to meet food needs will be worse than before the shock …3

P6	P7	P8
In light of the shocks and stressors you faced in the last 12	Have you ever planned to protect	What are the future plans have you implemented to mitigate the adverse effects of the shock? [MULTIPLE RESPONSES]

months, to what extent do you believe you will be able to meet your food needs in the next year? Ability to meet food needs is the same as before the shock … 1 Ability to meet food needs is better than before the shock …2 Ability to meet food needs is worse than before the shock ..3	your household from the impact of shocks in the future? YES .. 1 NO .. 0	Increased savings … 1 Put aside grains (for HH or animals) … 2 Switched to different crop(s) … 3 Switched to different livestock … 4 Added additional agricultural activity …. 5 Added additional non-agricultural activity … 6 Diversified into agricultural livelihood … 7 Diversified into non-agricultural activity .. 8 Changed from agric. to non-agric. livelihood … 9 Changed from non-agriculture to agriculture livelihood .. 10 Acquired crop insurance 13 Acquired livestock insurance … 11 Acquired other insurance (e.g., health) … 12 Relocated temporarily … 13 Relocated permanently .. 14

End of the Survey, Please Thank the Respondent, Prepare them for the experiments to come: Emphasize that they will be with the same respondents and that they can get some monetary benefits from participating in them.

CHICHEWA VERSION
SMARTEX 2024
HOUSEHOLD SURVEY
PARCEL MANAGER SURVEY INSTRUMENT

Informed consent form

Mwadzuka bwanji/ mwaswera bwanji? Dzina langa ndine _____
(Dzina la ofunsa) ndipo ndachokera ku sukulu ya ukachenjede ya za ulimi ndi zachilengedwe ku (LUANAR), Bunda College.

Kodi mufuna kutenga nawo mbali mukafukufukuyi

Experiments for Development of Climate Smart Agriculture (SMARTEX)"?

"Kafukufuku oona kupitsa patsogolo njira zamakono za ulimi monkhudzana ndi Nyengo"

Kufunika kwa Chitukukochi

Muli opephedwa kutenga nawo mbali mu kafukufuku amene akufufuza kufunika kochita bwino kwa ntchito za ulimi wanthirira, zotsatira zakusefukira kwamadzi, zochitika mu msika wa malo (kugulitsa ndi kubweleketsa) muma sikimu a ulimi wanthirira, chilolezo ndi kagwiritsidwe ntchito kwa malo ndi madzi.

Cholinga chafukufukuyi ndikudziwa ndikuzukuta zotsatira za kuchita bwino kwa ntchito za ulimi wanthirira, ngozi zogwa kamba ka kusefukira kwa madzi pa malo osamalilidwa ndi pa khomo, mlingo wa msika wa malo ogwiritsidwa ntchito mu ulimi wanthirira muma sikimu, ndi umwini wa malo ndi madzi.

Kafukufukuyi akuchitika potsatira ntchito zounikira njira zamakono zogwiritsidwa ntchito mu ulimi zomwe zikudziwika muchinjerezi kuti "Experiments for Development of Climate Smart Agriculture (SMARTEX) project" imene sukulu ya ukachenjede ya LUANAR ikupanga mogwirizana ndi Sukulu ya ukachenjede yaku Nolowe yotchedwa "Norwegian University of Life Sciences (NMBU)" ndi thandizo la chuma lochokera mu "NORHED yachiwiri".

Zina mwazo tstila za kafukufukyu zizatha kugwiritsidwa ntchito ndi omphunzitsa ku sukulu ya ukachenjede ya LUANAR.

Ndimabungwe ati omwe akutenga nawo mbali mukafukufuku wantchitoyi

Sukulu ya ukachenjede ya NMBU yaku Nolowe ndi sukulu ya ukachenjede ya LUANAR ndizomwe adzasamala zonse zomwe zitatoleledwe mukafukufukuyoi.

Mufunsidwiranji kuti mutenge nawo mbali?

Mwasankhidwa pogwiritsa ntchito mayere mu sikimu yanu ya ulimi wanthirira kuti mutenge nawo mbali ngati m'modzi mwa alimi amene akutenga nawo gawo mu ulimi wanthirira mu sikimu mwanu muno. Tikulimbikitsani kuti mupeleke mayankho amafunso molingani ndichidziwitso kapena maganizo kapenda kukonda kwanu. Mukafukufu uyu mukhalanso masewera oti mukhoza kukhala ndi mwayi opambana ndalama. Cholinga cha masewelowa ndikuti timvetsetse zisankho

zanu pa maubale osiyanasiyana, ziganizo zanu pamene mwakuma ndi chiwopsyezo kapena umo mumapangira ziganizo zokhudzana ndi kusungitsa ndikuchulukitsa ndalama. Muli ndichisankho chosankha kutenga nawo mbali, ndipo mutha kusankha kusiya kutenga nawo mbali nthawi iliyonse pamene tikucheza nanu. Komabe, tiyembekezera kuti mutenga nawo mbali mumafuso onse ngati modzi mwa anthu a musikimu, ndipo kupeleka maganizo ndi ndemanga zanu ndizofunikira pothandiza kupeleka mzeru zokhudza momwe ulimi wanthirira ungathandizidwe kuti upite patsogolo.

Kodi kutenga nawo mbali kukukhudzani mutani?

Ngati musankhe kutenga nawo mbali mu ncthito iyi, tidzacheza nanu ndipo mayankho anu tidziwalemba mu makina amakono osokhetsera mayakha otchedwa Tabuleti muchinjerezi. Kufunsa mafunsoku kudzatenga maola atatu kuti timalize, mu maulendo anthu awiri amene tikumane nanu. Mafuso akaundulayi akukhudzana ndi mafunso a pakhomo panu, ntchito za ku munda, kukhudzidwa ndi madzi osefukira, katundu ndi chuma cha pa nkhomo, ndi nkhani za malo. Masewera amene tisewere akhudzana ndi umo mungagawanilane ndalama ndi anthu ena, kukhulupilirana, kasungidwe ka chuma popita nthawi komanso pamene pali zodzamwitsa zosiyanasiyana. Mukafukufukuyi, tikufuna chucheza ndi amene ali ndi umwini opanga ziganizo za ntchito ya ulimi pa banja pano. Tikudziwa kuti opanga ziganizo akhoza kukhala oposela m'modzi pa nyumba komabe chicheza ndi munthu m'modzi kuimilira pankhomo.

Kutenga mbali ndi chisankho chanu

Simuli okakamizidwa kutenga nawo mbali. Ngati musankha kutenga nawo mbali mu kafukufuku uyu, muntha kusankha kusiya pa nthawi ina iliyonse pamene tikuchita macheza anthu posapeleka chifukwa chinachilichonse. Mayankho onse omwe mwapeleka adzakhala osamalidwa ndi osawululidwa. Sipadzakhala chotsatira chilichonse chosankhala bwino pamene inu mungapange chisankho chosatenga nawo mbali kapena kusiya panjira macheza anthu.

Zinsinsi zanu – momwe tingasungire ndikugwirisa ntchito mayankho yanu.

Mayankho amene mutipatse, tidzawagwiritsa ntchito pa zifukwa tafotokota kale ndipo mayankho okhudzana ndi zizindikiro za pakhomo panu zidzakhala zotetezedwa ndi malamulo okhudza katetezedwe kamayankho omwe atoleledwa yotchedwa data protection legislation (GDPR). Ogwira tchito ya ukafukufuku kusukulu yawukachenjede ya LUANAR adzazukuta mayankho anu ndikubisa zizindikilo za umwini wanu ndipo izi zidzasungidwa ndi kutezedwe pogwiritsa tchito pasiwedi yomwe iletsa ena kupeza mayankhowa opanda chilolezo. Wankulu wa kafukufuku yi ku LUANAR, Dr Sarah Tione, adzasunga mayankho anu ndipo zizindikiro za umwini zidzasungidwa mosiyana ndi mayankho onse okhudzana ndi kafukufukuyi. Zizindikiro zanu zidzaikidwa ngati ma nambala kapena malemba osapeleka chizindikiro chilichonse pamene tikugwiritsa ntchito mayankho anu. Mayankho anu adzagawidwa pa makina amakono osungilapo ku sukukulu ya ukachenjede ya NMBU ndi kusungidwanso ku malo osunga mayankho ku Nolowe. Dziwani kuti ntchito iyi ikutsogoleledwa ndi Pulofesa Stein Holden, amene akuyang'anira izi kuchokela ku Nolowe. Zotsatila za kafukufuku wanthu sizidzaulutsa zizndikiro zano muzolemba zonse.

Kodi chizachitike ndi chiyani pa za mayankho anu kumapeto kwa kafukufukuyu?

Ntchitoyi ikuyembekezeka kuzamalizidwa mu August 2025. Mayankho anu onse adzasungidwa ku NMBU (SIKT) komanso pa makina a seva a LUANAR pansi pa njira yotetezedwa yachinsinsi

yomwe idzafikiridwe ndi timu yakafukufuku yokha basi. Pakugawa mayankho anu kwa anthu ena amane kuti alembe za kafukufuku wawo, tizabisa ziziwitso za umwini wanu.

Mayankho odziwitsa umwini wanu adzasungidwa mosiyana, motsogoleledwa ndi Dr. Sarah Tione aku LUANAR. Izi zili chomwechi kuti pakadzafunika kulondoloza ndi kafukufuku wina kutsogoloku, tidzakhale ndi mwayi olondoloza mabanja omwe tacheza nawo.

Ufulu wanu

Malingana ngati mungadziwike pazomwe takufunsani ndikusonkhanitsizi mu kafukufukuyu, muli ndi ufulu:

- ☐ Wopeza mayankho omwe tidzasonkhanitse mukafukufuku uyu
- ☐ Wopempha kuti mayankho anu achotsedwe mukafukufuku
- ☐ Wopempha kuti mayankho olakwika anu akonzedwe
- ☐ Wolandila zomwe tasokhanitsa pa mayankho omwe mwepeleka
- ☐ Wotumiza madandaulo kwa osang'anila mayankho anu wa kusukulu ya ukachenjede ya LUANAR (Data Protection Officer).

Ndichiyani chomwe chimatipasa ufulu okonza Mayankho anu?

Tidzakonza mayankho anu malingana ndi chilolezo chanu.

Izi zikutengera mgwirizano ndi Sikt, Data Protection Services ya Sikt- Norwegian Agency for Shared Services in Education and Research, womwe idawunika kuti kukonzanso kwa mayankho anu mu kafukufukuyu kwakwaniritsa zofunika mu malamulo otetezela mayankho anu.

Kodi ndingapeze kut zambiri?

Ngati muli ndi mafunso okhuza ntchtoyi, kapena kufuna kugwiritsa ntchito ufulu wanu, funsani:
LUANAR

- Ngati muli ndi mafunso kapena ndemanga mutha kundifunsa pompano. Koma kuti munve zambiri, mutha kulumikizana ndi Sarah Tione, PhD pa 0999544664, kapena Mkulu wakafukufu (Director of Research and Outreach) ku LUANAR, Associate Polofesa Sam Katengeza pa 0888446202.
- Amene adzakhale ndi udindo yoteteza mayankho anu ndi Sarah Tione, PhD, LUANAR

NMBU:

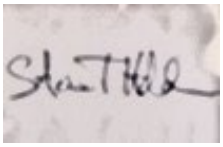
Mungathenso kulankhulana ndi mtsogolero wa kafukufukuyu;

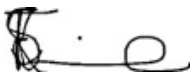
- Pulofesa Stein T. Holden, pa +47- 94970615
- komiti ya chikhalidwe ku sukulu ya Economics ndi Bizinesi,ku Nolowe:
    - Kirsti Pettersen:+47-91168060
    - Nicolay Andre Melsaeter Worren: +47-22396900

Zokhudzana ndi ufulu wani
Ngati muli ndi dandaulo linalilinso, aimbileni ndi kuwauza

- Omwe amayang'anila katetezedwe ka ziganizo zomwe tikutolerazi (Data Protection Officer) ku sukulu yaukachenjede ya NMBU a Hanne Pernille Gulbrandsen ma nambala kapena kalata ya pa internet (email) izi
    - Tel: +47 402 81 558
    - E-mail: personvernombud@nmbu.no
- Ngati pali zodandaula, zotsamwitsa ndi zokhumudwitsa zimene zikusiya ndi kugwira ntchito yakafukufuku yabwino, alembeleni Mkulu wa Sukulu ya Ekonomikisi ndi Bizinezi ku NMBU kugwiritsa ntchito kalata ya pa intaneti.
- Professor Casper Claudi Rasmussen
    - Tel. +47 901 68 120
    - E-mail: casper.claudi.rasmussen@nmbu.no
- Mukhozanso kuimbila ku:
    - Datatilsynet, Norway: +47- 22 39 69

Mayankho anu adzasungidwa motetezedwa ku sukulu ya ukachenjede ya LUANAR ndi cholinga kuti adzagwire ntchito mtsogolomu ngati padzakhale mukafukufuku wotsatila oona m'mene zinthu zikusinthira pakapita nthawi.





Pulofesa, NMBU
Mtsogoleli wa nthitoyi
(Wakafukufuku / Woyang'anira)

Sarah Tione
Wakafukufuku
Omphunzira (Ngati kulikotheka)

……..

Chilolezo chanu

Ndalandira ndikunva zonse zonkhudza kafukufukuyi okhudzana ndi *njira zamakono za ulimi monkhudzana ndi nyengo (Experiments for Development of Climate Smart Agriculture (SMARTEX))* ndipo ndapatsidwa mwai ofunsa mafuso.

Ndikuloleza.

- ☐ Kutenga nawo mbali kumafunso onkhudza panyumba ndi ntchito za ulimi
- ☐ Kutenga nawo mbali mumasewera ofufuza maganizo anu pa zachikhalidwe zokhudzana ndi umoyo ndi za chuma
- ☐ Kuti mayankho anga akasungidwe mu nkhokwe yosunga mayankho ndiku wateteza kuti akathandizire tchito yotelera mayankho okhudza zapankhomo mtsogolpomu.

Ine ndikupeleka chilolezo kuti mayankho anga akakonzedwe pofikira kumapeto kwa kafukufukuyu.

Dzina: _____

Kusindikiza:…… Date:……

(Kusayinidwa ndi otenga mbali, tsiku)

MODULE A: SURVEY INFORMATION

Date of interview: _____ Time: _____

SECTION A: SURVEY INFORMATION

To enumerator: For this registered randomly sampled plot manager/member in this block, assess whether the registered person is the most appropriate person to interview as a parcel manager. The person to interview should be the real/most important manager of the parcels owned or operated by the household of the registered member/manager. We define the most important parcel manager as the one making most of the important production decisions such as crop choice, input purchase, work organization, harvesting, marketing and participation in block collective action.

Q1. Kodi munthu olembedwayu ndi membala kapena woyang'anira malo kuyambira nyengo yotentha mu chaka cha 2024, munthu amene amapanga zisankho zofunikira kwambiri pankhomo pamembalatu?

1= Eya
0= Ayi,

the most important parcel manager is (NAME), who should be interviewed in this survey if s/he is available during our survey and experiments: _____

Enumerator Instruction: If there are more than one parcel manager in the household of the registered member, select the one with more responsibility and more knowledge and influence in production decisions.

Chizindikiro chawong'anira malo	**Dzina la woyang'anira malo**	**Sex 1=Mkazi 0=Mwamuna**	**Muli ndi dzaka zingati (years)?**	**Sukulu munafika nawo pati?**	**Kodi ndinambala iti ya foni (lamya ya m'ma nja) yomwe mumagwirits a tchito kwambiri?**	**Kodi ndinambala iti ya foni (lamya ya m'm anja) ina yomwe mumagwiritsa so tchito?**
1	Registered:					
2	Real:					

General Question	**Mayankho**
Dzina la ofunsa (code of enumerator)	
Boma	
Dzina la mudzi	
Dzina la sikimu ya ulimi wanthirira (code 1-12)	
Dzina la buloku la ulimi wanhirira	
Dzina la oyang'anira (code)	
Chizindikiro chanyumba (Number within Block)	

				HOUSEHOLD ROSTER						
Line no	**Household location**	**Household members**	**Member ID**	**Relationship to head of household**	**Sex**	**Age**	**Year of birth**	**Month of birth**	**Marital status**	**Ever attended school**
B01	**B01a**	**B02**	**B02a**	**B03**	**B04**	**B05**	**B05a**	**B05b**	**B06**	**B07**
	Malo omwe nyumba ili	Chonde ndiuzeni za anthu onse amubanja lanu omwe amakhala pankhomo pano ndi kuti ndi amuna kapena akazi. Muyambila ndi mutu wa banja. Kwalero lokha, ndifuna mundiuze za anthu okhawo omwe mumakhala nawo ndipon so kudya zophikidwa mu poto umodzi.	Give the Name a Member ID **Use two series numbers e.g 01, 02,03**	Kodi pali uubale wotani pakati pa [DZINA] ndi mutu wabanja	Kodi a [DZINA] ndi amuna kapena ak azi? Mkazi … 1 Mwamuna …. 2	Kodi [DZINA] Ali ndi zaka zingati? (in Years) [USE 00 IF THE CHILD IS LESS THAN 1 YEAR]	Kodi [DZINA] dabadwa muchaka chanji?	Kodi [Dzina] adabadwammwezi wanji	Kodi [DZINA] ali pabanja?	Lodi [DZINA] akupita kusukulu?Eya … 1 Ayi …. 2

Education level	**[if age 5-24 yrs] Currently in school**		**Occupation**	**[if age 15 or older]** **Employment**	**[if age 15 or older] Household labour**
B08	**B09**	**B10**	**B11**	**B12**	**B13**
Kodi [DZINA] anamaliza zaka zingati za sukulu?	Kodi [DZINA] akupita kusukulu mcha ka cha 2024? Eya … 1 No …. 2	Kodi [DZINA] ali mukalasi yanji (Ikani dzaka zomwe wakhala pasukulu) [CONVERT TO YEARS OF SCHOOLING]	Kodi [DZINA] amagwila ntchito yanji padakali pano?	Kodi [DZINA] wagwilako ntchito iliyo nse mu miyezi khumi ndi iwiri (12) yapitayi? READ DEFINITION OF WORK Eya …. 1 Ayi ….. 2	Kodi [DZINA] agwilako ntchito iliyons e yothandizila pakhomo m'miyezi nkhumi ndi i wiri (12) yapitayi (kuphatikiza ntchito yakumun da ndi zapakhomo)Eya …. 1 Ayi ….. 2

HOUSEHOLD SECTION

MODULE B: HOUSEHOLD CHARACTERISTICS

CODES

CODES FOR B03: RELATIONSHIP TO HEAD OF HOUSEHOLD	CODES FOR B06: MARITAL STATUS	DEFINITION OF WORK (B11): Work includes jobs in the formal and informal sector, full time, part time or seasonal that is done or outside the home.	CODES FOR B11: OCCUPATION	CODES FOR B05b: Month of birth
01=Mwini nkhom	01=Sanakwatirepo		01=Mwanaw asukulu	1=January
02= Amayi kapena abambo apanyumba	02= Anakwatira/ kukwatiwa ndipo akukhala limodzi		02= Mlimi	2-February
03=Mwana wamkazi kapena wamwamuna	03= Banja linatha/ Anasiyana		03= Ntchito yozilemba ekha	3=March
04= Mulamju	04= Amayi osiyidwa		04= Ntchito yolenbedwa motsatira ndondomeko	4-April
05=Chidzukulu			05= Ntchito yolembedwa yosatsatira ndondomeko	5-May
06=Nkholo			06= Kuyendetsa geni/ bizinesi	6=June
07=Apongozi			07=Zina	7=July
08= Mchimwene kapena Mchemwali				8=August
09= Achibale ena				9=September
10= Palibe ubale				10=October
999= Sindikudziwa				11-November
				12=December
				13=Sindikudziwa

Line No	[if age 15 or older] Household work	[if age 15 or older] Irrigation work	[if age 15 or older] Non-farming irrigation scheme work	[if age 15 or older] Employment	[if age 15 or older] Apprenticeship	[if age 15 or order] Casual, part- time or *ganyu* labour	[if age 15 or older] Small business	[if age 15 or older] Small business
B01	**B14**	**B15**	**B16**	**B17**	**B18**	**B19**	**B20**	**B21**
	Kodi ndimitundu yanji ya ntchito yomwe [DZINA] wakhala akugwira kawirikawiri? CODE	M'masiku asanu ndi awiri (7) apitawa mwa gwirako ntchito zokhudza ulimi wanthirira kwa masiku angati? NUMBER	M'masiku asanu ndi awiri (7) apitawa mwa gwirako ntchito zosakhudza ulimi wanthirira m usikimu yanu kwamasiku angati? NUMBER	M'miyezi nkhumi ndi iwiri (12) yapitayi, mu nagwirapo ntchito yolipidwa, kapena ya malipir o okhazikika, kapena malipiro ena aliwonse: ku phatikizapo maphunziro olipidwa, ntchito zapa khomo kapena	M'miyezi 12 yapitayi, munaphunzirapo ntc hito poyigwira ntchitoyo koma osalandira mali piro kwa aliyense amene si wa m'banja mwanu, ngakhale kwa ola limodzi lokha? EYA ..... 1 NO 0	M'miyezi 12 yapitayi, munagwirapo ntchit owamba kapena ganyu, ngakhale kwa ola limo dzi lokha? EYA ..... 1 NO 0	M'miyezi 12 yapitayi, munachitapo bizinesi iliyonse yaying'ono? EYA ..... 1 Ayi 0	Ngati eya, inali bizinesi ya ntundu wanji? Kugulitsa zokolola mu ulimi.1 Kugulitsa zinthu zamunkhalango.2 Kugulitsa zinthu zimene siziri zakumunda.3 Zina (Tchulani).99

				ntchito zapamunda zolipidwa, osaphatikizapo ganyu, ngakhale kwa ola limod zi lokha? EYA ..... 1 Ayi 0	EYA ..... 1 Ayi 0			

CODES FOR B14: OCCUPATION
01=Ulimi odalira mvula
02= Ulimi wanthirira
03= Ntchito zosakhudza sikimuya ulimi wanthirira
04= Kutolera nkhuni
05= Kusaka madzi
06= Kukonza myumba
07= Kuyang'anira ana
08= Kuyang'anira ziweto
09=Kuyendetsa bizinesi yabanja
10= Zina, Tchulani.

MODULE C. DURABLE GOODS AND HOUSEHOLD ASSETS

ITEM	C1. Kodi muli ndi [Dzina lakatundu] kufikira July 20 24? 0= Ayi → Funsani zakatundu wina 1=Eya	D23. Kodi [Dzina lakatundu] zilipo/mulinazo zochulu ka bwanji kufikira mu July 2024?	C2. Kodi mutafuna kugulitsa chimodzi mwa [Dzina lakatundu] mungagulitse ndalama zingati? (ng ati zambiri tchulani mtengo wapakatikati) MwK IF MORE THAN ONE, AVERAGE VALUE. (MK)
DURABLE GOODS			
Mtondo/ musi			
Bed or matress			
Tebulo			
Mpando			
Fan			
Air conditioner			
Wayilesi			
Radio with flash drive/ micro cd			
Wailesi ya kanema			
foni yam'manja			

Makina osokera			
Chophikira chogwiritsa tchito palafini			
Chophikira chogwiritsa tchito magetsi			
Filigi			
Makina ochapira zovala			
Njinga yakapalasa			
Njinga yamoto			
Galimoto			
Minbus			
Lore			
Mbiya yofululira mowa (Kachasu)			
Mipando yasofa			
cup board / drawer			
Shelefu yoyikapo makapu			
Nyale yogwiritsa tchito palafin			
Desiki			
Wotchi yapa khoma kapena pankono			
Simbi (iron yositira)			
Komputa ndi zipangizo zina zothandizira			
Solar panel			
Generator			
Ketulo yowiritsira madzi kugwiritsa ntchito magetsi			
IMPLEMENTS			
Khasu			
Chitchetcho			
Nkhwanga			
Sprayer			
Chikwanje			
Chikwakwa / Chisikilo			
Treadle pump			
Khasu			
MACHINERY			
Ngolo			
Ngolo yolimira			
Trakitale			
Trakitale yolimira			
Ridger			
Cultivator			
Motorized pump			
Chigayo			
Zina			

STRUCTURES/BUILDINGS			
Khola la nkhuku			
Khola la ziweto			
Khola la mbalame zoweta			
Nyumba yosungira katundu			
Khola la nkhuku			
LIVESTOCK			
Nkhunda			
Nkhuku			
Bakha			
Nkhumba			
Mbuzi			
Nkhosa			
Ng'ombe			
Bulu			

AGRICULTURE SECTION

MODULE E: LAND OWNERSHIP AND LAND RENTING: Parcel-level information

E0. Does anyone in the household use or own or hold any agricultural land (Eya …..1, No ….. 2)

E0	E0	E1	E1a	E2	E3	E3a	E4	E5
Parcel manager ID	Kodi alipo mnyumba mwanu yemwe amagwiritsa kapena ali ndi malo opangirapo ulimi? 1=Eya 0=Ayi	Lembani malo onse ogwilitsidwa ntchito ulimi [PARCELS] kuphatikiza malo onse a mwini nyumba/ oyang'anira (malo oyendetsedwa ndi eni ake ndi obwereketsa kwa ena), amthirira ndi odalira mvula kuwonjezelanso obwelekedwa? **PARCEL ID** **(Start with the irrigated parcel within the irrigation scheme (ID 11)– basis for being sampled), other irrigated parcels (owned or rented) (ID 12 etc), then rainfed parcels (ID 21 etc)**	Onetsani umwini wa malo [MALO] k omaso ngati abweleketsedwa munyengo yachil imwe (April - August) 2024 1=Cultivated by parcel manager 2=Rented out 3=Rented in 4=Fallow	Kodi munda "Malo] umenewu uli kuti? 1 Mkati mwa buloku ya ulimi wathirira 2 Mumabuloku ena awulimi wathirira 3 Kunja kwasikimu yawulimi wanthirira	Onetsani kuchuluka kwa mtunda kupita kumalo [munda] kuchokera kunyumba yayemwe amapanga ziganizo zapamundapa? (km)	EKodi zimakutengerani mphindi zingati kufika ku [munda]	Kodi malo awa [munda] munawapeza bwanji? 1 Kupatsidwa ndi akuluakuluamudzi 2 Kusiyilidwa 3 Chiwongo 4 Kugulidwa 5 Kubwereketsedwa 6 Kubwereketsedwa mwa ulele 7 Kungofikapo opanda chilolezo 8 Zina	Kodi malowa [munda] ali pansi pa dongosolo liti la zamalo? 1 Malo olamulidwa ndimafumu 2 Malo aumwini pakhomo lamunthu 3 Malo a lizi 4 Malo aboma 5 Malo amudzi kapena gulu 6 Malo a kopaletivi 7 zina
		11						

E1	E6	E7	E8	E9	E10	E11	E12
Kodi alipo mnyumba mwanu yemwe amagwiritsa kapena ali ndi malo opangirapo ulimi? 1=Eya 0=Ayi **PARCEL ID (same as above)**	Malo [munda] omwe nyumba yani ili nawo, ndindani mnyumba mwanu emwe ali mwini wa [munda] Indicate the member Name and ID code recorded in B02a (e.g, if the husband was listed as 01, then indicate name and ID 01)	Kodi alipo mnyumba mwanu yemwe amagwiritsa kapena ali ndi malo opangirapo ulimi? 1=Eya 0=Ayi	Ngati eya, munachipeza mu chaka chiti? Chaka	Kodi padakali pano banja lanu lili ndi chikalata chili chonse chotsimikizira kuti muli ndi umwini wa malowa? 1=Eya 0=No	Ngati eya, munachipeza mu chaka chiti? Chaka	Ndindani mukuyembekezela kuti angadzasiyilidwe malo amenewa [munda] Mwana wamwamuna kapena wamkazi oyamba kubadwa ..1 Mwana wamwamuna oyamba kubadwa .. 2 Mwana wankazi oyamba kubadwa ..3 Kugawira ana onse ..4 Nsuweni wamwamuna kapena wamkwazi ochokera kuchimuna ..5 Nsuweni wamwamuna kapena wamkwazi ochokera kuchikazi ..6 Achibale ena .. 7 Sindinaganizepo ..8 Zina ..9	Kodi pali aliyense m'nyumba mwanu ali ndi ufulu kugulitsa malowa awa [munda] (Malo okhawo omwe ali pabanja panu) Eya ..1 Ayi ..2

E1	E13	E14	E15	E16	E17	E17b
List all rented in and rented out [PARCELS] including cultivated under irrigation, cultivated under rainfed, or dimba, **PARCEL ID**	Ndi nthawi yayitali bwanji yomwe mumabweleka kapena kubweleketse malo awa [munda] Nyengo imodzi ..1 Nyengo ziwiri zachilimwe ..1 Chaka chimodzi ..3 Dzaka ziwiri ..4 Dzaka zitatu .. 5 Dzaka zinayi .. 6 Dzaka zisanu .. 7 Malo obwelekedwa pokhapokha wina atathetsa gwilizano ..8	Pagwirizano watchulidwa mwambamu, kodi ndi mtengo wanji omwe umapelekedwa pobweleka kapena kubweleketsaku malowa [munda]	Ndi ndalama zingati zomwe zimapelekedwa kawirikawiri kumalo [munda] pa nyengoiliyonse? (MwK)	E16. Ndani amasankha mtengo waobwereketsa malowa [munda] Pagwirizano wa mwini malondi obwereka ..1 Chisankho chopangidwa ndicomiti yamalo ..2 Chisankho chopangidwa ndiatsogoleri a buloki ya ulimiwathirira ..3 Chisankho chopangidwa ndiatsogoleri a sikimu ya ulimuwathirira ..4	E17. Kodi muli ndi mgwirizano wamtundu wanjiwobwereketsa malowa [munda] Gwirizano wapakamwa pobwereketsa malo .. 1 Gwirizano wapakamwa okhala ndi mboni .. 2 Gwirizano wolembedwa ..3 Gwirizani wolembedwa okhalo ndi mboni ..4 Gwirizano olembedwa muma buku ndikusungidwa ndi comiti ya malo .. 5 Gwirizano wolembedwa ndikudziwitsa wankulu wapampando wa buloku ya ulimi wathirira ..6 Zina ..7	E17b. Njira zogwiritsa ntchito posankha obweleka malo: (Njira zitatu zofunika kwambiri) Achibale a mwini .. 1 A neba omwe mukuwadziwa ..2 Munthu okhulupilika ..3 Mlimi wabwino ..4 Okhala m'mudzi ..5 Ovomelezedwa ndi akulu apampando a buloku ya ulimiwathirira ..6 Ovomelezedwa ndi mwini komiti ya malo (mwini) ..7 Kupeleka mntengo wabwino kwa malo ..8 Palibepo pandandanda ..9

E1	E18	E19	E20	E21	E22	E23	E24
List all [PARCELS] including cultivated under in the irrigation scheme, outside the scheme, owned and rented in and out **PARCEL ID**	E18. Kodi mudakhalapo ndi mikangano kapenakusagwirizana kulikonse kokhudzana ndi umwini wa malowa [munda] Eya ..1 Ayi ..2	Ngati eya, ndindani adayambitsa mkangan owu kapena kusagwirizana? Abambo .. 1 Amayi ..2 Ana..3 Achibale..4 Neba..5 Atsogoleri a m'mudzi..6 Zina..7	Kodi mudakhalapo ndi mikangano kapenakusagwirizana kulikonse kokhudzana ndi kagwiritsidwe ntchito ka malowa [munda]? Eya ..1 Ayi..2	Ndani adayambitsa mikangano kapena kusagwirizanaku? Abambo .. 1 Amayi ..2 Ana ..3 Achibale ..4 Maneba ..5 Atsogoleri am'mudzi..6 Zina..7	Ndani adathetsa mkangano kapena kusamvana kwachitika posachedwa konkhudza mal owa [munda] Palibepo nkangano ..1 Nkangano siwunathetsedwe ..2 M'tsogoleri wa buloku ya ulimi wathirira ..3 Mfumu ya m'mudzi ..4 Maneba ..5 Komiti yoyanjanitsa anthu pakakhala mikangano ..6 Bwalo lamilandu ya m'mudzi ..7 Bwalo lamilandi la boma ..8 Kuthetsedwa pakati pa mamembala...9 Zina ..10	Ngati mungagulitse malowa [munda],(malo omwe ali anu), ndindalama zochepetsetsa bwanji zomwe mungagulitsire malowa?? MK	E24. Ngati mungabwereketse malowa [munda] mu nyengo imodzi yawulima, ndindalam zochepetsetsa bwanji zomwe mungabweleketsere malowa? MK

E1	E25	E26	E27	E28	E29	E29_b.	E29c.
List all [PARCELS] including cultivated under rainfed, cultivated under irrigation or dimba, rented out and homestead? **PARCEL ID**	Kodi munganene bwanji za kuchuluka kwachonde kapena zokololedwa pa malowa [munda]? Chochepa kwambiri ..1 Chochepa ..2 Mwapakatikati..3 Chochuluka..4 Chochuluka kwambiri..5	Pa malo "%rostertitle%" omwe ali anu, mwawona kusintha kotani kuchonde ndikachuluki dwe kazokolola mudzaka zisanu kapena nkhumi zapitazi? Sindikudziwa .. 1 Kwatsika kwambiri ..2 Kwatsika ..3 Palibe kusitha kulikonse ..4 Chawonjezereka..5 Chawonjezereka kwambiri kwmabiri.6	Ngati chonde/zokolola za malowa zasintha padzaka 5-10 zapitazi, mukuganiza kuti zifukwa zazikuluzikulu ndi ziti zopangitsa kusinthaku? Kusitha kwa kapezedwe kamadzi ..1 Kukokoloka kwa nthaka ..2 Kumera kwa tchile ..3 Mavuto atidzilombo ..4	Kodi ndi njira ziti zamthirira zomwe mumagwilitsa kunthirira mbewu zapa malo awa [munda]? Makhwawa amadzi (GravityCanals) ..1 Watering cane..2 Hose pipe..3 Sprinkler..4 Nthirira wa m'dothera..5 Zina..6 Palibe..7	Kodi ndikuti komwe mumadalira kupezamadzi anthirira apamalowa [munda]? Chitsime M'jigo Nyanja, dziwe Mtsinje, khwawa Mvura ZIna	Kodi pali m'ntunda wawutali bwanji kuchokera komwe mumapeza madzi anthirira kufikira kumundawu [munda]? (Kilometer)	Kodi pali mphindi zingati zomwe mungayende kukafika komwe mumapeza madzi kuchokera ku malo awa [munda]?

			Kugwiritsa tchito fetereza ..5 Kugwiritsa tchito manyowa..6 Kugwiritsa tchito mankhwala atidzilombo .. 7 Zina..8 Palibe..9				

PARCEL LEVEL CLIMATIC SHOCK

Enumerator instruction: Ask the Parcel Manager about the parcel level shock effect for the past three years, which are 2023/24, 2022/23 and 2021/22 production seasons in that order. Use July 1, as the cutoff point between production years (based on the timing of our survey, or the break between the early dry cropping season and the late dry (cropping) season to be consistent. The effects on infrastructure is related to water intake point and distribution canals connected to the parcel and water supply across the seasons for the irrigated parcels.

July 1, 2023 to July 1, 2024 chaka cholima

E1	E30	E31	E32	E33	E34	E35	E35a
List all [PARCELS] cultivated [IN] and [OUTSIDE] the irrigation scheme. **PARCEL ID**	Mu zaka zitatu zapitazi, kodi mudakumanapo ndi zovuta zanyengo pa malowa [July 2023 to June 2024] chaka cholima? EYA …. 1 NO ….. 0	Kodi mudakumanako ndi ngozi zogwa mw azidzidzi mu [July 2023 to June 2024] chaka cholima? EYA …. 1 NO ….. 2	Idali ngozi yanji mu [July 2023 to June 2024] chaka cholima? Mvula yosatha / Kusefukira kwamadzi..1 Ng'amba ..2 Chilala ..3	Kodi mbewu zanu zidawonongeka kwa mlingo wochuluka bwanji mu [July 2023 to June 2024] chaka cholima? Palibe ..1 Kuchepera 20% ..2 20% - 50%..3 50% - 90%..4 Kupyolera 90% ..5	Kodi ngoziyi yogwa mwazidzidzi idakhudza bwanji kabweredwe kamadzi ku malowa kuy ambira nthawi yomwe munali nkukhudzidwa komaso ngoziyi itatha mu %rostertitle% itatha Palibe ..0 Kabweredwe kamadzi kadatsika..1 Kusefukira kwamadzi ..2 Kusefukira kwamadzi kudayambilira, kenako kutsika kwa madzi obwera pamundapa..3 Kuwonongeka ndi miyala ndi mnchenga obwera ndikusefukira kwa madzi..4 Kukokoloka kwa nthaka ya chonde..5 Zina..6	Ngati ngozi zogwa mwadzizidzi zidakhudza njira za nthirira/ kapena zobweretsa madzi kumalowa, onetsani momwe zidakhudzira kabweredwe kamadzi pamalowa pano ndi mtsogolo Njira zobweretsa madzi zinawonongeka komano zinakonzedwa ndi eni ake asikimu ndipo kabweredwe kamadzisikanasokonezedwe kwenikweni pa malowa ..1 Njira zobweretsa madzi zina wonongeka kwambiri ndiposizinakonzedwe zonse bwinobwino ndi eni sikimu, kuonongekaku kunachepetsa kuchuluka kwa madzi omwe amabwera pamalowa..2 Kunali chiwonongeko chachikulu ndipo eni sikimuyi anakanika kukonza mowonongekamu, pano malowa amalandira madzi ochepa kwambiri ..3 Palibe kukhudzika kulikonse ..4	Ngati zovutazi zinakhudza njira zamthirira ndichiani kwenikweni chomwe eni sikimu anachita kuonetsetsa kuti akonze monse munawonongeka?

July 1, 2022 to July 1, 2023 chaka cholima

E1	E30	E36	E37	E38	E39	E40	E41
List all [PARCELS] cultivated [IN] and [OUTSIDE] the irrigation scheme. **PARCEL ID**	Mu zaka zitatu zapitazi, kodi mudakumanapo ndi zovuta zanyengo pa malowa [July 2022 to June 2023] chaka cholima? EYA …. 1 NO ….. 0	Kodi mudakumanako ndi ngozi zogwa mw azidzidzi mu [July 2022 to June 2023] chaka cholima? EYA …. 1 NO ….. 2	Idali ngozi yanji mu [July 2022 to June 2023] chaka cholima? Mvula yosatha / Kusefukira kwamadzi..1 Ng'amba ..2 Chilala ..3	Kodi mbewu zanu zidawonongeka kwa mlingo wochuluka bwanji mu [July 2022 to June 2023] chaka cholima? Palibe ..1 Kuchepera 20% ..2 20% - 50%..3 50% - 90%..4 Kupyolera 90% ..5	Kodi ngoziyi yogwa mwazidzidzi idakhudza bwanji kabweredwe kamadzi ku malowa kuy ambira nthawi yomwe munali nkukhudzidwa komaso ngoziyi itatha mu %rostertitle% itatha Palibe ..0 Kabweredwe kamadzi kadatsika..1 Kusefukira kwamadzi ..2 Kusefukira kwamadzi kudayambilira, kenako kutsika kwa madzi obwera pamundapa..3 Kuwonongeka ndi miyala ndi mnchenga obwera ndikusefukira kwa madzi..4 Kukokoloka kwa nthaka ya chonde..5 Zina..6	Ngati ngozi zogwa mwadzizidzi zidakhudza njira za nthirira/ kapena zobweretsa madzi kumalowa, onetsani momwe zidakhudzira kabweredwe kamadzi pamalowa pano ndi mtsogolo Njira zobweretsa madzi zinawonongeka komano zinakonzedwa ndi eni ake asikimu ndipo kabweredwe kamadzisikanasokonezedwe kwenikweni pa malowa ..1 Njira zobweretsa madzi zina wonongeka kwambiri ndiposizinakonzedwe zonse bwinobwino ndi eni sikimu, kuonongekaku kunachepetsa kuchuluka kwa madzi omwe amabwera pamalowa..2 Kunali chiwonongeko chachikulu ndipo eni sikimuyi anakanika kukonza mowonongekamu, pano malowa amalandira madzi ochepa kwambiri ..3 Palibe kukhudzika kulikonse ..4	Ngati zovutazi zinakhudza njira zamthirira ndichiani kwenikweni chomwe eni sikimu anachita kuonetsetsa kuti akonze monse munawonongeka?

July 1, 2021 to July 1, 2022 chaka cholima

E1	E30	E42	E42	E43	E44	E45	E46
List all [PARCELS] cultivated [IN] and [OUTSIDE] the irrigation scheme. **PARCEL ID**	Mu zaka zitatu zapitazi, kodi mudakumanapo ndi zovuta zanyengo pa malowa [July 2021 to June 2022] chaka cholima? EYA …. 1 NO ….. 0	Kodi mudakumanako ndi ngozi zogwa mw azidzidzi mu [July 2021 to June 2022] chaka cholima? EYA …. 1 NO ….. 2	Idali ngozi yanji mu [July 2021 to June 2022] chaka cholima? Mvula yosatha / Kusefukira kwamadzi..1 Ng'amba ..2 Chilala ..3	Kodi mbewu zanu zidawonongeka kwa mlingo wochuluka bwanji mu [July 2021 to June 2022] chaka cholima? Palibe ..1 Kuchepera 20% ..2 20% - 50%..3 50% - 90%..4 Kupyolera 90% ..5	Kodi ngoziyi yogwa mwazidzidzi idakhudza bwanji kabweredwe kamadzi ku malowa kuy ambira nthawi yomwe munali nkukhudzidwa komaso ngoziyi itatha mu %rostertitle% itatha Palibe ..0 Kabweredwe kamadzi kadatsika..1 Kusefukira kwamadzi ..2 Kusefukira kwamadzi kudayambilira, kenako kutsika kwa madzi obwera pamundapa..3 Kuwonongeka ndi miyala ndi mnchenga obwera ndikusefukira kwa madzi..4 Kukokoloka kwa nthaka ya chonde..5 Zina..6	Ngati ngozi zogwa mwadzizidzi zidakhudza njira za nthirira/ kapena zobweretsa madzi kumalowa, onetsani momwe zidakhudzira kabweredwe kamadzi pamalowa pano ndi mtsogolo Njira zobweretsa madzi zinawonongeka komano zinakonzedwa ndi eni ake asikimu ndipo kabweredwe kamadzisikanasokonezedwe kwenikweni pa malowa ..1 Njira zobweretsa madzi zina wonongeka kwambiri ndiposizinakonzedwe zonse bwinobwino ndi eni sikimu, kuonongekaku kunachepetsa kuchuluka kwa madzi omwe amabwera pamalowa..2 Kunali chiwonongeko chachikulu ndipo eni sikimuyi anakanika kukonza mowonongekamu, pano malowa amalandira madzi ochepa kwambiri ..3 Palibe kukhudzika kulikonse ..4	Ngati zovutazi zinakhudza njira zamthirira ndichiani kwenikweni chomwe eni sikimu anachita kuonetsetsa kuti akonze monse munawonongeka?

SHOCK COMPENSATION AND MITIGATION

E1	E46	E47	E48		E49
List all [PARCELS] cultivated [IN] and [OUTSIDE] the irrigation scheme. **PARCEL ID**	Munalandirako chipepeso/ chithandizo mutakhudzidwa pa ngozi zogwa mwazidzidzi muzaka zitatu zapitazi [munda]? EYA …. 1 NO ….. 0	Ngati eya, munalandila kuchokela kwandani? Boma .. 1 Mabungwe kapena Mabungwe atchito zachifundo ..2 Maneba ..3 Zina ..4	Chinali chithandiza chotani? Ndalama ... 1 Zinthu zina/ Zipangizo (osatindalama) ..2 Sikimu inathandizidwa pomanganso monse munawononge ka .. 3		Pa banja lanu, ndi njira ziti zomwe mukug wiritsa ntchito kuti muchepetse zotsatila za ng ozi zogwa mwazidzidzi pamalowa [munda]? Mgwirizano pakati pamamembala amu buloku pokonza malo owononge ka ..1 Mgwirizano pakati pama membala asikimu pokonza njira zobweretsa madzi zomwe zawononge ka ..2 Kutolera ndalama zoti zithandizire kukonza malo owononjeka ..3 Zina ..4
			Type	Amount (MK)	

MODULE M: LAND DISPOSAL

M0. Kodi banja lanu, lagulitsa, kupereka, kapena kuluza malowa pazaka zisanu zapitazi? (EYA …. 1, NO ….. 2)

M1	M2	M3	M4	M5		M6
PARCEL ID Ndipempha kuti mutchule zonse mwagulitsa, mwapeleka, komanso kubweleketsa	What kind of land was this [PARCEL] Agricultural land under rainy farming …. 1 Agricultural land under irrigation farming … 2 Fallow land … 3 Forest land … 4 Grazing land … 5 Other (specify) … 99	Kodi malowa adali otani [munda]? Munda ya ulimi odalira mvula ..1 Munda ya ulimi wanthirira ..2 Munda wa ulimi wanthirira ..3 komaso odlira mvura ..4 Malo ongokhala ..5 Malo ankhalango ..6 Malo odyetsera ziweto ..7 Zina ..8	M4. Ndichaka chiti banja lanu linasiyana ndi malowa [munda]? Chaka	Kodi malowa anali akulu bwanji Kodi malowa anali akulu bwanji [munda]? [***Farmer own estimate***] Acre … 1 Hectare … 2 Square Meters … 3		Ngati munagulitsa [munda], munagulitsa ndalama zingati?? MK
				Area	Unit	
L01						
L02						

MODULE F: PARCEL -SEASON-PLOT IN IRRIGATION SCHEME AND OUTSIDE

Enumerator instruction: Ask these questions on [PARCELS] within the scheme as reported in question E22 for each of the production seasons indicated in E25. Capture the Season ID and Parcel ID

A parcel is defined as a continuous piece of land that is owned or rented by a parcel manager. A plot is an area within a parcel that has a uniform cropping pattern and management. A plot must be continuous and should not be split by a path of more than one metre in width. Plot boundaries are defined according to the crops grown and the operator. An irrigated parcel may be planted one, two or three times per year. An irrigated parcel is therefore subdivided in three seasons: Season 1=Early dry season 2024(current), 2=Rainfed season 2023-24, 3=Late dry season 2023. The structure of plots within parcels within seasons may vary across seasons within parcels. The appropriate order is therefore parcel-season-plot-plot details. The plot structure therefore needs to be established by season within parcels for each irrigated plot. An important first step in identification of the cropping pattern on irrigated parcels is therefore to map each parcel by activity (land management) by season and plot with unique land management. We aim to collect detailed input and output data for the last year (up to three production seasons: (1=Early dry season 2024, 2=Rainy season 2023-24, 3=Late dry season 2023). Map the irrigated parcels within the irrigation scheme by season and plot first, then the rainfed/outside the scheme parcels of the parcel manager afterwards.

PARCEL, SEASON AND PLOT LEVEL DETAILS

E0	**E1**	**F1**	**F2**	**F3**	**F3b**	**F3c**	**F3d**	**F3e**	**F5**	**F6**	**F7**
Parcel Manager ID (unique ID within block)	**PARCEL ID Irrigated (inside scheme):** 11, 12, 13, **etc, Outside scheme (Irrigated and Rainfed):** 21, 22, 23, etc.	**Ndinyengo ziti zomwe malo awa [munda] anagwiritsidwa tchito?)** Nyengo yachilimwe (April - August) 2024 ...1 Nyengo ya Dzinja (December - March) 2023-24...2 Nyengo yotetha (September-November) 2023..3	**Komwe puloti ali (within season)**	**Kodi malowa ndi akulu bwanji puloti? (acres)** **Parcel area, square meters** (gwiritsani ntchito GPS kuona kukula kwa malo)	Is this Parcel under irrigation scheme **1=Eya** **0=No**	**Kodi munda unayezedwa?** **1=Eya** **0=No**	**Ngatito ayi, chifukwa chani?**	**Kuluka kwa puloti pa munda** **Square meters** (gwiritsani ntchito tape measure kuona kukula kwa malo)	**Mbewu yayikulu** Palibe mbewu ..0 Chimanga ..1 Mpunga..2 Nyemba..3 Mbatata..4 Zina..5	**Mtundu wawukulu wachimanga kapena mpunga LIST (codes)**	**Gwero la mbewu** Mwini ..1 Kugula kunsika..2 Kugula ndimakuponi..3 Kugula pangongole..4 Kugayilidwa..5

E0	E1	F1	F8	F9	F9a	F10	F10a		F11	F12
Parcel Manager ID (unique ID within block)	**PARCEL ID Irrigated (inside scheme):** 11, 12, 13, **etc, Outside scheme (Irrigated and Rainfed):** 21, 22, 23, etc.	**Season ID (1-3)**	**Mtengo wogulira mbewu, MwK**	**Kodi mumapanga ulimi wosakaniza mbewu?** **1=Eya 0=No**	**Tchulani mbewu zomwe mumalima (zonse zofunika zitatu) mu %rostertitle%** **Chimanga ..1 Nyemba ..2 Mbatata..3 Tomato ..4 Mbewu zina zamasamba..5 Zina ..6**	**Mudathira fetereza? Eya..1 Ayi..0**	**Kodi mudathira fetereza ochuluka bwanji mu [puloti]?** **Kg/plot** Unit of fertelizer applied Kgs ..1 50kg bag..2 90kg bag..3 Pail (medium)..4 Pail (large)..5		**Tchulani mitundu ya fetereza yemwe mudathira pa (codes)** **23:21:0 + 4S (Chitowe) ..1 DAP ..2 CAN ..3 UREA ..4 D Compound..5 Zina ..6**	**Kodi feterezayi mudamugulandi ndalama zochuluka bwanji? MwK**
							Kuchuluka	**Mulingo**		

The same format can be used for all parcels operated (irrigated and rainfed) by the parcel manager. This unique structure of parcels-seasons-plots is therefore retained for the parcel manager for the recording of all input use and output on the parcels by season and plot. For rainfed parcels we only have one season.

Continuation of Table above: Should have the same unique structure into parcels, seasons, and plots as above

E0	E1	F1	F13a	F13	F14	F15	F15a	F16	F17	F18	F19	F20	F21	F22
Parcel Manager ID (unique ID within block)	**PARCEL ID Irrigated:** 11, 12, 13, **etc, Rainfed:** 21, 22, 23, etc.	**Season ID (1-3)**	**Did Kodi mudalembako anthu ogwira ntchito pa [munda]?** **1=Eya 0=No**	**Kodi mudalemba anthu ntchito kwamasiku angati pa [munda]**	**Kodi mudagwiritsa ntchito ndalama zochuluka bwanji polipira anthuwa? MwK**	**Kodi mudagwiritsa ntchito mankhwala akumunda?** **1=Eya 0=No**	**Mudathira kangati mankhwala akumunda dawa pa [munda]?**	**Tchulani mitundu yamankhwala omwe mudathira pa [munda]** Mankhwala ophera tidzilombo ..1	**Kodi mudagwiritsa ntchito ndalama zochuluka bwanji pogula mankhwala akumunda omwe mudathira pa**	**Kodi mudathira manyowa pa [munda]?** **1=Eya, 0=No**	**Ndi mtundu wanji wamanyowa omwe mudanthira pa [munda]?** **Compost**	**Mudathira manyowa ochuluka bwanji pa [munda]?**	**Unit/mlingo oyezera manyowa** Kgs ...1 50kg bag ..2 90kg bag ..3	**Kodi mudagwiritsa ntchito ndalama zochuluka bwanji kumanyowa omwe mudathira apa?** **MwK**

								Mankhwala ophera udzu ..2 Mankhwala othana ndimatenda a mbewu..3 Mankhwala ophera anankafumbwe..4 **Zina...5**	**[munda] MwK**		**manure ..1 Animal manure ..2 Mbeya manure ..3 manure, 4=**		Pail (medium) ..4 Pail (large) ..5 Ngolo. .6	

Continuation of Table above: Should have the same unique structure into parcels, seasons, and plots as above

E0	E1	F1	F2	F23	F24	F25	F26	F27	F28	F29	F30	F31
Parcel Manager ID (unique ID within block)	**PARCEL ID Irrigated:** 11, 12, 13, **etc, Rainfed:** 21, 22, 23, etc.	**Season ID (1-3)**	**Plot ID (within season)**	**Kodi mudakolora zochuluka bwanji pamundapa (Kg/plot) (main crop)** Kg/plot Kuchuluka (amount) Mulingo (unit) Kgs ...1 50kg bag ..2 90kg bag ..3 Pail (medium) ..4 Pail (large)..5	**Crop output, intercrop 1, kg/plot** Kuchuluka (amount) Mulingo (unit) Kgs ...1 50kg bag ..2 90kg bag ..3 Pail (medium) ..4 Pail (large)..5	**Crop output, intercrop 2, kg/plot** Kuchuluka (amount) Mulingo (unit) Kgs ...1 50kg bag ..2 90kg bag ..3 Pail (medium) ..4 Pail (large)..5	**Crop output, intercrop 3, kg/plot** Kuchuluka (amount) Mulingo (unit) Kgs ...1 50kg bag ..2 90kg bag ..3 Pail (medium) ..4 Pail (large)..5	Kodi malo omwe adakolored wa dali ochepa kuposa omwe adadzalidwa? 1=Eya, 0=No	Ndigawoliti la puloti lomwe mudakolora <25% ..1 25% - 50% ..2 50% - 75% ..3 75% - 99% ..4	Mchifukwa chiyani malo omwe adakololed wa adali ochepa kuposa omwe adazalidwa ? Ng'amba ..1 Moto ..2 Tidzilombo ..3 Ziweto ..4 Kubedwa kwa mbewu ..5 Matenda ..6 Kuwononge ka kamba kwaku sefukira kwa madzi ..7	Kodi ndi mlingo wochuluka bwanji omwemumawona kuti ndiwokhutitsidwa kuzokololazambewu yayikulu pa puloti iyi munyengoyi? (kg/plot) (ndikabweredwe kamadzi mwapakatikati)	Kodi zokolola zidatsika ndi mlingo (percentage) wanji pa puloti iyi kutsatira kusefukira kwa madzi muzaka zitatu zapitazi komwe kudakapitiliza kukhudza kabweredwe kamadzi pa pulotiyi?

				Ngolo..6						Zina ..8		
				F23b	**F24b**	**F25b**	**F26b**					
				Chinali chosola kapena ayi? 1=Kusola 2=Chosasola #=Zosafunika	Chinali chosola kapena ayi? 1=Kusola 2=Chosasola #=Zosafunika	Chinali chosola kapena ayi? 1=Kusola 2=Chosasola #=Zosafunika	Chinali chosola kapena ayi? 1=Kusola 2=Chosasola #=Zosafunika					

MODULE G: HOUSEHOLD INCOME (CROP and NON-CROP)

	G0. Kodi ndi njira ziti zomwe mumapezera ndal ama pakhomo panu?	
	G. Income Source	**G2. Ndalama zones mu chaka chathachi? (MK)**
G1	G1. Kodi kugulitsa zokolora kumundu ndichochita chomwe pankhomo panu mumadalira? Eya ..1 Ayi ..0 G1a. Ndalama zonse zopindula pogulitsa zokol ola zakumunda munyengo ya chilimwe (April -A ugust) muchaka cha 2024 G1b. Ndalama zonse zopindula pogulitsa zokol ola zakumunda munyengo ya dzinja kuyambira mu December mu chaka cha 2023 kufikira mu March muchaka cha 2024 G1c. Ndalama zonse zopindula pogulitsa zokol ora zakumunda munyengo yotentha (Septemb er - November) muchaka cha 2023	
G2	G2. Kugulitsa zokolola za ziweto: 1.July 2023-1.July, 2024	
G3	G3. Maganyu akumunda: 1.July 2023-1.July, 2024	
G4	G4. Kugulitsa zinthu zachile ngedwe (Makala, Nkhuni, mitengo ndizina zotero): 1.July 2023-1.July, 2024	
G5	G5. Ntchito yokhazikika: 1.July 2023-1.July, 2024	
G6	G6. Maganyu ogwilidwa uka choka kumunda/ maganyu osakhudza za kumunda: 1.July 2023-1.July, 2024	
G7	G7. Ntchito zamanja (kuwu mba njerwa, umisili, ndi zina zotero)	

G8	G8. Kubwereketsa malo: 1.July 2023-1.July, 2024	
G9	G9. Mphatso/zotumizilidwa: 1.July 2023-1.July, 2024: 1.July 2023-1.July, 2024	
G10	G10. Peshoni: 1.July 2023-1.July, 2024	
G11	G11. Luso la ukadaulo (kuluka, kufulula mowa, ukalipentala ndi zina zotero): 1.July 2023-1.July, 2024	
G12	G12. Zina: 1.July 2023-1.July, 2024	

MODULE H: HOUSEHOLD LEVEL INPUT EXPENSES

	H. Input access and purchases	**D2. Total expenses (MK)**
H1	Kodi emwe amapanga ziganizo zakumunda kapena pakhomo adagwiritsa ntchito ndalam a zochuluka bwanji kugula mbewu mu [munda]? (MwK) Chilimwe (April - August) 2024 ..1 Dzinja (December - March) 203 -24 ..2 Nyengo yotetha (September- November) 2023..3	 **1.** **2.** **3.**
H2	Kodi emwe amapanga ziganizo zakumunda kapena pankhomo adagwiritsa ntchito ndalam a zochuluka bwanji kugula fetereza mu [munda]? (MwK)Chilimwe (April - August) 2024 ..1 Dzinja (December - March) 203 -24 ..2 Nyengo yotetha (September- November) 2023..3	 **1.** **2.** **3.**
H3	Kodi emwe amapanga ziganizo zakumunda kapena pankhomo adagwiritsa ntchito ndalam a zochuluka bwanji kugula mankhwala akumu nda (ophera tidzilombo, ochotsera ntchire) mu [munda]? Chilimwe (April - August) 2024 ..1 Dzinja (December - March) 203 -24 ..2 Nyengo yotetha (September- November) 2023..3	 **1.** **2.** **3.**
H4	Kodi emwe amapanga ziganizo zakumunda kapena pankhomo adagwiritsa ntchito ndalam a zochuluka bwanji kulipira ogwira ntchito mu [munda]? Chilimwe (April - August) 2024 ..1 Dzinja (December - March) 203 -24 ..2 Nyengo yotetha (September- November) 2023..3	 **1.** **2.** **3.**
H5	Kodi emwe amapanga ziganizo zakumunda kapena pankhomo adagwiritsa ntchito ndalam a zochuluka bwanji kulipira ndalama ya umem bala, kugwiritsa ntchito madzi, ndi zina mu [munda]? (MwK)? Chilimwe (April - August) 2024 ..1 Dzinja (December - March) 203 -24 ..2 Nyengo yotetha (September- November) 2023..3	 **1.** **2.** **3.**
H6	Kodi emwe amapanga ziganizo zakumunda kapena pankhomo adagwiritsa ntchito ndalam a zochuluka bwanji kulipira eni malo obweleke dwa mu [munda]? (MwK)? Chilimwe (April - August) 2024 ..1 Dzinja (December - March) 203 -24 ..2	 **1.** **2.**

	Nyengo yotetha (September- November) 2023..3	**3.**
H7	Kodi emwe amapanga ziganizo zakumunda kapena pankhomo adagwiritsa ntchito ndalam a zochuluka bwanji muzipangizo za ulimi mu [munda]? (MwK)? Chilimwe (April - August) 2024 ..1 Dzinja (December - March) 203 -24 ..2 Nyengo yotetha (September- November) 2023..3	**1.** **2.** **3.**
H8	Kodi amene ali ndi udindo oyang'anira zak umunda kapena pankhomo pano mwalandirak o zolowa zakumunda pogwiritsa tchito makup oni?? 1=Eya, 0=No	
H9	Ngati eya, tchulani mntundu wa zolowazo, Kuchuka kwake ndi mtengo wogulira pa Nyengo mwatchulayi ndi komwe kudapeza mbewu? 01 Mbewu 02 Fetereza 03 Mankhwala ophera tidzilom bo 04 Zina Season: 1=Early dry season 2024, 2=Rainy season 2023-24, 3=Late dry season 2023	**Input type(s)** **Quantity by input type (kg)** **Price paid (total by input)** **Season:** **Provider (name):**
H10	Kodi amene ali ndi udindo opanga ziganizo zakumunda kapena pakhomo adalandilako ngongole iliyonse mchaka chatha chopanga ulimi? 1=Eya, 0=No	
H11	Ngati eya, ndi ngongole yanji? 01 Pogula zolowa mulimi 02 Ndalama zina zopangira ma bizinesi 03 Yogwiritsa tchito pakhomo 04 Zina	
H12	Ngongoleyi idali yayikulu motani	
H13	Kodi ngongoleyi ili ndi thawi yayitali bwanji yobwenza, miyzi, zaka	
H14	Kodi amene ali ndi udindo opanga ziganiz o zakumunda kapena pankhomo adayesako ku funsira ngongole ndikulephera kuyipeza? 1 =Eya, 0=No	
H15	Kodi amene ali ndi udindo opanga ziganiz o zakumunda kapena zapankhomo mawona k uti ali ndi ndikuthekera kopeza ngongole ziti iw o atafuna komano sanayeseleka kufunsira ngo ngolezi? 1=Eya, 0=No	
H16	Ngati eya, ndi ngongole yanji yemwe ali ndi udindo opanga ziganizo zakumunda kapena za pakhomo akuganiza kuti angapeze ngati atafunsira? 1=For purchase of farm inputs, 2=For other investment (investment loan), 3=Consumption loan, 4=Other, specify:	
H17	Kodi ndi mlingo wochuluka bwanji angathe kupeza pangongoleyi? MK	
H18	Kumene mungatenge ngongole imeneyi ndi kuti? Name → codes 01 Achibale 02 Maneba 03 Mwini gulosale	

	04 Obweleketsa ndalama 05 Olemba ntchito 06 Mabungwe achipembezo 07 SACCO 08 NEEF 09 A mabanki 10 Mabungwe omwe sali aboma 11 Banki nkhonde 12 Zina	

MODULE M: TRUST

Enumerator instruction : Ask these questions to the parcel manager.

M1. Kodi mumawakhulupilira magulu awa					
	5=Kukhulupilira kwambiri	4=Kukhulupilira	3=Kukhulupilira mwa pakatikati	2=Kukhulupilira pang'ono	1=Kusakhulupilira
MPs					
Ma TA					
Mfumu ya M'mudzi					
Alangizi					
Apolisi					
Ogulitsa zinthu					
M2. Kodi mumawakhulupilira anthu mu dera lanu?					
Achibale anu					
Achibale akutli					
Anthu ochokera sikimu yanu ya ulimi wathirira					
Anthu ochokera mu buloku yanu ya ulimi wathirira					
Atsogoleri s sikimu yanu ya ulimi wathirira					
Anthu omwe ali mu sikimu yina ya ulimi wathirira (East bank, Chikwawa)					
Anthu a m'mudzimwanu amene Sali musikimu yanu ya ulimi wathirira					

MODULE N: COLLECTIVE ACTION PARTICIPATION IN YOUR BLOCK

Enumerator instruction : Funsani mafunso otsatirawa kwa yemwe ali ndi udindo opanga ziganizo zakumunda kapena zapakhomo.

N1.	N2.	N3.	N4.	N5.
Kodi ntchito iyi [activity] imagwiridw a pakamodzi ndipo munatenga nawo mbali mu buloku lanu la ulimi wanthirira miyezi nkhumi n di iwiri (12) yapitayi (July 2023 - July 2024)? 01 Eya 00 Ayi	Kodi ntchito iyi [activity] imagwiridwa pamodzi ndipo munatenga nawo mbali mub uloku lanu la ulimi wanthirira miyezi nkhumi nd i iwiri (12) yapitayi (July 2023 - July 2024) 01 Eya, imagwiridwa pakamodzi ndipo ndinatenga mbali 02 Eya, imagwiridwa pakamodzi komano sindinatenge nawo mbali 00 Ayi	Kodi ntchito iyi [activity] imagwiridwa pamodzi ndipo munatenga mbali? Masiku	Pa ntchito iyi [Actvity] imagwiridwa l imodzi, kodi mumafuna idakati isamagwilidwe pakamodzi? 01 Eya, ndimafuna 00 Ayi, sindifuna	Pa ntchito iyi [Activity] siyigwiridwa li modzi, kodi mumafuna idakati idzigwilidwe pa kamodzi? 01 Eya, ndimafuna 00 Ayi, sindifuna
01 kusamalira ngalande ya kanalo yobweretsa madzi anthirira mu buloko yanu 02 Kubwenzeretsa njira za ulimi wathirira pamene zawononge ka ndikusefukira kwa madzi 03 Mikumano zokonzekera yokonzekera ulimi wanthirira mu buloku 04 Mgwirizano wa momwe mungagwitse ntchito bwanji madzi pothirira 05 Kugula mbewu limodzi ndikudzala limodzi 06 Kugula zolowa zamulimi limodzi monga feteleza ndi mankhwala ophera tidzilombo ndi kuthira limodzi 07 Kukonza ndikuthira manyowa limodzi mu malo omwe akugwiritsidwa ncthito ya ulimi wathirira 08 Kuteteza limodzi madzi ndimbewu kuti zisabedwe 09 Kuteteza malo omwe akugwiritsidwa tchito ndi ulimi wanthirira pomanga ndikusamala mipanda kuwopa kuti malowa angawononge ke ndiziweto 10 Misonkhano yokonza mapangano (Contract) obwereketsa malo mu buloko 11 Misonkhano yolimbana ndi kuthetsa mikangano / kusamvana mkati mwa buloko ndimu sikimu. 12 Gwirizano ogulitsa zokolola kumunda 13 Zina	1: 2: 3: 4: 5: 6: 7: 8: 9: 10: 11: 12: 13:	1: 2: 3: 4: 5: 6: 7: 8: 9: 10: 11: 12: 13:	1: 2: 3: 4: 5: 6: 7: 8: 9: 10: 11: 12: 13:	1: 2: 3: 4: 5: 6: 7: 8: 9: 10: 11: 12: 13:

S.No.	Question: Reasons for wanting to change collective action activities	Unit	Response
N6	Ngati mungakonde kuti tchito zina zomwe zimapangidwa limodzi musikimu kuti zidzipang idwa ndi mwini ekhayo emwe ali ndi udindo op anga ziganizo pamunda, pelekani chifukwa mu ngafune kutero 01 Ndimakonde nditamapanga zisankhozi ndekha 02 Ndingakonde nditamapang a tchitozi ndekha		

	03 Nditha kuchita bwino ngati nditaloledwa kuchita mwanjira yanga 04 Zimatenga nthawi yochuluka kwambiri kuti tikonzekere limodzi 05 Ntchito zogwilira limodzi siziyenda bwinobwino mubuloku yanga 06 Zina		
N7	Ngati pali ntchito zina mu buloku yanu zom we mukuganiza kuti mungamagwilire pamodzi komano siziro choncho, ndichifukwa chiyani m ukuganiza choncho 01 Ndikofunika kuti ntchito izi zidziyang'aniridwa kuti zitha ndizire kagwiritsidwe ncthito kamadzi ndi zina 02 Mgwirizano umathandiza kusunga nthawi kwa mamembala onse mu buloko 03 Mgwirizano umathandiza kuti minda idziyang'aniridwa bwino mu buloku 04 Mgwirizano umathandiza kuteteza bwino mbewu kuti zisawonongeke ndi kusefukira kwa madzi, tidzirombo, ndi ziweto 05 Zina	Codes	

MODULE O: IRRIGATION GROUP PERFORMANCE (Ask parcel manager)

S.No.	Question	Unit	Response
O1	O1. Kodi mamembala amubuloku lanu la ulimi wanthirira amakhala ndimikumano ingati yoko nzekera mu nyengo ya Chilimwe (April - August)?		
	O1a. Kodi mamembala amubuloku lanu la ulimi wanthirira amakhala ndimikumano ingati yoko nzekera mu nyengo yotetha (September to November)? Put zero (0) if they do not operate in that season		
	O1c. Kodi mamembala amubuloku lanu la ulimi wanthirira amakhala ndimikumano ingati yoko nzekera mu nyengo yadzinja (December - Marc h)? Put zero (0) if they do not operate in that season		
O2	Kodi munaphonyapo mkumano ndipo munali oyenera kupeleka chindapusa? 1=Eya, 0=No.	Code	
O3	Ngati eya, ndimikumano ingati yomwe munayiphonyapo muchaka chathachi?	Times, Amount (MK)	
O3a	Kodi munapeleka ndalama zingati ngati c hindapusa?		
O4	Kodi munapelekako chindapusa pobwera mochedwa kuntchito zokakamizidwa zokhudza sikimu? 1=Eya, 0=No		
O5	Ngati eya, ndikangati muchaka chathachi?	Times, Penalty amount MK	
O5a	Ndindalama zochuluka bwanji zomwe zin apelekedwa ngati chindapusa pobwera moche dwa? MwK		
O6	Kodi mumakumana ndi kakololedwe kosal oledwa ndi anthu akunja kwa minda yanu ya uli mi wanthirira?? 01 Zimakhala pafupipafupi (>1 pa sabata) 02 Izi zimachitika nthawi ndi nt hawi (>1 pamwezi) 03 Sizimachitika pafupipafupi (<1 pamwezi) 04 Sizimachitika kawirikawiri (< 1 pachaka) 05 Sizinachitikepo kuyambira c hiyambi cha gulu/dongosolo	Code	

O7	Kodi mumatani pofuna kuteteza minda yan u kwa iwo osokonezawa ngati ili lili vuto? 01 Kulondera malowa masana ndimadzulo mosithanasinthana, pakati pamamembala a mu bulokuyi 02 Kulondera malowa kudakawala mosithanasinthana pakati pama membala 03 Kulemba ntchito munthu oti alondere malowa 04 Mulonda sawoneka kuti ndi wofunika kwenikweni 05 Zina	Code	
O8	Kodi mumatani mukazindikira kuti anthu k apena ziweto zikumabwera pamunda wanu opanda chilolezo? 01 Kupeleka chenjezo ndikuwu za osokonezayu kuti achoke pamundapo 02 Kulolako kuti anthu ndi ziweto zidutse 03 Kuneneza osokoneza pamundayu kwa atsogoleri a sikimu kuti iwowo ayitanitse chi ndapusa iwo akuba zinthu kapena eni ziweto 04 Zina	Code(s)	
O9	Kodi mwini malo atha kugulitsa minda yom we ili mu sikimu ya ulimi wanthirira? 00 Eya 01 Eya, kwa aliyense 02 Eya, kugulitsa kwa anthu am 'mudzi momwemu ndikololedwa	Code	
O10	O10. Kodi eni malo ali ndikuthekera kosankha munthu emwe angamubweleke minda ya ulimi wanthirira? 01 Eya, kwa aliyense 02 Ayi, ziyenera kuvomerezedw a ndi wapampando wa buloku 03 Ayi, ziyenera kuvomerezdziy enera kuvomerezedwa ndi komiti yoyang'anira minda 04 Eya, antha kubwereketsa kw a onkhala mudzimu 05 zina	Code	
O11	Kodi obweleka malo antha kugwiritsa nct hito minda yobwelekedwayi kwa thawi yaitali m tani mu bulokuyi? (Years)	Years	
O12	odi munakumanapo ndimikangano iliyo nse chiyikhazikitse bulokuyi? 01 Eya, mikangano ina yayikulu 02 Eya, mikangano yaying'ono 00 Opanda mikangano	Code	
O13	Ngati bulokuyi linakumanako ndimikanga no, kodi mikanganoyi imankhudza ndani? 01 Gulu motsutsana ndi ena ak unja 02 Mamembala ena agulu mot sutsana ndi akunja 03 mkangano mkati mwa gulu 04 Zina	Code(s)	
O14	Ngati munakumanako ndimikangano, kodi munatani kuthetsa mikanganoyi (onetsani ngati ponse ngati zinachitika koposa kamodzi) 01 Kuthetsedwa pakati pa mbal i zonse okha 02 Kuthetsedwa mothandizidw a ndi othetsa mikangano apadera 03 Kuthetsedwa mothandizidw a ndi mtsogoleri wa buloku 04 Kuthetsedwa mothandizidw a ndi akuluakulu a Sikimu (komiti yogwirizanitsa anthu pa mikangano) 05 Kunja kwa khothi	Code Dispute 1: Dispute 2: Dispute 3:	

	06 Siyinathetsedwe 07 Zina		
O15	Kodi muli okhutitsidwa ndimomwe mikan gano imathetsedwera mu ntchito zokhudza buloku lanu? 1=Eya, 0=No	Code	
O16	Ngati ayi, kodi vuto lalikulu ndi chiyani? Fotokozani		
O17	Ngati ayi, nchiyani chingachitidwe kuti mu chepetse vutoli? Fotokozani		
O18	Kodi mungawuyike pa mlingo wotani ubale omwe uli pakati pama membala amubuloku lanu la ulimi wanthirira? 5. Wabwino kwambiri 4. Wabwino ndithu 3. Wabwino 2. Osakhala bwino 1. Osakhala bwino kwambiri	Code	
O19	Kodi gulu lanu la ulimi wanthirira linagawidwa mumagulu ang'ono ang'ono oti amalimba na ndipo samatha kugwira ntchito limodzi bwino? 1=Eya, 0=No	Code	
O20	Ngati eya, ndichiyani chinayambitsa kugawikanaku? Fotokozani		
O21	Kodi kusayenda bwino kwagwirizano mugululi kumatha kubwenzeretsa ntchito m'mbuyo? (chilimbikitso pogwira ntchito) 01 Eya, kwambiri 02 Pamlingo wina 03 Ayi, palibe vuto lotere	Code	
O22	Kodi mungayese bwanji chikhulupiliro chomwe chilipo pakati pama membala a gulu? 05 Chapamwamba kwambiri 04 Chapamwamba 03 Kwabwino 02 Sichilibwino 01 Sichilibwino kwambiri	Code	
O23	Ndichifukwa chiyani chinkhulupilirochi chiri chochepa? Fotokozani		
O24	Kodi gululi limakumana ndivuto lakapeze dwe kamisiku yofunika yogulitsa zipangizo za ulimi yomwe imapezeka ndizipangizo zofunika mu bulokuyi? 01 Eya 00 Ayi	Code	
O25	Ngati eya, tchulani mavuto omwe mumakumana nawo popeza misikayi (mutha kupeleka zifukwa zoposera chimodzi) 01 Kusowa kwa mwayi opeza ngongole 02 Kutalika mtunda wopita komwe fetereza ndi mbeu zitha kugulidwa (Kusowa kwamisika yogulako zipangizo za ulimi) 03 Kusowa kwa madzi (Mthilira) 04 Kusapezeka kwa madzi moy ikika 05 Kusowa kwa misewu yobwe retsera zipangizo za ulimi	Code(s)	
O26	Ndi ziwopsezo zazikulu ziti zomwe zingawononge kukhazikika kwa gulu (mwina kuwopse za kupita patsogolo kwake? 01 Zokolola zochepa kwambiri za m'nthaka chifukwa cha k usowa kwa madzi/kusowa k wa madzi 02 Kusapezeka kwa misika yogulitsa zolowa mu ulimi 03 Kusapezeka misika yogulistiramo zokolora 04 Kusowa kwa luso lophunzitsidwa 05 Kusowa kwa mwai oyambira bizinesi (kapito) 06 Kusowa kwandalama zina zothandizira ma membala	Codes Rank 1: Rank 2: Rank 3: Rank 4:	

	07 Kusowa kwakusalimbikitsana pakati pa mamembala 08 Mavuto odzakamba kakusa gwirizana 09 Zina zomwe palibe pandandanda		
O27	Kodi mungayese mulingo wotani momwe buloku lanu likuyendera? 01 Zilibwino kwambiri 02 Zilibwino 03 Pakatikati 04 Siwulibwino 05 Siwukeyenderatu bwino	Code	
O28	Fotokozani maziko omwe mwagwiritsa ntchito kuyesera	Text	
O29	Kodi munapindura ndalama zochuluka b wanji popanga ulimi wa wakumundu mu sikim u yanu ya ulimi wanthirira kuchokera pa July 1 muchaka cha 2023 kufikira 1 July muchaka cha 2024 (Muchaka chopanga ulimi) MwK	MK	
O30	Kodi mukuganiza kuti gululi lidzakhalapobe kwa zaka zina khumi? 01 Eya 02 Ayi	Code	
O31	Ngati Ayi singakhalepo kwa zaka 10, zifukwa zazikulu ziwirizi ndi ziti? 1. 2.	Text	
O32	Kodi ndinu okhutitsidwa motani ndi atsogoleri a buloku (gulu) lanu la ulimi wa m'thirira? 01 Okhutitsidwa kwambiri 02 Okhutitsidwa 03 Okhutitsidwa mwapakatikat i 04 Okhutitsidwa pang'ono kwa mbiri 05 Osakhutitsidwa	Number	
O33	Kodi ndinu okukhutitsidwa motani ndikapezedwe ka madzi m'munda wanu? Okhutitsidwa kwambiri 01 Okhutitsidwa 02 Pakatikati 03 Osadalilika 04 Kusachita bwino		
O34	Ngati simuli okhutitsidwa, ndichiyani chingachitike pofuna kukonza kayendetsedwe ka buloku (gulu) lanu?		
O35	Kodi ndinu okhutitsidwa motani ndikayendetsedwe ka ntchito za zamu gulu (buloku) lanu? 01 Zikuyenda bwino kwambiri 02 Zikuyenda bwino 03 Mwapakatikati 04 Sizikuyenda bwino kwenikweni 05 Sizikuyenderatu bwino olo pang'ono	Text	
O36	Ngati simuli okhutitsidwa, ndichiyani chingachitike pofuna kukonza kayendetsedwe ka buloku (gulu) lanu?	Text	

MODULE P: HOUSEHOLD LEVEL SHOCKS AND FOOD STRESSORS (Ask Parcel Manager)

P1	P2	P3
Kodi banja lanu lidakumana ndi ngozi zogwa mwazidzidzi zina zilizonse kupatula ngozi zogwa mwazidzidzi zokhudzana ndichilengedwe muchaka cha ulimi kuyambira mu 2023 kufikira muchaka cha 2024? EYA .. 1 NO .. 0	Kodi ngozi yogwa mwadzidziyi idali chiyani? 01 Matenda aziweto 02 Matenda ofalika a anthu 03 Kuba kapena kuwonongeka kwa katundu 04 Kubedwa kwa ziweto 05 Kuchedwa kwa thandizo lac hakudya 06 Kukwera kwamitengo ya za kudya 07 Kukwera kwamitengo yazau limi kapena ziweto 08 Kutsika kwamitengo yogulit sira zokolola zakumunda ndi ziweto 09 Kutayika kwa malo/ malo ka pena obwereketsa 10 Kusowa kwa tchito kwa achi nyamata 99 Zina	Kodi [Ngozi] idakhudza kwa mlingo wotani chuma chapakhomo lanu mumiyezi khumi ndi iwiri (12) yapitayi? 01 Sidakhudze konse 02 Chatsika pang'ono 03 Chatsika kwambiri 04 Idatikhudza kwambiri kupos a ina iliyonse 05 Sindikudziwa 06 Ndakana

P4	P5
Kodi [Ngozi] idakhudza kwa motani mlingo wachakudya chomwe mumadya pakho mo lanu mumiyezi khumi ndi iwiri (12) yapitayi? 01 Sidakhudze konse 02 Chatsika pang'ono 03 Chatsika kwambiri 04 Idatikhudza kwambiri kupos a ina iliyonse 05 Sindikudziwa 06 Ndakana	Kodi kapezedwe kanu kachakudya kasitha motani kufikira momwe kanaliri musanakumane ndi ngozi zogwa mwazidzidzi ndizonse zododometsa mu miyezi khumi ndi iwiri (12) yapitayi kufikira lero? 01 Kapezedwe kadzakudya kadali momwe kanaliri tisanaku mane ndi ngozi zogwa mwadzidzidzi 02 Kapezedwe kadzakudya kali bwino kuposa momwe kanaliri tisanakumane ndi ngozi zogwa mwazidzidzi 03 Kapezedwe kadzakudya sikali bwino nkomwe kufananiza ndimomwe kanaliri tisanakumane ndi ngozi zogwa mwadzidzidzi

P6	P7	P8
Tikayang'ana ngozi zogwa mwazidzidzi ndi zododometsa zomwe munakumana nazo mu miyezi khumi ndi iwiri (12) yapitayi, kodi mukuona kuti mudzatha bwanji kupeza chakudya mu chaka chamawa? IsAnswered(P5) SINGLE-SELECT P6 01 Kapezedwe ka zakudya kadzakhala momwe kanaliri tisanakumane ndi ngozi zogwa mwazidzidzi 02 Kapezedwe ka zakudya kadzakhala bwino kuposa momwe kanaliri tisanakumane ndi ngozi zogwa mwazidzidzi 03 Kapezedwe ka zakudya sikadzakhala bwino nkomwe kufananiza ndimomwe kanaliri	P7. Kodi munayamba mwakonzekerako kuteteza banja lanu ku zotsatira zangozi zogwa mwadzidzidzi? IsAnswered(P6) EYA .. 1 NO .. 0	P8. Kodi mwakonza zotani zomwe mufuna mudzapange pofuna kupewa zotsatira za ngozi zo gwa mwazidzdidz tsogolomu? 01 Kusunga ndalama zochuluki lako 02 Kusunga zokolola (zakudya za pankhomo kapena ziweto) 03 Kusintha mbewu zodzala 04 Kusintha nyama zoweta 05 Kuwonjezera ntchito za ulimi 06 Kuwonjezera ntchito zina zo sankhudza ulimi 07 Ulimi wakasakaniza 08 Ntchito za ulimi zakasakaniza 09 Kusiya umoyo wa ulimi ndikuyamba umoyo osadalira ulimi 10 Kuyamba umoyo wa ulimi n dikusiya umoyo osadalira ulimi 11 Kugula ndondomeko zobwenzeretsa zakumunda (insurance) 12 Kugula ndondomeko zobwenzeretsa ziweto (insurance) 13 Kugula ndondomeko yobwe nzeretsa zina (other insurance e.g., health)

tisanakumane ndi ngozi zogwa mwazidzidzi		14 Kukakhala malo ena mwakanthawi kochepa 15 Kukakhazikika kumalo ena

Mapeto a Kafukufukuyu, Chonde thokozani Woyankhayo, akonzekeretseni pa zoyeserera zomwe zibwere: Tsindikirani kuti adzakhala ndi omwe adzawayankhe.

SMARTEX 2024
IRRIGATION EXPERIMENT
PARCEL MANAGER EXPERIMENT INSTRUMENT

Informed consent form

Good morning/afternoon. My name is _____ (Name of interviewer) from Lilongwe University of Agriculture and Natural Resources (LUANAR), Bunda College.

Are you interested in taking part in the research project "Experiments for Development of Climate Smart Agriculture (SMARTEX)"?

Purpose of the project

You are invited to participate in a research project where the main purpose is to *study irrigation group performance, flood impacts, land market activity (sales and rentals) in irrigation schemes, tenure and utilisation of land and water resources*.

The objectives are to assess irrigation group performance, impacts of floods on land management and welfare, level of land markets in irrigation schemes and tenure and utilisation of land and water resources.

This is a research study under the Experiments for Development of Climate Smart Agriculture (SMARTEX) project that LUANAR is doing in collaboration with the Norwegian University of Life Sciences (NMBU) with financial support from NORHED II.

Some of the data may be used for teaching at LUANAR.

Which institution is responsible for the research project?
NMBU and LUANAR are responsible for the project (the data controller).

Why are you being asked to participate?
You have been randomly selected in this irrigation scheme to participate in this study hence we will be asking you to respond to a set of questions related to your farming activities. We encourage you to provide answers to the best of your knowledge and personal opinions and preferences where this is required. We also include some experiments where you can win some money. The purpose of the experiments is to understand your social preferences, response to risks and make investment decisions. Your participation is voluntary, and you can choose to opt out at any time during our discussion. However, we hope you will participate in the survey as a member of this irrigation scheme and block, and giving your views are important for generating knowledge about what can help improving performance of irrigation schemes in this area.

What does participation involve for you?
If you choose to participate in this project, we will have a discussion and I will record your answers on the digital tablet. The interviews and experiments will take roughly 3 hours to complete over two visits. The survey questions include household characteristics, agricultural production activities and flood shock effects, asset ownership, and land governance. The experiments include sharing games, trust games, and investment under risk and time delays.

We are particularly interested in interviewing the persons in the household that are responsible for managing the farm parcels. This may be more than one person in the household, but we would like to talk to the one household member who is more responsible for managing parcels for this household.

Participation is voluntary.
Participation in the project is voluntary. If you chose to participate, you can withdraw your consent at any time without giving a reason. All information about you will then be made anonymous. There will be no negative consequences for you if you chose not to participate or later decide to withdraw.

Your personal privacy – how we will store and use your personal data.
We will only use your personal data for the purpose(s) specified here and we will process your personal data in accordance with data protection legislation (the GDPR). The research team from LUANAR will process your personal data and anonymise the data before sharing. The person data will be stored in anonymized form in password protected server. Only the Principal Investigator, Dr. Sarah Tione, LUANAR, will keep the personal data and will keep them separate from the other data to protect your identity. Your personal data are replaced with a code in the stored data. The anonymized data will be shared with NMBU, and stored in the Norwegian SIKT database. The project leader there is Professor Stein Holden, who is responsible for this. Your names will never be used in any output from the research.

What will happen to your personal data at the end of the research project?
The planned end date of the project is *August 2025. All the data will be stored on the NMBU (SIKT) and LUANAR servers under password protected system, which will be accessible only by the research team. For data sharing, we will anonymise all the data by removing all the personal id data.*

The personal identification data will be stored separately by Dr. Sarah Tione at LUANAR. This is for the purpose that there may be a follow-up project to study future changes at the household level where the data from the project can serve as a useful baseline.

Your rights
So long as you can be identified in the collected data, you have the right to:

- access the personal data that is being processed about you
- request that your personal data be deleted
- request that incorrect personal data about you be corrected/rectified
- receive a copy of your personal data (data portability), and
- send a complaint to the LUANAR Data Protection Officer regarding the processing of your personal data

What gives us the right to process your personal data?
We will process your personal data based on your consent.

Based on an agreement with *Lilongwe University of Agriculture and Natural Resources (LUANAR)*, The Data Protection Services of Sikt – Norwegian Agency for Shared Services in Education and Research has assessed that the processing of personal data in this project meets requirements in data protection legislation.

Where can I find out more?

If you have questions about the project or want to exercise your rights, contact:
LUANAR:

- If you have questions or comments, you can ask me now. For further details, you can contact Sarah Tione, PhD of 0999522664 the Director of Research and Outreach at LUANAR, Associate Prof Sam Katengeza on 0888446202.
- Our Data Protection Officer: *Sarah Tione, PhD, LUANAR*

If you have questions about how data protection has been assessed in this project by NMBU and Sikt, contact:
NMBU

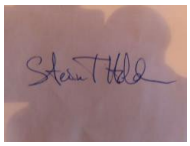
- You can contact the Project Leader: Professor Stein T. Holden, at +47-94970615
- School of Economics and Business, ethics committee:
    - Kirsti Pettersen: +47-91168060
    - Nicolay Andre Melsæter Worren: +47-67231124

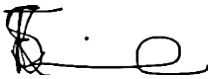
Regarding your rights or possible complaints:

- *If you need advice on how to exercise your rights, please contact:*
- NMBU's Data Protection Officer Hanne Pernille Gulbrandsen
    - Tel: +47 402 81 558
    - E-mail: personvernombud@nmbu.no
- *Any complaint/allegation/suspicion of breach of ethics and good research practice must be given in the form of written notification to the Dean of the School of Economics and Business:*
- Professor Casper Claudi Rasmussen
    - Tel. +47 901 68 120
    - E-mail: casper.claudi.rasmussen@nmbu.no
- Or contact:
    - Datatilsynet, Norway: +47- 22 39 69 00

The personal information will be kept safely at LUANAR for the purpose of future follow-up research to assess long-term changes in the study areas.

Yours sincerely,





Stein T. Holden
Professor, NMBU
Project Leader
(Researcher/supervisor)

Sarah Tione
Research Fellow
Student (if applicable)

Consent form

I have received and understood information about the project *Experiments for Development of Climate Smart Agriculture (SMARTEX)* and have been given the opportunity to ask questions. I give consent:

- ☐ to participate in interviews about the household and its farming activities
- ☐ to participate in behavioural experiments on social and economic preferences
- ☐ for information about me to be stored separately from the data and protected at LUANAR to facilitate future data collection from the same households

I give consent for my personal data to be processed until the end of the project.

Name of Respondent: _____

Signature: Date:

(Signed by participant, date)

SMARTEX project. Irrigation Experiments 2024: Experimental Round 1.

Demographic

Question	Response
Interview Date	
Name of Enumerator	
Name of household head	
Name of Respondent (Parcel manager identified in the household interview)	
Main Phone number	
Alternative phone number	
Sex of the Respondent 1=Female, 2= Male	
Village name	
Village ID	
Traditional Authority name	
District	
Agricultural EPA	
Scheme ID	
Specify the name of the scheme	
Block ID	
Member ID	

Game Set 1: Sharing Game

Instructions:

(a) We will introduce to you eight sharing games where you will decide what you prefer.

(b) You will have a chance to earn money by participation in these games and your answers will affect how much you and some others will get.

(c) Only one game will result in payout but you do not know which game will result in payout till after you have answered all.

(d) A lottery will determine which game will be for real after all the games are played.

(e) By making careful answers in each game, you have a greater chance of getting your preferred payout.

(f) f) We will decide on the sharing of money with another person and the other person is either an anonymous random person in **your irrigation block (group)** in your irrigation scheme or **unknown person in another irrigation block (group) different from your irrigation scheme group in your district**. You will never know who that other person is, only whether he/she is a member of your block (group) or an unknown member from another block (group) in your district.

(g) A lottery will determine who the other person is.

Enumerator instruction: Put MK 12000 in five MK 2000 notes and in two MK 1000 notes and an envelope in front of the respondent.

Game	Outcome
Sharing game 1: You can choose between two sharing options between yourself and another random person of **your irrigation block (group)** in your irrigation scheme	1. Option 1: MK 4000 for yourself AND MK 4000 for another random person in **your irrigation block (group).**
	2. Option 2: MK 4000 for yourself AND MK 0 for another random person in **your irrigation block (group).**
Sharing game 2: You can choose between two sharing options between yourself and **another random person in another irrigation block (group) different from your irrigation scheme in your district**.	1. Option 1: MK 4000 for yourself AND MK 4000 for another **random person in another irrigation block (group) different from your irrigation scheme within your district**.
	2. Option 2: MK 4000 for yourself AND MK 0 for another **random person in another irrigation block (group) different from your irrigation scheme within your district**.
Sharing game 3: You can choose between two sharing options between yourself and another random person of **your irrigation block (group)** in your irrigation scheme	1. Option 1: MK 4000 for yourself AND MK 4000 for another random person in **your irrigation block (group).**
	2. Option 2: MK 4000 for yourself AND MK 8000 for another random person in **your irrigation block (group).**
Sharing game 4: You can choose between two sharing options between yourself and **another random person in another irrigation block (group) different from your irrigation scheme in your district**.	1. Option 1: MK 4000 for yourself AND MK 4000 for another **random person in another irrigation block (group) different from your irrigation scheme within your district**.
	2. Option 2: MK 4000 for yourself AND MK 8000 for another **random person in another irrigation block (group) different from your irrigation scheme within your district**.
Sharing game 5: You can choose between two sharing options between yourself and another random person of **your irrigation block (group)** in your irrigation scheme	1. Option 1: MK 4000 for yourself AND MK 4000 for another random person in **your irrigation block (group)**
	2. Option 2: MK 8000 for yourself AND MK 0 for another random person in **your irrigation block (group)**
Sharing game 6: You can choose between two sharing options between yourself and **another random person in another irrigation block (group) different from your irrigation scheme in your district**.	1. Option 1: MK 4000 for yourself AND MK 4000 for another **random person in another irrigation block (group) different from your irrigation scheme within your district**.
	2. Option 2: MK 8000 for yourself AND MK 0 for another **random person in another irrigation block (group) different from your irrigation scheme within your district**.

Sharing game 7: You can choose between two sharing options between yourself and another random person of **your irrigation block (group)** in your irrigation scheme	1. Option 1: MK 4000 for yourself AND MK 4000 for another random person in **your irrigation block (group)**
	2. Option 2: MK 5000 for yourself AND MK 7000 for another random person in **your irrigation block (group)**
Sharing game 8: You can choose between two sharing options between yourself and **another random person in another irrigation block (group) different from your irrigation scheme in your district**.	1. Option 1: MK 4000 for yourself AND MK 4000 for another **random person in another irrigation block (group) different from your irrigation scheme within your district**.
	2. Option 2: MK 5000 for yourself AND MK 7000 for another **random person in another irrigation block (group) different from your irrigation scheme within your district**.

2-stage Lottery to determine which of the games is real

Step 1: Lottery Game 1 Group type Die Outcome: _____	Anonymous in **your irrigation block (group)** (die outcome of 1-10)
	Random person in another irrigation block (group) different from your irrigation scheme in your district. (die outcome 11-20)
Step 2: Lottery Game 1 Game type based on die outcome. Die Outcome: _____ Real Game: _____	Die outcome 1-5 (Game S1 or S2)
	Die outcome 6-10 (Game S3 or S4)
	Die outcome 11-15 (Game S5 or S6)
	Die outcome 16-20 (Game S7 or S8)

Game Set 2: Dictator Game

Game set 2 Instructions: There will be a sequence of four games, and one will be for real, but you do not know till afterwards which one will be real. It is therefore important to make a careful decision in each. The game which will be real will be determined by a lottery.

a. In each game you will be given an amount you can decide to keep or share with another person.
b. That other person is either one **anonymous member of your irrigation block (group)** or in **another irrigation block (group) different from your irrigation scheme group in your district**.
c. d. You will never find out who the other player you give to is and s/he will not know from whom they have received the money, just whether it is a member of your irrigation block (group) or a random person in another irrigation irrigation scheme different from your irrigation scheme in your district. .
d. You will never find out who the other player you give to is and s/he will not know from whom they have received the money, just whether it is a member of your irrigation group or a random person in another irrigation group different from your group in your district.
e. In these games the receiving persons are not asked to return any of the money you have given to them, but they will play the same types of games like you.
f. You will therefore also be a receiver in this game and receive one envelope from an anonymous **person of your irrigation block (group)** or in **another irrigation block (group) different from your irrigation scheme in your district**.
g. You are free to do whatever you want in these games, for example decide to take all the money yourself or to give everything to the other person or share the money in any proportion between yourself and the other (unknown) person.

Enumerator instruction: Put MK 6000 in one MK 2000 note, one MK 1000 notes, and fifteen MK 200 notes and an envelope in front of the respondent.

D1. You are given MK 2000 and can decide to give some to another anonymous member of **your irrigation block (group)** and this person (decided by a lottery) will receive this exact amount you give if this becomes the real game. Out of MK 2000, how much will you give?	2000	MK 2000 for your anonymous member of your irrigation block (group), 0 MK for you
	1600	MK 1600 for your anonymous member of your irrigation block (group), MK 400 for you
	1200	MK 1200 for your anonymous member of your irrigation block (group), MK 800 for you
	800	MK 800 for your anonymous member of your irrigation block (group), MK 1200 for you
	400	MK 400 for your anonymous member of your irrigation block (group), MK 1600 for you
	0	0 MK= Nothing for your anonymous member of your irrigation block (group), MK 2000 for you
D2. You are given MK 2000 and can decide to give some to an anonymous person in **another irrigation block (group) different from your irrigation scheme in your district** and this person (decided by a lottery) will receive this	2000	MK 2000 for an anonymous person in another irrigation block (group) different from your irrigation scheme in your district, 0 MK for you
	1600	MK 1600 for an anonymous person in another irrigation block (group) different from your irrigation scheme in your district, MK 400 for you

exact amount you give if this becomes the real game. Out of MK 2000, how much will you give?	1200	MK 1200 for an anonymous person in another irrigation block (group) different from your irrigation scheme in your district, MK 800 for you
	800	MK 800 for an anonymous person in another irrigation block (group) different from your irrigation scheme in your district, MK 1200 for you
	400	MK 400 for an anonymous person in another irrigation block (group) different from your irrigation scheme in your district, MK 1600 for you
	0	MK 0 = Nothing for an anonymous person in another irrigation block (group) different from your irrigation scheme in your district, MK 2000 for you
D3. You are given MK 2000 and can decide to give some to another anonymous member of **your irrigation block (group)** and this person (decided by a lottery) will receive **three times** the amount you give if this becomes the real game. Out of MK 2000, how much will you give?	2000	MK 2000 Full amount and an anonymous member of your own irrigation block (group) receives three times this = MK 6000, you keep MK 0
	1600	MK 1600 and an anonymous member of your own irrigation block (group) receives three times this = MK 4800, you keep MK 400
	1200	MK 1200 and an anonymous member of your own irrigation block (group) receives three times this = MK 3600, you keep MK 800
	800	MK 800 and an anonymous member of your own irrigation block (group) receives three times this = MK 2400, you keep MK 1200
	400	MK 400 and an anonymous member of your own irrigation block (group) receives three times this = MK 1200, you keep MK 1600
	0	MK 0 - and an anonymous member of your own irrigation block (group) receives nothing, you keep MK 2000
D4. You are given MK 2000 and can decide to give some to an anonymous person in **another irrigation block (group) different from your irrigation scheme in your district** and this person (decided by a lottery) will receive **three times** the amount you give if this becomes the real game. Out of MK 2000, how much will you give?	2000	MK 2000, and an anonymous person in another irrigation block (group) different from your irrigation scheme in your district receives three times this = MK 6000, you retain MK 0
	1600	MK 1600, and an anonymous person in another irrigation block (group) different from your irrigation scheme in your district receives three times this = MK 4800, you retain MK 400
	1200	MK 1200, and an anonymous person in another irrigation block (group) different from your irrigation scheme in your district receives three times this = MK 3600, you retain MK 800
	800	MK 800, and an anonymous person in another irrigation block (group) different from your irrigation scheme in your district receives three times this = MK 2400, you retain MK 1200
	400	MK 400, and an anonymous person in another irrigation block (group) different from your irrigation scheme in your district receives three times this = MK 1200, you retain MK 1600

	0	MK 0, the anonymous person in another irrigation block (group) different from your irrigation scheme in your district receives nothing, you retain MK 2000

Deciding player

D5. Lottery for Group type selection Die Outcome: _____	Anonymous member of your irrigation block (group) (**Die outcome 1-10**)
	Anonymous person in another irrigation block (group) different from your irrigation scheme in your district (**Die outcome 11-20**)

Deciding Game

D6. Lottery for Game type selection	Die outcome 1-10 (Game D1, D2)
Die Outcome_____ Real Game _____	Die outcome 11-20 (Game D3, D4)

Game Set 3 Instructions:

This is an experiment in two stages. You will play with another anonymous person. This person will either be a **member of your irrigation block (group) or another irrigation block (group) different from your irrigation scheme in your district**. You will never find out who the person you play with is, but it is a real person that we select randomly. The experiment is about trust and trustworthiness and involves money to be sent between you and the other person.

You will be both a sender and a receiver of money who decides whether to return some of the money received back to the sender.

Stage 1: As a sender you will first receive MK 2000 that you will decide over (split in ten MK 200 notes). You may decide to keep the whole MK 2000 for yourself or to invest the whole or part of it (as much as you want). The amount you invest will be tripled by us (e.g. if you invest MK 800, we triple it to MK 2400 or if you invest the whole MK 2000, we triple it to MK 6000). We put the tripled amount into an envelope for your investment to be sent to an anonymous person who will freely decide how much money to take from the envelope and how much to return to you later. The same is done for all irrigation block (group) members that participate and for other random unknown person in another irrigation block (group) different from your irrigation scheme in your districts in other villages. Before you know whether you will play with another person in **your irrigation block (group) or another irrigation block (group) different from your irrigation scheme in your district**, we ask you to decide how much you will invest in each of these, knowing that only one of these will be selected for real. A lottery (using a 20-sided die) with equal chance for each will determine who of these you will play with.

Stage 2: We also want to know how much you as a receiver will return of the tripled amount sent to you by an anonymous sender in **your irrigation block (group) or another irrigation block (group) different from your irrigation scheme in your district.** Who you receive money from is also determined by a lottery afterwards. For each alternative amount received we want you to state how much you decide to return when the other person is from **your irrigation block (group) and when the other person is another irrigation block (group) different from your irrigation scheme in your district**. What you decide for each amount received and for each type of person, before you know which type of person you receive money from, will be binding for you when you receive the envelope from the real person that was decided by the lottery. You will only know whether that person comes from **your irrigation block (group) or is another irrigation block (group) different from your irrigation scheme in your district**.

For example: If the amount you find in the envelope is MK 2400, how much of this will you return in the cases a) the sender comes from **your irrigation block (group)**, b) the sender comes from **another irrigation block (group) different from your irrigation scheme in your district**. You are free to decide to keep the whole amount (return nothing) or return the whole amount or any amount between all or nothing (split in MK 200 units). Since we do not know what amount you will find in the envelope, we need to ask you what you would return for all possible amounts you may find in the envelope for cases a) and b). It is only when we come back next time that we will bring this envelope and we can find out how much money is there. We use a lottery for the distribution of the sent envelopes among the members in your irrigation block (group) and among other anonymous person in **another irrigation block (group) different from your irrigation scheme in your district**.

Enumerator instruction:

1. Put **MK 2000** in ten 200 MK notes. These are going to be used by the sender to decide how much will he/she send to the anonymous receiver.
2. Put MK 4000 in three 1000 MK notes and five 200 MK notes and an envelope in front of the respondent. These amounts will be used for tripling the amount that the respondent will send to the anonymous receiver.

Amount invested in MK	2000	1600	1200	800	400	0
Amount retained in MK	0	400 (2 X 200 note)	800 (4 X 200 note)	1200 (1 X 1000 note + 1X 200 note)	1600 (1 X 1000 note + 3X 200 note)	2000 (2X1000 note)
Tripled MK amount to be put in envelope	6000 (all notes)	4800 = (3X 1000 Notes + 9X200 notes)	3600 = (2X 1000 Notes + 8X200 notes)	2400 = (12X200 notes)	1200 = (6X200 notes)	0

As a sender (trustor)

T1a. You are given MK 2000 and can decide how much of the MK 2000 are you willing to invest if the tripled amount of your investment is to be sent to a random (anonymous) member of **your irrigation block (group)**?	2000	MK 2000 sent, an anonymous member of your own irrigation block (group) will get MK 6000, you retain nothing
	1600	MK 1600, an anonymous member of your own irrigation block (group) will get MK 4800, you retain MK 400
	1200	MK 1200, an anonymous member of your own irrigation block (group) will get MK 3600, you retain MK 800
	800	MK 800, an anonymous member of your own irrigation block (group) will get MK 2400, you retain MK 1200
	400	MK 400, an anonymous member of your own irrigation block (group) will get MK 1200, you retain MK 1600
	0	MK 0, an anonymous member of your own irrigation block (group) will get MK 0, you retain MK 2000
T1b. You are given MK 2000 and can decide how much of the MK 2000 are you willing to invest if the tripled amount of your investment is to be sent to random unknown person in **another irrigation block (group) different from your irrigation scheme in your district** that participates in the experiment?	2000	MK 2000 sent, an unknown random person in another irrigation block (group) different from your irrigation scheme in your district will get MK 6000, you retain nothing
	1600	MK 1600 sent, an unknown random person in another irrigation block (group) different from your irrigation scheme in your district will get MK 4800, you retain MK 2400
	1200	MK 1200 sent, an unknown random person in another irrigation block (group) different from your irrigation scheme in your district will get MK 3600, you retain MK 800
	800	MK 800 sent, an unknown random person in another irrigation block (group) different from your irrigation scheme in your district will get MK 2400, you retain MK 1200

	400	MK 400 sent, an unknown random person in another irrigation block (group) different from your irrigation scheme in your district will get MK 1200, you retain MK 1600
	0	MK 0 sent, an unknown random person in another irrigation block (group) different from your irrigation scheme in your district will get MK 0, you retain MK 2000

The lottery which determines whether you will play the game with another **unknown member of your irrigation block (group) or with an unknown person in another irrigation block (group) different from your irrigation scheme in your district** will be drawn after you have answered some more questions.

As a receiver (trustee)

We will now ask you how you would respond (amount returned) as a receiver (trustee) of a random envelope from an anonymous member in your own irrigation block (group) and unknown person in another irrigation block (group) different from your irrigation scheme in your district, depending on how big the amount in the envelope you receive is. You know that we have tripled the amount that the other person sent in the envelope.

The amounts you decide to return now will be binding for what you have to return when you get the real envelope – but the amount you find there is unknown till you open it as it depends on the decision of the sender (trustor) of that envelope. You will never know who the sender is.

T2a. How much will you leave in the envelope (return to the sender who is a random anonymous person in **your irrigation group**) if the amount in the envelope is MK 6000?	6000	Will return MK 6000 to anonymous person in your irrigation block (group), you keep nothing
	4800	Will return MK 4800 to anonymous person in your irrigation block (group), you keep MK 1200
	3600	Will return MK 3600 to anonymous person in your irrigation block (group), you keep MK 2400
	2400	Will return MK 2400 to anonymous person in your irrigation block (group), you keep MK 3600
	2000	Will return MK 2000 to anonymous person in your irrigation block (group), you keep MK 4000
	1600	Will return MK 1600 to anonymous person in your irrigation block (group), you keep MK 4400
	1200	Will return MK 1200 to anonymous person in your irrigation block (group), you keep MK 4800
	800	Will return MK 800 to anonymous person in your irrigation block (group), you keep MK 5200
	400	Will return MK 400 to anonymous person in your irrigation block (group), you keep MK 5600
	0	Will return MK 0 to anonymous person in your irrigation block (group), you keep MK 6000
T2b. How much will you leave in the envelope (return to the sender who is a random	6000	Will return MK 6000 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep nothing

anonymous **person in another irrigation block (group) different from your irrigation scheme in your district)** if the amount in the envelope is MK 6000?	4800	Will return MK 4800 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 1200
	3600	Will return MK 3600 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 2400
	2400	Will return MK 2400 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 3600
	2000	Will return MK 2000 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 4000
	1600	Will return MK 1600 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 4400
	1200	Will return MK 1200 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 4800
	800	Will return MK 800 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 5200
	400	Will return MK 400 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 5600
	0	Will return MK 0 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 6000
T3a. How much will you leave in the envelope (return to the sender who is a random anonymous person in **your irrigation block (group)** if the amount in the envelope is MK 4800?	4800	Will return MK 4800 to anonymous person in your irrigation block (group), you keep nothing
	3600	Will return MK 3600 to anonymous person in your irrigation block (group), you keep MK 1200
	4800	Will return MK 2400 to anonymous person in your irrigation block (group), you keep MK 2400
	2000	Will return MK 2000 to anonymous person in your irrigation block (group), you keep MK 2800
	1600	Will return MK 1600 to anonymous person in your irrigation block (group), you keep MK 3200
	1200	Will return MK 1200 to anonymous person in your irrigation block (group), you keep MK 3600
	800	Will return MK 800 to anonymous person in your irrigation block (group), you keep MK 4000
	400	Will return MK 400 to anonymous person in your irrigation block (group), you keep MK 4400
	0	MK 0 to anonymous person in your irrigation block (group), you keep MK 4800
T3b. How much will you leave in the envelope (return to the sender who is a random	4800	Will return MK 4800 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep nothing

anonymous **person in another irrigation block (group) different from your irrigation scheme in your district)** if the amount in the envelope is MK 4800?	3600	Will return MK 3600 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 1200
	2400	Will return MK 2400 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 2400
	2000	Will return MK 2000 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 2800
	1600	Will return MK 1600 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 3200
	1200	Will return MK 1200 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 3600
	800	Will return MK 800 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 4000
	400	Will return MK 400 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 4400
	0	Will return MK 0 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 4800
T4a. How much will you leave in the envelope (return to the sender who is a random anonymous person in **your irrigation block (group))** if the amount in the envelope is MK 3600?	3600	Will return MK 3600 to anonymous person in your irrigation block (group), you keep nothing
	1200	Will return MK 2400 to anonymous person in your irrigation block (group), you keep MK 1200
	1000	Will return MK 2000 to anonymous person in your irrigation block (group), you keep MK 1600
	800	Will return MK 1600 to anonymous person in your irrigation block (group), you keep MK 2000
	1200	Will return MK 1200 to anonymous person in your irrigation block (group), you keep MK 2400
	800	Will return MK 800 to anonymous person in your irrigation block (group), you keep MK 2800
	400	Will return MK 400 to anonymous person in your irrigation block (group), you keep MK 3200
	0	Will return MK 0 to anonymous person in your irrigation block (group), you keep MK 3600
T4b. How much will you leave in the envelope (return to the sender who is a random anonymous **person in another irrigation block (group) different from your irrigation scheme in your district)** if the amount in the envelope is MK 3600?	3600	Will return MK 3600 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep nothing
	2400	Will return MK 2400 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 1200
	2000	Will return MK 2000 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 1600

	1600	Will return MK 1600 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 2000
	1200	Will return MK 1200 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 2400
	800	Will return MK 800 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 2800
	400	Will return MK 400 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep 3200
	0	Will return MK 0 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 3600
T5a. How much will you leave in the envelope (return to the sender who is a random anonymous person in **your irrigation block (group),** if the amount in the envelope is MK 2400?	2400	Will return MK 2400 to anonymous person in your irrigation block (group), you keep nothing
	2000	Will return MK 2000 to anonymous person in your irrigation block (group), you keep MK 400
	1600	Will return MK 1600 to anonymous person in your irrigation block (group), you keep MK 800
	1200	Will return MK 1200 to anonymous person in your irrigation block (group), you keep MK 1200
	800	Will return MK 800 to anonymous person in your irrigation block (group), you keep MK 1600
	400	Will return MK 400 to anonymous person in your irrigation block (group), you keep MK 2000
	0	MK 0 to anonymous person in your irrigation block (group), you keep MK 2400
T5b. How much will you leave in the envelope (return to the sender who is a random anonymous **person in another irrigation block (group) different from your irrigation scheme in your district)** if the amount in the envelope is MK 2400?	2400	Will return MK 2400 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep nothing
	2000	Will return MK 2000 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 400
	1600	Will return MK 1600 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 800
	1200	Will return MK 1200 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 1200
	800	Will return MK 800 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 1600
	400	Will return MK 400 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 2000

	0	Will return MK 0 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 2400
T6a. How much will you leave in the envelope (return to the sender who is a random anonymous person in **your irrigation block (group)** if the amount in the envelope is MK 1200?	1200	Will return MK 1200 to anonymous person in your irrigation block (group), you keep nothing
	800	Will return MK 800 to anonymous person in your irrigation block (group), you keep MK 400
	400	Will return MK 400 to anonymous person in your irrigation block (group), you keep MK 800
	0	Will return MK 0 to anonymous person in your irrigation block (group), you keep MK 1200
T6b. How much will you leave in the envelope (return to the sender who is a random anonymous **person in another irrigation block (group) different from your irrigation scheme in your district)** if the amount in the envelope is MK 1200?	1200	Will return MK 1200 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep nothing
	800	Will return MK 800 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 400
	400	Will return MK 400 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 800
	0	Will return MK 0 to anonymous person in another irrigation block (group) different from your irrigation scheme in your district, you keep MK 1200

Before we play the lottery, you will have to answer some more questions.

T7a. How much of the tripled amount you have sent to the random member of **your irrigation block (group)** do you expect to get back?	Less than one third
	One third
	Half
	More than half
	Nothing as I sent nothing
	Nothing, although I sent something
T7b. How much of the tripled amount you have sent to the anonymous unknown **person in another irrigation block (group) different from your irrigation scheme in your district** do you expect to get back?	Less than one third
	One third
	Half
	More than half
	Nothing as I sent nothing
	Nothing, although I sent something
T8a. As a receiver (trustee) in the game, how obliged do you feel to return an amount at least as big as the amount sent by the anonymous sender (trustor) from **your irrigation block (group)**?	Extremely obliged
	Somewhat obliged
	Not obliged at all
T8b. As a receiver (trustee) in the game, how obliged do you feel to return an amount at least as big as the amount sent by the sender (trustor) who is an unknown **person in another irrigation block (group) different from your irrigation scheme in your district**?	Extremely obliged
	Somewhat obliged
	Not obliged at all

Lottery for whether the receiver will be another person from own irrigation block (group) or from another irrigation block (group):

- Use a 20 sided die to determine whether you will play with in this game. If the number is between 1-10 then you will play with **your irrigation block (group)** and if the number is between 11-20 then you will play with another **anonymous person in another irrigation block (group) different from your irrigation scheme in your district**

T9.Outcome of lottery for type of trustee in trust game Die Outcome:_____ Real Game_____	Trustee is an anonymous player from your irrigation block (group) (die outcome 1-10)
	Trustee is another anonymous person in another irrigation block (group) different from your irrigation scheme in your district (die outcome 11-20)

Enumerator invites the Supervisor:

- The supervisor triples the amount for the appropriate receiver and the enumerator marks the envelope for whether it is for within block (group) (own irrigation block (group) member) (I=Ingroup) or outgroup (O) (unknown other irrigation block (group) member).

- The envelope is given to the Supervisor who is responsible for collecting and redistributing all envelopes. The unique registration number must specify based on these categories:

    - Type of game (G3),
    - Ingroup (I) or Outgroup (O) based on the lottery,
    - The irrigation group ID, and
    - Member ID of the sender (to make sure the envelope is returned to the correct sender).

Note: The stated amounts returned will be used also to determine how much they have to return when they get the envelopes from the unknown player they play with. E.g., if they find MK 2000 in the envelope, they have to return what they stated they would return in the table above for the type of trustor they received the envelope from.

Game Set 4: Risky Investment Game

Game 4 Instructions: This game takes place in three steps. First, you will choose between a risky and safe amount of money in a hypothetical game. Afterwards, you will play two rounds of a real game where you choose between alternative mixes of the safe and risky amounts in the initial hypothetical game, and where you decide how much risk you want to take in each of the two rounds.

Step 1: Hypothetical game

R1. Step 1. You have the choice between	Option 1: Risky amount
1. A risky amount of 6000 MK with a 50% chance of winning this amount (determined by throwing a 20-sided die). If the die outcome is 1-10 for 20-sided die=Loss and you get nothing. If the die outcome is 11-20 for 20-sided die=win. 2. A safe amount of 2000 MK. State your preferred choice	Option 2: Safe amount

Step 2: Whether you prefer the risky or safe amount above, we give you the option to choose between an alternative mixture of risky and safe amounts. Firstly, the probability of winning in at 50%. What is your preferred combination of risky and safe amounts? Select your preferred combination of risky and safe amounts among the six alternatives below:

Enumerator instruction: Put MK 6000 in **two 2000 MK notes**, **one 1000 MK note**, and **five 200 MK notes** and **an envelope** in front of the respondent. These are to show the Risky amount and Safe amount as listed below in R2 and R5.

R2	**R2 Series** **Option** / **Description of alternatives** 1 — **50%** chance of Risky amount = 6000 + Safe amount = 0 (full risk) 2 — **50%** chance of Risky amount = 4800 + Safe amount = 400 3 — **50%** chance of Risky amount = 3600 + Safe amount = 800 4 — **50%** chance of Risky amount =2400 + Safe amount = 1200 5 — **50%** chance of Risky amount =1200 + Safe amount = 1600 6 — Risky amount = 0 + Safe amount = 2000 (no risk)	Option preferred (1-6) (select only one)
R3	Use the 20-sided die once to determine whether they win or lose the amount they prefer to risk in the real game R2: Select the option for the real game: R2: Numbers 11-20 =Win, Numbers 1-10=Loss	**Outcome Code** 1=Win, 0=Loss
R4	**Calculate payout to the player:** Risky amount:_____+ Safe amount:_____=Total:_____	MK=

Steep 3: We will now allow you to play the same game once more:

<table>
<tr><td>R5</td><td>R2 Series<table><tr><th>Option</th><th>Description of alternatives</th></tr><tr><td>1</td><td>50% chance of Risky amount = 6000 + Safe amount = 0 (full risk)</td></tr><tr><td>2</td><td>50% chance of Risky amount = 4800 + Safe amount = 400</td></tr><tr><td>3</td><td>50% chance of Risky amount = 3600 + Safe amount = 800</td></tr><tr><td>4</td><td>50% chance of Risky amount =2400 + Safe amount = 1200</td></tr><tr><td>5</td><td>50% chance of Risky amount =1200 + Safe amount = 1600</td></tr><tr><td>6</td><td>Risky amount = 0 + Safe amount = 2000 (no risk)</td></tr></table></td><td>Option preferred (1-6) (select only one)</td></tr>
<tr><td>R6</td><td>Use the 20-sided die once to determine whether they win or lose the amount they prefer to risk in the real game R2:
Select the option for the real game:
R2: Numbers 11-20 =Win, Numbers 1-10=Loss</td><td>Outcome Code
1=Win,
0=Loss</td></tr>
<tr><td>R7</td><td>Payout to the player:
Risky amount:_____+ Safe amount:_____=Total:_____</td><td>MK=</td></tr>
</table>

Enumerator Instruction: Cash payments for all the games will be done when we return for the second round of experiments.

SMARTEX project. Time related numerical understanding

These are questions that will assess your general understanding and there are no money payouts for this part. For these questions, you should identify one correct answer.

Time differences:

1. Yohane plans to leave 3 months from now and return 12 months from now. Alisi plans to leave 3 months from now and return 11 months from now. Who is the longest time away?
    a. Yohane
    b. Alisi
    c. They are both away for the same time period.

2. Yohane plans to be away for 6 months. Alisi plans to leave 1 month from now and return 6 months from now. Who is the longest time away?
    a. Yohane
    b. Alisi
    c. They are both away for the same time period.

3. Yohane plans to leave 3 months from now and return 12 months from now. Alisi plans to leave 1 month from now and return 11 months from now. Who is the longest time away?
    a. Yohane
    b. Alisi
    c. They are both away for the same time period.

Understanding of common time units and their relationship:

4. You are about to build a house. House A takes 15 weeks to build, whereas House B takes 3 months to build. You need the house to be completed as soon as possible, which house do you choose?
    a. House A
    b. House B
    c. It does not matter, they take equally long to build.

5. You are about to build a house. House A takes 15 weeks to build, whereas House B takes 4 months to build. You need the house to be completed as soon as possible, which house to you choose to build?
    a. House A
    b. House B
    c. It does not matter, they take equally long to build.

SMARTEX project. Risk related numeracy.

Understanding proportions:

6.

- Village A has 100 inhabitants, Village B has 1000 inhabitants.
- Village A gets 200 kilos of rice. Village B gets 2000 kilos of rice.
- The rice is distributed equally among the villagers in both villages.
- Yohane lives in Village A, Alisi lives in Village B.
- Does Yohane get more rice than Bionce?
    a. Yes
    b. No, Alisi gets more
    c. No, they get an equal amount of rice.

7.

- Village A has 100 inhabitants, Village B has 200 inhabitants.
- Village A gets 200 kilos of rice. Village B gets 400 kilos of rice.
- The rice is distributed equally among the villagers in both villages.
- Yohane lives in Village A, Alisi lives in Village B.
- Does Yohane get more rice than Bionce?
    a. Yes
    b. No, gets more
    c. No, they get an equal amount of rice.

8.

- Village A has 100 inhabitants, Village B has 150 inhabitants.
- Village A gets 200 kilos of rice. Village B gets 300 kilos of rice.
- The rice is distributed equally among the villagers in both villages.
- Yohane lives in Village A, Alisi lives in Village B.
- Does Yohane get more rice than Bionce?
    a. Yes
    b. No, Alisi gets more
    c. No, they get an equal amount of rice.

9.

- Village A has 100 inhabitants, Village B has 500 inhabitants.
- Village A gets 200 kilos of rice. Village B gets 1015 kilos of rice.
- The rice is distributed equally among the villagers in both villages.
- Yohane lives in Village A, Alisi lives in Village B.
- Does Yohane get more rice than Bionce?

a. Yes
b. No, Alisi gets more
c. No, they get an equal amount of rice.

Understanding the roll and the role of a die (dice)

10.

- When we roll a standard die with six sides 1 to 6, we say that each side has an equal chance to land face up. Does that mean that the chance to get a low number 1,2 or 3 is equal to the chance to get a high number 4,5 or 6?
    a. No, that is impossible to say
    b. Yes, it is a 50-50 chance to get a high or low number facing up.
    c. It depends, sometimes this happens, sometimes not.

11.

- If you roll two standard dices and add the pips facing up. What is the lowest possible number pips?
    a. 1
    b. 2
    c. 3
    d. Impossible to say.

12.

- If you roll two standard dices and add the pips facing up.
- What is most common sum of the pips? (You can imagine rolled two dices a thousand times)
    a. Impossible to say, as this varies
    b. Impossible to say, but often less than 6
    c. 6
    d. 7
    e. 8

13.

- You can decide between rolling one of three dices. One with 5 sides, one with 6 sides and one with 7 sides. For all the dices, each side has an equal chance landing face up. Each of these three dices has one green face, and the rest are red. If the die you choose to role lands with green face up, you get 1000 kwacha. Which die do you choose to roll?
    a. The one with 5 sides
    b. The one with 6 sides
    c. The one with 7 sides

14.

- Again you have the three dices with one green and the rest red faces. (One with 5 sides, one with 6 sides and one with 7 sides.) Now you are going to choose two dices to roll simultaneously. If you get two green faces facing up, you have to pay 1000 kwacha. Which two dices do you choose to roll?
    a. The one with 5 sides and the one with 6 sides
    b. The one with 5 sides and the one with 7 sides
    c. The one with 6 sides and the one with 7 sides

15.

- Again you have the three dices with one green and the rest red faces. (One with 5 sides, one with 6 sides and one with 7 sides.) Now you can decide if you would like to roll two or three dices. The outcome rules are the same, if you get two green faces facing up, then you have to pay 1000 Kwacha. Which alternative do you choose?
    a. The one with 5 sides and the one with 6 sides
    b. The one with 5 sides and the one with 7 sides
    c. The one with 6 sides and the one with 7 sides
    d. All three

16.

- Again, you have the three dices with one green and the rest red faces. (One with 5 sides, one with 6 sides and one with 7 sides.) Now you can decide if you would like to roll two or three dices. The outcome rules are the reversed, if you get two green faces facing up, then you will receive 1000 Kwacha. Which alternative do you choose?
    a. The one with 5 sides and the one with 6 sides
    b. The one with 5 sides and the one with 7 sides
    c. The one with 6 sides and the one with 7 sides
    d. All three

PROGRAMMED ON PRINTED PAPER

SMARTEX project. Irrigation Experiments 2024 Experimental Round 2.

For Round 2 of experiments the payments for all Round 1 experiments have to be arranged in envelopes for each respondent (parcel manager):

1. **Envelope for social preference game (money kept in real game+money received from other player (ingroup or outgroup))**
2. **Envelope for dictator game (money retained in real game+money received from other player (ingroup or outgroup))**
3. **Envelope for trustees in trust game (money kept as trustor+money received from trustor, info on how much they have committed to return to trustor that has been subtracted+money returned from trustee (ingroup or outgroup))**
4. **Envelope for risky investment game (payout from two rounds)**

This will be handed out to all respondents (parcel managers) after the Time and Risk experiment is completed.

Time and Risk Experiment

Informed consent form

Good morning/afternoon. My name is _____ (Name of interviewer) from Lilongwe University of Agriculture and Natural Resources (LUANAR), Bunda College. This is the second round of experiments that you have been randomly been selected to participate in. The payments for all experiments will be made at the end today for all the experiments in both rounds.

We expect that you give us truthful responses according to the way you understand the questions. Your participation is voluntary, and you can choose to opt out at any time during our discussion. However, we hope you will participate in the whole experimental study, and we believe that your participation will help us understand important factors associated with improved performance of irrigation schemes.

This second round of experiments will involve decisions over time and involve risky and safe prospects and aim to get measures of your risk and time preferences that are relevant for investment decisions. There will be a 10% chance of winning money in one of these experiments. You decide for yourself how much risk you are willing to take in each of the experiments by choosing between risky and safe amounts received at different points in time. The interview will take roughly 1 hour to complete. The information you provide will be anonymized to anyone outside the research team and will only be used for research and irrigation policy analysis.

If you have questions or comments, you can ask me now. For further details, you can contact Sarah Tione, PhD of 0999544664 the Director of Research and Outreach at LUANAR, Associate Prof Sam Katengeza on 0888446202.

Do you agree to proceed with the interview?

Yes, I agree (Yes .... 01) |___|___| Proceed with interview

No, I don't agree (No .... 02) |___|___| End interview.

Name of Respondent: _____

Signature or thumbprint: _____

Phone Number: _____

Instructions to enumerators:

- **a.** The first set of four Choice Lists (CLs) have no risk while the next 16 CL experiments include one (or two) risky prospects.
- **b.** Here is a 10% lottery chance that one of the 20 Choice Lists will be real for the respondents (determined by throwing a 20-sided die in front of the respondents after completion of all CL experiments).
- **c.** In each CL the choices are between amounts of money to be received with certainty or a specific probability at different points in the future.
- **d.** In each case the respondent chooses between two options and indicates the one he/she prefers.
- **e.** You tick the preferred choice in each task.
- **f.** You will introduce Choice Lists with more distant future (six months to two years) and near future (one week from now) money options (in MWK).
- **g.** In each Choice List (CL), we keep the future amount constant while we vary the near future amount till we identify the switch point for the respondents.
- **h.** We expect only one switch point per series for responses to be consistent in that specific series.
- **i.** Make sure that you in each series make it very clear to the respondents when the two points in time are as compared to the date of the interview.
- **j.** Remind the respondent about this when presenting each binary choice to the respondents.
- **k.** They should make choices that are most preferred given their current living conditions and need for money at the different points in time that are indicated in each series.

Starting point bias. There may be a problem of starting point bias and respondents to continue to give the same answer as you move through a CL stepwise from one end. To minimize the risk of starting point bias you should:

a) Randomize the starting point in each CL (throw the die for each CL and mark the starting point. Use die numbers 1-11 for randomizing the starting point in each CL. If for determining the starting point for CL series 1 you roll the die and die no 6 turns up, mark X row along Task 6 on the column "Start row". If any of the die numbers 12 to 20 turns up, repeat rolling the die until you get die number less than 12. Do this for all CLs before you start).

b) After the respondent has made the choice on the random starting row move to the corner where you expect a switch compared to the first response to the random starting point.
   a. If the near future amount is preferred, go to the bottom row.
   b. If the far future amount is preferred, go to the top row.

c) When (if) you get a switch, select the task row in the middle between the last two rows.

d) If you do not get a switch continue in the same direction to a new middle row where the choice was opposite.

e) And continue like that till you have narrowed in and identified the switch point.

f) If the near future amount is preferred when you are at the bottom row in a series, add a line and reduce the near future amount to half of that on the bottom line to see if that leads to a switch point. If not, repeat the same on another line till you get a switch (some may have extremely high discount rates).

g) You should then also explore the reasons for such extreme discount rates and note these down on the experimental protocol.

Identification of winners. When all games have been played you will arrange the lottery to identify winners for the time and risk Preference experiments and pure risk experiments. For the time and risk experiments there is a 10% probability of the respondent becoming a winner. Use the die once to identify winners. Winners should get die number 19 or 20. You should do this carefully in front of the respondent after you have explained which numbers represent winning. You shake the die once under the cup on the board and jointly with the respondent examine the outcome.

For winners you need to identify which of the 20 series will be used for real payout. You use the die+cup again with numbers 1-20 representing each of the 20 Choice Lists (1-4 for time pref. + 6-20 for time+risk Choice Lists).

Each Choice List has Task Row numbers 1-11 (or more for lists where rows had to be added). You use the die+cup again to identify the row number for payout. You will use the respondent's choice at this Task row number as the basis for payout. You identify the timing of the payout and whether it is a lottery or certain payout. If it is a lottery you use the die-cup again to find the outcome of the lottery by assigning die numbers according to the probability of winning. A reward card is issued to the respondent as a guarantee for the future payment including the amount and timing of the payment.

SMARTEX: Irrigation experiments 2024: Introduction and Experiments (Part 2)

S.No.	Question	Unit	Response
0	Experimental enumerator: List with names and codes: 1-15	Code	
1	Date	Date	
2	Time when interview starts	Hour:Minute	
3	Name of household househead		
4	DistrictID		
5	VillageID		
6	Irrigation group ID		
7	HouseholdID		
8	Household memberID		
9	Household member name		
10	Household Member Phone number		
11	Sex	1=Female 0=Male	
12	Year of birth		
13	Month of birth, 1-12		
14	Mobile phone number		
15	Handing out envelope from first round: Amount found in the envelope	MwK.	

Instructions to respondents:

- **a.** You will be asked to respond to a series of money payment options at different points in time in the future.
- **b.** The distance into the future as well as the amounts will vary from task to task and you shall always in each case indicate which of the two options you prefer, given your current situation and future anticipated needs.
- **c.** Make sure you make careful decisions as you do not know which of these may become subject to real payout after you have answered all the questions.
- **d.** This will be determined through a lottery afterwards. Lucky winners will get payout at the time specified in the randomly chosen (using the die) Choice List and task that was picked in the lottery and your choice in that Choice List and task.
- **e.** LUANAR (**Name: Sarah Tione, PhD**) takes responsibility for the payouts.
- **f.** The lucky winners will get a **Reward ticket** as a guarantee of the future payment.
- **a.** All payments will be done through either bank account or mobile money transfers based on your choice.
- **b.** There is a 10% chance (lottery) of you being selected for a real game in this experiment that includes potential payouts at different points in time. A die will be used to identify those who will have the real game.

Enumerator instruction:

1. Put **MK 31000** in six 5000 MK note and one 1000 MK note. These are going to be used for displaying the **far future amounts**. (6000 = one 5000 MK note + 0ne 1000 MK note when asking CL1 and CL2; and 30000= six 5000 MK notes when asking CL3-CL20)
2. Put another MK 30000 in five 5000 MK notes, one 2000 MK note, two 1000 MK notes, and five 200 MK notes. These will be used to show the near future certain amounts, ranging from 200 MK to 30000 MK for all CL1 to CL20.

VICE CHANCELLOR
Prof. EKW Kaunda, Dip, BSc, MSc, PhD
Our Ref:
Your Ref:

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Tel: (265) 01 277 222/260
Fax: (265) 01 277 364
Email: vc@luanar.ac.mw

Knowledge Innovation and Excellence

TIME EXPERIMENT REWARD CARD

Interview Date (DD/MM/YYYY)			**HH Member ID**			
Enumerator ID			**Respondent Name**			
Group ID			**Telephone Number**			
HHID						
Winning Amount from Time Preference/Time Preference with risk (MwK)	Future date of payment (Code) 1= 1week 2= 6 months 3= 12 months 4= 2 years	Actual Pay Date (based on interview date) DD/MM/YYYY	Mode of payment (Code) 1=Airtel Money 2=TNM Mpamba 3=Bank account	Mobile number or Bank Account number	Name of mobile account or bank account owner	If name of account owner different from respondent, indicate relationship. (Circle the answer)
						1 = Friend 2 = Parent 3 = Sister 4 = Brother 5= Other (specify)
Respondent Signature or thumbprint						
Enumerator Signature						
Supervisor Name and Signature						

Prepared by Sarah Tione, PhD . **For any inquires call 0999544664**

Time Preference experiments

Page number:_____

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL3: _____

Time & Risk Preference CL 3								
Time pref. Series no.	Start row	Task no.	Prob of winning 100%	Receive at far future period: **6 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
3		1	1	30000		1	30000	
3		2	1	30000		1	27000	
3		3	1	30000		1	24000	
3		4	1	30000		1	21000	
3		5	1	30000		1	18000	
3		6	1	30000		1	15000	
3		7	1	30000		1	12000	
3		8	1	30000		1	9000	
3		9	1	30000		1	6000	
3		10	1	30000		1	3000	
3		11	1	30000		1	1000	

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL4: _____

Time & Risk Preference CL 4								
Time pref. Series no.	Start row	Task no.	Prob of winning 100%	Receive at far future period: **12 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
4		1	1	30000		1	30000	
4		2	1	30000		1	27000	
4		3	1	30000		1	24000	
4		4	1	30000		1	21000	
4		5	1	30000		1	18000	
4		6	1	30000		1	15000	
4		7	1	30000		1	12000	
4		8	1	30000		1	9000	
4		9	1	30000		1	6000	
4		10	1	30000		1	3000	
4		11	1	30000		1	1000	

Page number:_____

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL1: _____

Time & Risk Preference CL 1								
Time pref. Series no.	Start row	Task no.	Prob of winning 100%	Receive at far future period: **6 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
1		1	1	6000		1	6000	
1		2	1	6000		1	5400	
1		3	1	6000		1	4800	
1		4	1	6000		1	4200	
1		5	1	6000		1	3600	
1		6	1	6000		1	3000	
1		7	1	6000		1	2400	
1		8	1	6000		1	1800	
1		9	1	6000		1	1200	
1		10	1	6000		1	600	
1		11	1	6000		1	200	

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL2: _____

Time & Risk Preference CL 2								
Time pref. Series no.	Start row	Task no.	Prob of winning 100%	Receive at far future period: **12 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
2		1	1	6000		1	6000	
2		2	1	6000		1	5400	
2		3	1	6000		1	4800	
2		4	1	6000		1	4200	
2		5	1	6000		1	3600	
2		6	1	6000		1	3000	
2		7	1	6000		1	2400	
2		8	1	6000		1	1800	
2		9	1	6000		1	1200	
2		10	1	6000		1	600	
2		11	1	6000		1	200	

Time Preference with risk experiments:

Page number:_____

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL5: _____

Time & Risk Preference CL 5								
Time pref. Series no.	Start row	Task no.	Prob of winning 75%	Receive at far future period: **1 week from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
5		1	15/20	30000		1	30000	
5		2	15/20	30000		1	27000	
5		3	15/20	30000		1	24000	
5		4	15/20	30000		1	21000	
5		5	15/20	30000		1	18000	
5		6	15/20	30000		1	15000	
5		7	15/20	30000		1	12000	
5		8	15/20	30000		1	9000	
5		9	15/20	30000		1	6000	
5		10	15/20	30000		1	3000	
5		11	15/20	30000		1	1000	

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL6: _____

Time & Risk Preference CL 6								
Time pref. Series no.	Start row	Task no.	Prob of winning 90%	Receive at far future period: **12 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
6		1	18/20	30000		1	30000	
6		2	18/20	30000		1	27000	
6		3	18/20	30000		1	24000	
6		4	18/20	30000		1	21000	
6		5	18/20	30000		1	18000	
6		6	18/20	30000		1	15000	
6		7	18/20	30000		1	12000	
6		8	18/20	30000		1	9000	
6		9	18/20	30000		1	6000	
6		10	18/20	30000		1	3000	
6		11	18/20	30000		1	1000	

Time Preference with risk experiments:

Page number:_____

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL7: _____

Time & Risk Preference CL 7								
Time pref. Series no.	Start row	Task no.	Prob of winning 10%	Receive at far future period: **12 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
7		1	2/20	30000		1	15000	
7		2	2/20	30000		1	12000	
7		3	2/20	30000		1	10000	
7		4	2/20	30000		1	8000	
7		5	2/20	30000		1	6000	
7		6	2/20	30000		1	4000	
7		7	2/20	30000		1	3000	
7		8	2/20	30000		1	2000	
7		9	2/20	30000		1	1400	
7		10	2/20	30000		1	800	
7		11	2/20	30000		1	400	

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL8: _____

Time & Risk Preference CL 8								
Time pref. Series no.	Start row	Task no.	Prob of winning 25%	Receive at far future period: **12 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
8		1	5/20	30000		1	15000	
8		2	5/20	30000		1	12000	
8		3	5/20	30000		1	10000	
8		4	5/20	30000		1	8000	
8		5	5/20	30000		1	6000	
8		6	5/20	30000		1	4000	
8		7	5/20	30000		1	3000	
8		8	5/20	30000		1	2000	
8		9	5/20	30000		1	1400	
8		10	5/20	30000		1	800	
8		11	5/20	30000		1	400	

Page number:_____

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL15: _____

Time & Risk Preference CL 15								
Time pref. Series no.	Start row	Task no.	Prob of winning 90%	Receive at far future period: **6 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
15		1	18/20	30000		1	30000	
15		2	18/20	30000		1	27000	
15		3	18/20	30000		1	24000	
15		4	18/20	30000		1	21000	
15		5	18/20	30000		1	18000	
15		6	18/20	30000		1	15000	
15		7	18/20	30000		1	12000	
15		8	18/20	30000		1	9000	
15		9	18/20	30000		1	6000	
15		10	18/20	30000		1	3000	
15		11	18/20	30000		1	1000	

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL16: _____

Time & Risk Preference CL 16								
Time pref. Series no.	Start row	Task no.	Prob of winning 75%	Receive at far future period: **6 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
16		1	15/20	30000		1	30000	
16		2	15/20	30000		1	27000	
16		3	15/20	30000		1	24000	
16		4	15/20	30000		1	21000	
16		5	15/20	30000		1	18000	
16		6	15/20	30000		1	15000	
16		7	15/20	30000		1	12000	
16		8	15/20	30000		1	9000	
16		9	15/20	30000		1	6000	
16		10	15/20	30000		1	3000	
16		11	15/20	30000		1	1000	

Page number:_____

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL19: _____

Time & Risk Preference CL 19								
Time pref. Series no.	Start row	Task no.	Prob of winning 50%	Receive at far future period: **12 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
19		1	10/20	30000		1	30000	
19		2	10/20	30000		1	27000	
19		3	10/20	30000		1	24000	
19		4	10/20	30000		1	21000	
19		5	10/20	30000		1	18000	
19		6	10/20	30000		1	15000	
19		7	10/20	30000		1	12000	
19		8	10/20	30000		1	9000	
19		9	10/20	30000		1	6000	
19		10	10/20	30000		1	3000	
19		11	10/20	30000		1	1000	

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL20: _____

Time & Risk Preference CL 20								
Time pref. Series no.	Start row	Task no.	Prob of winning 50%	Receive at far future period: **6 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
20		1	10/20	30000		1	30000	
20		2	10/20	30000		1	27000	
20		3	10/20	30000		1	24000	
20		4	10/20	30000		1	21000	
20		5	10/20	30000		1	18000	
20		6	10/20	30000		1	15000	
20		7	10/20	30000		1	12000	
20		8	10/20	30000		1	9000	
20		9	10/20	30000		1	6000	
20		10	10/20	30000		1	3000	
20		11	10/20	30000		1	1000	

Page number:_____

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL13: _____

Time & Risk Preference CL 13								
Time pref. Series no.	Start row	Task no.	Prob of winning 90%	Receive at far future period: **2 years from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
13		1	18/20	30000		1	30000	
13		2	18/20	30000		1	27000	
13		3	18/20	30000		1	24000	
13		4	18/20	30000		1	21000	
13		5	18/20	30000		1	18000	
13		6	18/20	30000		1	15000	
13		7	18/20	30000		1	12000	
13		8	18/20	30000		1	9000	
13		9	18/20	30000		1	6000	
13		10	18/20	30000		1	3000	
13		11	18/20	30000		1	1000	

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL14: _____

Time & Risk Preference CL 14								
Time pref. Series no.	Start row	Task no.	Prob of winning 75%	Receive at far future period: **2 years from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
14		1	15/20	30000		1	30000	
14		2	15/20	30000		1	27000	
14		3	15/20	30000		1	24000	
14		4	15/20	30000		1	21000	
14		5	15/20	30000		1	18000	
14		6	15/20	30000		1	15000	
14		7	15/20	30000		1	12000	
14		8	15/20	30000		1	9000	
14		9	15/20	30000		1	6000	
14		10	15/20	30000		1	3000	
14		11	15/20	30000		1	1000	

Page number:_____

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL9: _____

Time & Risk Preference CL 9								
Time pref. Series no.	Start row	Task no.	Prob of winning 10%	Receive at far future period: **6 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
9		1	2/20	30000		1	15000	
9		2	2/20	30000		1	12000	
9		3	2/20	30000		1	10000	
9		4	2/20	30000		1	8000	
9		5	2/20	30000		1	6000	
9		6	2/20	30000		1	4000	
9		7	2/20	30000		1	3000	
9		8	2/20	30000		1	2000	
9		9	2/20	30000		1	1400	
9		10	2/20	30000		1	800	
9		11	2/20	30000		1	400	

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL10: _____

Time & Risk Preference CL 10								
Time pref. Series no.	Start row	Task no.	Prob of winning 25%	Receive at far future period: **6 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
10		1	5/20	30000		1	15000	
10		2	5/20	30000		1	12000	
10		3	5/20	30000		1	10000	
10		4	5/20	30000		1	8000	
10		5	5/20	30000		1	6000	
10		6	5/20	30000		1	4000	
10		7	5/20	30000		1	3000	
10		8	5/20	30000		1	2000	
10		9	5/20	30000		1	1400	
10		10	5/20	30000		1	800	
10		11	5/20	30000		1	400	

Page number:_____

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL17: _____

Time & Risk Preference CL 17								
Time pref. Series no.	Start row	Task no.	Prob of winning 90%	Receive at far future period: **12 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
17		1	18/20	30000		1	30000	
17		2	18/20	30000		1	27000	
17		3	18/20	30000		1	24000	
17		4	18/20	30000		1	21000	
17		5	18/20	30000		1	18000	
17		6	18/20	30000		1	15000	
17		7	18/20	30000		1	12000	
17		8	18/20	30000		1	9000	
17		9	18/20	30000		1	6000	
17		10	18/20	30000		1	3000	
17		11	18/20	30000		1	1000	

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL18: _____

Time & Risk Preference CL 18								
Time pref. Series no.	Start row	Task no.	Prob of winning 75%	Receive at far future period: **12 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
18		1	15/20	30000		1	30000	
18		2	15/20	30000		1	27000	
18		3	15/20	30000		1	24000	
18		4	15/20	30000		1	21000	
18		5	15/20	30000		1	18000	
18		6	15/20	30000		1	15000	
18		7	15/20	30000		1	12000	
18		8	15/20	30000		1	9000	
18		9	15/20	30000		1	6000	
18		10	15/20	30000		1	3000	
18		11	15/20	30000		1	1000	

Page number:_____

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL11: _____

Time & Risk Preference CL 11								
Time pref. Series no.	Start row	Task no.	Prob of winning 10%	Receive at far future period: **1 week from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
11		1	2/20	30000		1	15000	
11		2	2/20	30000		1	12000	
11		3	2/20	30000		1	10000	
11		4	2/20	30000		1	8000	
11		5	2/20	30000		1	6000	
11		6	2/20	30000		1	4000	
11		7	2/20	30000		1	3000	
11		8	2/20	30000		1	2000	
11		9	2/20	30000		1	1400	
11		10	2/20	30000		1	800	
11		11	2/20	30000		1	400	

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL12: _____

Time & Risk Preference CL 12								
Time pref. Series no.	Start row	Task no.	Prob of winning 25%	Receive at far future period: **1 week from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
12		1	5/20	30000		1	15000	
12		2	5/20	30000		1	12000	
12		3	5/20	30000		1	10000	
12		4	5/20	30000		1	8000	
12		5	5/20	30000		1	6000	
12		6	5/20	30000		1	4000	
12		7	5/20	30000		1	3000	
12		8	5/20	30000		1	2000	
12		9	5/20	30000		1	1400	
12		10	5/20	30000		1	800	
12		11	5/20	30000		1	400	

Instructions to experimental enumerators: (separate from data recording forms): Random winners and payout.

The outcome of the time and risk Preference game series 1-20

1. For the time and risk experiments, there is a 10% probability of the respondent becoming a winner. Use the die once to identify winners. Winners should get die number 19 or 20.
   Die outcome:

Game outcome (circle)	
Die 19 and 20 = Win	1 = Win
Die 1 to 18 = Loss	0 = Loss

2. If the outcome is Win, roll the die to determine the real game from the CL series 1-20. Use the die+cup again with numbers 1-20 representing each of the 20 Choice Lists (1- 4 for time pref. + 5-20 for time+risk Choice Lists).

   Die outcome:

Die Number	
Real game CL series No.	

3. Use the die+cup again to identify the row number for payout (die numbers 1-11 representing task numbers 1 to 11 of the real game CL series determined in 2 above.

Die Number	
Task Number	

4. Go to the real game CL series and identify the timing of the payout and whether it is a lottery or a certain payout.

Real Game Outcome	
1 = Lottery 2 = Certain payout	

5. Time of the payout for the real CL at the real identified task number (circle):

Time of Payout	
1= After one week 2= After 6 months 3= After 12 months 4= After 2 years	

6. If it is a lottery you use the die-cup again to find the outcome of the lottery by assigning die numbers according to the probability of winning.

Enumerator Instructions

- For probability of winning = 2/20 or 10%, use die numbers 19-20 =win and die numbers 1-18= Loss;

Win/Loss

Die 19 to 20 = Win	1 = Win
Die 1 to 18 = Loss	0 = Loss

- For probability of winning 5/20 or 25%, use die numbers 16-20 =win and die numbers 1-15= Loss;

Win/Loss

Die 16 to 20 = Win	1 = Win
Die 1 to 15 = Loss	0 = Loss

- For the probability of winning 10/20 or 50%, use die numbers 11-20 =win and die numbers 1- 10= Loss;

Win/Loss

Die 11 to 20 = Win	1 = Win
Die 1 to 10 = Loss	0 = Loss

- For probability of winning 15/20 or 75%, use die numbers 6-20 =win and die numbers 1- 5= Loss;

Win/Loss

Die 6 to 20 = Win	1 = Win
Die 1 to 5 = Loss	0 = Loss

- For probability of winning 18/20 or 90%, use die numbers 3-20 = win and die numbers 1-2 =Loss.)

Win/Loss

Die 3 to 20 = Win	1 = Win
Die 1 to 2 = Loss	0 = Loss

Responses

6a. Probability of winning the real game CL identified above (circle):

Die outcome	Probability	Win/loss
1= After one week 2= After 6 months 3= After 12 months 4= After 2 years		

1= 2/20 =2/20	4 = 15/20 =15/20
2= 5/20 =5/20	5= 18/20=18/20
3= 10/20 =10/20	

6b. Die outcome: die number, _____ 1 = Win, 0= Loss

6c. If won, the amount in MK_____

7. For winners, provide a reward card to the respondent as a guarantee for future payment including the amount and timing of the payment.
   - Write the name of the respondent, and the amount of the reward in MK, circle the time of the payment on the reward card and issue it to the winning respondent.
8. Time interview ended (Hour: minutes)_____

End of the Experiment, Please Thank the Respondent

CHICHEWA VERSION
PROGRAMMED ONLINE

SMARTEX project. Irrigation Experiments 2024

Mwadzuka bwanji/Mwaswera bwanji? Dzina langa ndine _____ (Dzina la ofunsa) ndipo ndachokera ku sukulu ya ukachenjede ya za Ulimi ndi Zachilengedwe ku (LUANAR), Bunda College.

Kodi mufuna kutenga nawo mbali mukafukufukuyi

Experiments for Development of Climate Smart Agriculture (SMARTEX)"?
"Kafukufuku oona kupitsa patsogolo njira zamakono za ulimi monkhudzana ndi Nyengo"

Kufunika kwa Chitukukochi

Muli opephedwa kutenga nawo mbali mu kafukufuku amene akufufuza kufunika kochita bwino kwa ntchito za ulimi wanthirira, zotsatira zakusefukira kwamadzi, zochitika mu msika wa malo (kugulitsa ndi kubweleketsa) muma sikimu a ulimi wanthirira, chilolezo ndi kagwiritsidwe ntchito ka malo ndi madzi.

Cholinga chakafukufukuyi ndikudziwa ndikuzukuta zotsatira za kuchita bwino kwa ntchito za ulimi wanthirira, ngozi zogwa kamba ka kusefukira kwa madzi pa malo osamalilidwa ndi pa khomo, mlingo wa msika wa malo ogwiritsidwa ntchito mu ulimi wanthirira muma sikimu, ndi umwini wa malo ndi madzi.

Kafukufukuyi akuchitika potsatira ntchito zounikira njira zamakono zogwiritsidwa ntchito mu ulimi zomwe zikudziwika muchinjerezi kuti "Experiments for Development of Climate Smart Agriculture (SMARTEX) project" imene sukulu ya ukachenjede ya LUANAR ikupanga mogwirizana ndi Sukulu ya ukachenjede yaku Nolowe yotchedwa "Norwegian University of Life Sciences (NMBU)" ndi thandizo la chuma lochokera mu "NORHED yachiwiri".

Zina mwazo tstila za kafukufukyu zizatha kugwiritsidwa ntchito ndi omphunzitsa ku sukulu ya ukachenjede ya LUANAR.

Ndimabungwe ati omwe akutenga nawo mbali mukafukufuku wantchitoyi

Sukulu ya ukachenjede ya NMBU yaku Nolowe ndi sukulu ya ukachenjede ya LUANAR ndizomwe adzasamala zonse zomwe zitatoleledwe mukafukufukuyi.

Mufunsidwiranji kuti mutenge nawo mbali?

Mwasankhidwa pogwiritsa ntchito mayere mu sikimu yanu ya ulimi wanthirira kuti mutenge nawo mbali ngati m'modzi mwa alimi amene akutenga nawo gawo mu ulimi wanthirira mu sikimu mwanu muno. Tikukulimbikitsani kuti mupeleke mayankho amafunso molingana ndichidziwitso kapena maganizo kapena kukonda kwanu. Mukafukufuku uyu mukhalanso masewera oti mukhoza kukhala ndi mwayi opambana ndalama. Cholinga cha masewelowa ndikuti timvetsetse zisankho zanu pa maubale osiyanasiyana, ziganizo zanu pamene mwakumana ndi chiwopsyezo kapena umo mumapangira ziganizo zokhudzana ndi

kusungitsa ndikuchulukitsa ndalama. Muli ndichisankho chosankha kutenga nawo mbali, ndipo mutha kusankha kusiya kutenga nawo mbali nthawi iliyonse pamene tikucheza nanu. Komabe, tiyembekezera kuti mutenga nawo mbali mumafuso onse ngati modzi mwa anthu a musikimu, ndipo kupeleka maganizo ndi ndemanga zanu ndizofunikira pothandiza kupeleka mzeru zokhudza momwe ulimi wanthirira ungathandizidwe kuti upite patsogolo.

Kodi kutenga nawo mbali kukukhudzani motani?

Ngati musankhe kutenga nawo mbali mu ncthito iyi, tidzacheza nanu ndipo mayankho anu tidziwalemba mu makina amakono osokhetsera mayankho otchedwa Tabuleti muchingerezi. Kufunsa mafunsoku kudzatenga maola atatu kuti timalize, mu maulendo anthu awiri amene tikumane nanu. Mafuso akaundulayi akukhudzana ndi mafunso a pakhomo panu, ntchito za ku munda, kukhudzidwa ndi madzi osefukira, katundu ndi chuma cha pa nkhomo, ndi nkhani za malo. Masewera amene tisewere akhudzana ndi umo mungagawanilane ndalama ndi anthu ena, kukhulupilirana, kasungidwe ka chuma popita nthawi komanso pamene pali zodzamwitsa zosiyanasiyana. Mukafukufukuyi, tikufuna kucheza ndi amene ali ndi umwini opanga ziganizo za ntchito ya ulimi pa banja pano. Tikudziwa kuti opanga ziganizo akhoza kukhala oposela m'modzi pa nyumba komabe ticheza ndi munthu m'modzi kuimilira pankhomo.

Kutenga mbali ndi chisankho chanu

Simuli okakamizidwa kutenga nawo mbali. Ngati musankha kutenga nawo mbali mu kafukufuku uyu, mutha kusankha kusiya pa nthawi ina iliyonse pamene tikuchita macheza athu posapeleka chifukwa chinachilichonse. Mayankho onse omwe mwapeleka adzakhala osamalidwa ndi osawululidwa. Sipadzakhala chotsatira chilichonse chosakhala bwino pamene inu mungapange chisankho chosatenga nawo mbali kapena kusiya panjira macheza athu.

Zinsinsi zanu – momwe tingasungire ndikugwirisa ntchito mayankho anu.

Mayankho amene mutipatse, tidzawagwiritsa ntchito pa zifukwa tafotokoza kale ndipo mayankho okhudzana ndi zizindikiro za pakhomo panu zidzakhala zotetezedwa ndi malamulo okhudza katetezedwe kamayankho omwe atoleledwa yotchedwa data protection legislation (GDPR). Ogwira ntchito ya ukafukufuku kusukulu yawukachenjede ya LUANAR adzazukuta mayankho anu ndikubisa zizindikilo za umwini wanu ndipo izi zidzasungidwa ndi kutetezedwa pogwiritsa ntchito pasiwedi yomwe iletsa ena kupeza mayankhowa opanda chilolezo. Wankulu wa kafukufuku yi ku LUANAR, Dr Sarah Tione, adzasunga mayankho anu ndipo zizindikiro za umwini zidzasungidwa mosiyana ndi mayankho onse okhudzana ndi kafukufukuyi. Zizindikiro zanu zidzaikidwa ngati ma nambala kapena malemba osapeleka chizindikiro chilichonse pamene tikugwiritsa ntchito mayankho anu. Mayankho anu adzagawidwa pa makina amakono osungilapo ku sukukulu ya ukachenjede ya NMBU ndi kusungidwanso ku malo osunga mayankho ku Nolowe. Dziwani kuti ntchito iyi ikutsogoleledwa ndi Pulofesa Stein Holden, amene akuyang'anira izi kuchokela ku Nolowe. Zotsatila za kafukufuku wanthu sizidzaulutsa zizindikiro zanu muzolemba zonse.

Kodi chizachitike ndi chiyani pa za mayankho anu kumapeto kwa kafukufukuyu?

Ntchitoyi ikuyembekezeka kuzamalizidwa mu August 2025. Mayankho anu onse

adzasungidwa ku NMBU (SIKT) komanso pa makina a seva a LUANAR pansi pa njira yotetezedwa yachinsinsi yomwe idzafikiridwe ndi timu yakafukufuku yokha basi. Pakugawa mayankho anu kwa anthu ena kuti alembe za kafukufuku wawo, tizabisa ziziwitso za umwini wanu.

Mayankho odziwitsa umwini wanu adzasungidwa mosiyana, motsogoleledwa ndi Dr. Sarah Tione aku LUANAR. Izi zili chomwechi kuti pakadzafunika kulondoloza ndi kafukufuku wina kutsogoloku, tidzakhale ndi mwayi olondoloza mabanja omwe tacheza nawo.

Ufulu wanu

Malingana ngati mungadziwike pazomwe takufunsani ndikusonkhanitsa mu kafukufukuyu, muli ndi ufulu:

- ☐ Wopeza mayankho omwe tidzasonkhanitse mukafukufuku uyu
- ☐ Wopempha kuti mayankho anu achotsedwe mukafukufuku
- ☐ Wopempha kuti mayankho olakwika anu akonzedwe
- ☐ Wolandila zomwe tasonkhanitsa pa mayankho omwe mwapeleka
- ☐ Wotumiza madandaulo kwa oyang'anila mayankho anuwa ku sukulu ya ukachenjede ya LUANAR (Data Protection Officer).

Ndichiyani chomwe chimatipasa ufulu okonza Mayankho anu?

Tidzakonza mayankho anu malingana ndi chilolezo chanu.

Izi zikutengera mgwirizano ndi Sikt, Data Protection Services ya Sikt- Norwegian Agency for Shared Services in Education and Research, womwe wudawunika kuti kukonzanso kwa mayankho anu mu kafukufukuyu kwakwaniritsa zofunika mu malamulo otetezela mayankho anu.

Kodi ndingapeze kuti zambiri?

Ngati muli ndi mafunso okhuza ntchitoyi, kapena kufuna kugwiritsa ntchito ufulu wanu,

funsani: LUANAR

- Ngati muli ndi mafunso kapena ndemanga mutha kundifunsa pompano. Koma kuti munve zambiri, mutha kulumikizana ndi Sarah Tione, PhD pa 0999544664, kapena Mkulu wakafukufu (Director of Research and Outreach) ku LUANAR, Associate Polofesa Sam Katengeza pa 0888446202.
- Amene adzakhale ndi udindo yoteteza mayankho anu ndi Sarah Tione, PhD, LUANAR

NMBU:

Mungathenso kulankhulana ndi mtsogoleri wa kafukufukuyu;

- Pulofesa Stein T. Holden, pa +47- 94970615
- komiti ya chikhalidwe ku sukulu ya Economics ndi Bizinesi,ku Nolowe:
    - Kirsti Pettersen:+47-91168060
    - Nicolay Andre Melsaeter Worren: +47-

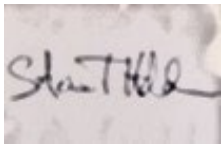
22396900 Ndizothekanso kutumiza madandaulo kwa:

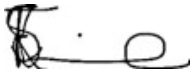
- Datatilsynet, Norway: +47- 22 39 69 00

Regarding your rights or possible complaints:

- *If you need advice on how to exercise your rights, please contact:*
- NMBU's Data Protection Officer Hanne Pernille Gulbrandsen
- Tel: +47 402 81 558
- E-mail: personvernombud@nmbu.no
- *Any complaint/allegation/suspicion of breach of ethics and good research practice must be given in the form of written notification to the Dean of the School of Economics and Business:*
- Professor Casper Claudi Rasmussen
- Tel. +47 901 68 120
- E-mail: casper.claudi.rasmussen@nmbu.no
- Or contact:
- Datatilsynet, Norway: +47- 22 39 69 00
    -

Mayankho anu adzasungidwa motetezedwa ku sukulu ya ukachenjede ya LUANAR ndi cholinga kuti adzagwire ntchito mtsogolomu ngati padzakhale makafukufuku wotsatila oona m'mene zinthu zikusinthira pakapita nthawi.





Pulofesa, NMBU
Mtsogoleli wa ntchitoyi
(Wakafukufuku / Woyang'anira)

Omphunzira (Ngati kulikotheka)

……..

Chilolezo chanu

Ndalandira ndikumva zonse zokhudza kafukufukuyi okhudzana ndi *njira zamakono za ulimi monkhudzana ndi nyengo (Experiments for Development of Climate Smart Agriculture (SMARTEX))* ndipo ndapatsidwa mwai wofunsa mafunso.

Ndikuloleza.

- ☐ Kutenga nawo mbali kumafunso okhudza panyumba ndi ntchito za ulimi
- ☐ Kutenga nawo mbali mumasewera ofufuza maganizo anu pa zachikhalidwe zokhudzana ndi umoyo ndi za chuma
- ☐ Kuti mayankho anga akasungidwe mu nkhokwe yosunga mayankho ndikuwateteza kuti akathandizire ntchito yotelera mayankho okhudza zapankhomo mtsogolomu.

Ine ndikupeleka chilolezo kuti mayankho anga akakonzedwe pofikira kumapeto kwa kafukufukuyu.

Dzina: _____

Kusindikiza:…… Date:……

(Kusayinidwa ndi otenga mbali, tsiku)

SMARTEX project. Irrigation Experiments 2024: Experimental Round 1.

Zidziwitso

Mafunso	**Yankho**
Tsiku locheza	
Dzina la wofunsa	
Dzina la mwini nkhomo	
Dzina la omwe ayankha mafunso (Munthu amene amanga ziganizo za ku munda omwe anacheza nawo pa nyumba ndi ku munda)	
Numbala ya phone	
Akuyakha ndi mayi kapena bambo 1=Mayi, 2= Bambo	
Ndina la mudzi	
ID ya mudzi	
Dzina la Traditional Authority	
Boma	
Agricultural EPA	
Scheme ID	
Dzina la Sikimu	
Block ID	
Member ID	

GAME SET 1: SHARING GAME

Malangizo a Masewela oyamba (Kugawana) :

a. Tikudziwitsani zamasewera ogawana asanu ndi atatu. Ndipo mudzisankha zomwe mukufuna.
b. Mukhala ndi mwayi wopeza ndalama potenga nawo mbali pamasewerawa ndipo mayankho anu akhudza kuchuluka kwa ndalama zomwe inu ndi ena mulipilidwe.
c. Masewera amodzi okha ndi omwe angapangitse kuti mulipidwe, koma simukudziwa kuti ndi masewera ati omwe angakupangitseni kulipilidwa mpaka mutayankha zonse.
d. Mayele awonetsa kuti ndi masewera ati omwe angakhale enieni masewera onse akaseweredwa.
e. Poyankha mosamalitsa pamasewera aliwonse, mukhala ndi mwayi wopeza ndalama zomwe mukufuna.
f. Kenaka tidzasankha ogawana naye ndalama. Awa atha kukhala munthu wina wa mubuloko lanu la mthirira yemwe simumudziwa kapena wamubuloko la mthirira lina mu sikimu ina mu m'boma lanu lino. Simudzadziwa kuti munthu winayo ndi ndani, chabe kuti ali muboloku lanu kapena buloku (gulu) lina ya sikumu ina m'boma lanu lino.
g. Mayele ndi amene adzaonetse kuti munthuyo akhala ndani.

Ofunsa mafunso: Ikani ndalama za ma MK 2000 ndi MK 1000 zokwana MK 12000 mu enivelopi pa maso pa ofunsidwa mafunso.

Game	Outcome
Sharing game 1: Mutha kusankha pakati pa njira ziwiri zogawana, pakati pa inu ndi munthu wina **wosamudziwa wa buloku (gulu)** lanu mu sikumu ya ulimi wanthirira	1. **Njira yoyamba**: musunga M K 4000 NDI kupatsa MK 4000 kwa munthu wina wamu buloku (gulu) lanu la ulimi wanthirira
	2. **Njira yachiwiri**: musunga MK 4000 NDI kupatsa MK 0 kwa munthu wina **wamu buloku (gulu) lanu la ulimi wanthirira.**
Sharing game 2: Mutha kusankha pakati pa njira ziwiri zogawana, pakati pa inu ndi munthu wi na **wosamudziwa wa mu buloko lina mu sikimu yina ya ulimi wanthirira muboma lanu**	1. **Njira yoyamba**: musunga MK 4000 NDI kupatsa MK 4000 kwa munthu wina **wosamudziwa wa mu buloko lina mu sikimu yina ya ulimi wanthirira muboma lanu.**
	2. **Njira yachiwiri**: musunga MK4000 NDI kupatsa MK 0 kwamunthu wina **wosamudziwa wa mu buloko lina mu sikimu yina ya ulimi wanthirira muboma lanu.**
Sharing game 3: Mutha kusankha pakati pa njira ziwiri zogawana, pakati pa inu ndi munthu wi na w**osamudziwa wamu buloku (gulu) lanu** mu sikimu ya ulimi wanthirira	1. **Njira yoyamba**: musunga M K 4000 NDI kupatsa MK 4000 kwa munthu wina **wamu buloku (gulu) lanu la ulimi wanthirira.**
	2. **Njira yachiwiri**: musunga MK4000 NDI kupatsa MK 8000 kwa munthu wina **wamu buloku (gulu) lanu la ulimi wanthirira,**
Sharing game 4: Mutha kusankha pakati pa inu ndi munthu wina **wosamudziwa wa mu buloko lina mu sikimu yina ya ulimi wanthirira mubom a lanu**	1. **Njira yoyamba:** musunga M K 4000 NDI kupatsa MK 4000 kwa munthu wina **wosamudziwa wa mu buloko lina mu sikimu yina ya ulimi wanthirira muboma lanu.**
	2. **Njira yachiwiri**: musunga MK4000 NDI kupatsa MK 8000 kwa munthu wina **wosamudziwa wa mu buloko lina mu sikimu yina ya ulimi wanthirira muboma lanu.**
Sharing game 5: Mutha kusankha pakati pa njira ziwiri zogawana, pakati pa inu ndi munthu **wina wosamudziwa wamu buloku (gulu) lanu mu sikimu ya ulimi wanthirira**	1. **Njira yoyamba**: musunga M K 4000 NDI kupatsa MK 4000 kwa munthu wina **wamu buloku (gulu) lanu la ulimi wanthirira.**
	2. **Njira yachiwiri**: musunga MK8000 NDI kupatsa MK 0 kwa munthu wina **wamu buloku(gulu) lanu la ulimi wanthirira.**
Sharing game 6: Mutha kusankha pakati pa njira ziwiri zogawana, pakati pa inu ndi munthu **wina wosamudziwa wa mu**	1. **Njira yoyamba**: musunga M K 4000 NDI kupatsa MK 4000 kwa munthu **wina wosamudziwa wa mu buloko lina mu sikimu yina ya ulimi wanthirira muboma lanu.**

buloko lina mu sikimu yina ya ulimi wanthirira muboma lanu	2. **Njira yachiwiri**: musunga MK8000 NDI kupatsa MK 0 kwamunthu **wina wosamudziwawa mu buloko lina mu sikimu yina ya ulimi wanthirira muboma lanu.**
Sharing game 7: Mutha kusankha pakati pa njira ziwiri zogawana, pakati pa inu ndi munthu **wina wosamudziwa wa mu sikimu ya ulimi wanthi rira**	1. **Njira yoyamba**: musunga M K 4000 NDI kupatsa MK 4000 kwa munthu wina **wamu buloku (gulu) lanu la ulimi wanthirira.**
	2. **Njira yachiwiri**: musunga MK5000 NDI kupatsa MK 7000 kwa munthu **wina wamu buloku (gulu) lanu la ulimi wanthirira.**
Sharing 8: Mutha kusankha pakati pa njira ziwiri zogawana, pakati pa inu ndi munthu wina **wosamudziwa wa musikimu yina ya ulimi wanthiri ra muboma lanu**	1. **Njira yoyamba**: musunga M K 4000 NDI kupatsa MK 4000 kwa munthu **wina wosamudziwawa mu buloko lina mu sikimu yina**
	2. **Njira yachiwiri**: musunga MK5000 NDI kupatsa MK 7000 kwa munthu **wina wosakhalamu buloku (gulu) yanu wa mthilira**

Gawo wachiwir: Pano tipanga mayere

Step 1: Mayele kuti tipeze mtundu wa Gulu Die Outcome: _____	Wosadziwika wamubuloku (gulu) lanu la ulimi wanthirira losiyana ndi sikimu yanu m'boma chanu (zotsatira za 1-10)
	Wosadziwika wamu buloku (gulu) lina musikimu yina ya ulimi wanthirira m'boma lanu (zotsatira za 11-20)
Step 2: Zotsatila za mayele (Lottery Game 1 Game type based on die outcome.) Die Outcome: _____ Real Game: _____	Die outcome 1-5 (Game S1 or S2)
	Die outcome 6-10 (Game S3 or S4)
	Die outcome 11-15 (Game S5 or S6)
	Die outcome 16-20 (Game S7 or S8)

Game Set 2: Dictator Game

Malangizo a Masewera achiwili:

Pakhala mndandanda wa masewera anayi, ndipo imodzi mwa masewerelawo ndi eniyeni, koma simudziwa kuti ndi iti mpaka mutatha masewera onse. Choncho ndikofunikira kuyankha mosamala pa masewera onse.

Masewera omwe akhale enieni adzatsimikizidwa ndi mayele:

(a) Pa masewera aliwonse mudzapatsidwa ndalama zomwe mungasankhe kusunga kapena kugawana ndi munthu wina.
(b) Munthu osadziwikayu atha kukhala mmodzi mwa mamembala mubuloku (gulu) lanu la ulimi wanthirira kapena wa sikimu yina ya ulimi wanthirira yosiyana ndi yanu koma m'boma mwanu
(c) Mayele ndi amene adzaonetse kuti munthuyo ndi ndani mu masewera enieni.
(d) Simudzadziwa munthu amene mukumupatsa ndalama kapena iyeyo kudziwa kuti ndalama yachokela kwandani. Mudzangodziwa kuti munthuyo ali mubuloku (gulu) lanu la ulimi wanthirira kapena musikimu yina ya ulimi wanthirira koma m'boma mwanu.
(e) Pa masewela awa, anthu amene alandila ndalama kuchokela kwa inu sadzabweza ndalamayo, koma adzakhala akuseweranso masewero ofanana ndi inu.
(f) Choncho inunso mukhala munthu wosadziwika amene atha kulandila ndalama kuchokela kwa membala wa buloku (gulu) lanu kapena wa sikimu yina ya ulimi wanthirira m'boma mwanu.
(g) Muli ndi ufulu wopanga chomwe mukufuna pa masewero awa, monga kusankha kutenga ndalama zonse nokha, kupatsa zonse kwa munthu wina osamudziwa kapena kugawana ndi munthu winayo mu mlingo uliwonse mungasankhe.

Enumerator instruction: Put MK 6000 in one 2000 MK note, one 1000 MK notes, and fifteen 200 MK notes and an envelope in front of the respondent.

D1. Mwapatsidwa MK 2000 ndipo mutha kugawana ndi membala wina wosadziwika wa bulok u (gulu) lanu, ndipo munthu ameneyu (osankhi dwa ndi mayele) adzalandira ndalama zomwe mungapereke ngati awa akhale masewera enie ni. Pa MK 2000, mupereka zingati?	2000	Mupeleka MK 2000 yonse kwa membala nzanu wosadzi wika wa buloku (gulu) lanu, i nu mukhala ndi MK 0
	1600	Mupeleka MK 1600 kwa membala nzanu wosadziwika wa buloku (gulu) lanu, yanu MK 400
	1200	Mupeleka MK 1200 kwa membala nzanu wosadziwika wa buloku (gulu) lanu, yanu MK800
	800	Mupeleka MK 800 kwa membala nzanu wosadziwika wabuloku (gulu) lanu, yanu MK1200
	400	Mupeleka MK 400 kwa membala nzanu wosadziwika wabuloku (gulu) lanu, yanu MK1600
	0	Simupeleka ndalama iliyonse kwa membala wa mubuloku (gulu) lanu, musunga MK2000 yonse
D2. Mwapatsidwa MK 2000 ndipo mutha kugawana ndi membala wina wosadziwika wa bulok u lina musikimu yina ya ulimi wanthirira m'bom a mwanu, ndipo munthu ameneyu (osankhidw a ndi mayele) adzalandira ndalama zomwe mu ngapereke ngati awa akhale masewera enieni. Pa MK 2000, mupereka zingati	2000	Mupeleka MK 2000 yonse k wa membala wosadziwika muboloku lina, inu mutsala ndi MK 0
	1600	Mupeleka MK 1600 kwa membala wosadziwika wa sikimu yina, yanu MK 400
	1200	Mupeleka MK 1200 kwa membala wosadziwika wa sikimu yina, yanu MK 800
	800	Mupeleka MK 800 kwa membala wosadziwika wa sikimuyina, yanu MK 1200
	400	Mupeleka MK 400 kwa membala wosadziwika wa sikimuyina, yanu MK 1600
	0	Simupeleka ndalama iliyonse kwa membala wa musikimu yina, musunga MK 2000 yonse
D3. Mwapatsidwa MK 2000 ndipo mutha kugawana ndi membala wina	2000	Mupeleka 2000 yonse kwa membala wabuloku (gulu) la nu wosadziwika ndipo adzal andila Mk 6000, inu mutsala ndi MK 0

wosadziwika wamu b uloku lanu, ndipo munthu ameneyu (osankhid wa ndi mayele) adzalandira katatu ka ndalama zomwe mungapereke ngati awa akhale masew era enieni. Pa MK 2000, mupereka zingati	1600	Mupeleka 1600 kwa membala wabuloku (gulu) lanu wosadziwika ndipo adzalandila Mk 4800, inu musunga MK 400
	1200	Mupeleka 1200 kwa membala wabuloku (gulu) lanu wosadziwika ndipo adzalandila Mk 3600, inu musunga MK 800
	800	Mupeleka 800 kwa membala wabuloku (gulu) lanu wosadziwika ndipo adzalandila Mk2400, inu musunga MK 1200
	400	Mupeleka 400 kwa membala wabuloku (gulu) lanu wosadziwika ndipo adzalandila Mk1200, inu musunga MK 1600
	0	Simupeleka ndalama iliyonse kwa membala wa mubuloku (gulu) lanu, musunga MK2000 yonse
D4. Mwapatsidwa MK 2000 ndipo mutha kugawana ndi membala wina wosadziwika wa bulok u (gulu) lina mu sikimu yina ya ulimi wanthirira m'boma mwanu, ndipo munthu ameneyu (osa nkhidwa ndi mayele) adzalandira katatu ka nda lama zomwe mungapereke ngati awa akhale m asewera enieni. Pa MK 2000, mupereka zingati	2000	Mupeleka 2000 yonse kwa membala wasikimu lina la ul imi wanthirira wosadziwika ndipo adzalandila Mk 6000, inu mutsala ndi MK 0
	1600	Mupeleka 1600 kwa membala wasikimu yina ndipo wosadziwika adzalandila Mk 4800, inu musunga MK 400
	1200	Mupeleka 1200 kwa membala wasikimu yina wosadziwika ndipo adzalandila Mk 3600, inu musunga MK 800
	800	Mupeleka 800 kwa membala wasikimu yina wosadziwika ndipo adzalandila Mk 2400, inu musunga MK 1200
	400	Mupeleka 400 kwa membala wasikimu yina wosadziwika ndipo adzalandila Mk 1200, inu musunga MK 1600
	0	Simupeleka ndalama iliyonse kwa membala wosadziwika wa musikimu yina, musunga MK 2000 yonse

Deciding player

D5. Mayele kuti tipeze mtundu wa buloku (gulu) Die Outcome: _____	Membala wosadziwika mu b uloku (gulu) lanu la ulimi wa nthirira (zotsatira za 1-10)
	Membala wosadziwika wam u sikimu lina la ulimi wanthir ira m'boma lanu (zotsatira za 11-20)

Deciding Game

D6. Mayele kuti tipeze masewela enieni	Die outcome 1-10 (Game D1, D2)
Die Outcome_____ Real Game _____	Die outcome 11-20 (Game D3, D4)

GAME SET 3: TRUST GAMETRUST GAME

Malangizo a Masewera achitatu:

Mukhala otumiza ndi wolandira ndalama yemwe musankhe kubweza zina mwa ndalama zomwe mwalandira kwa wotumizayo.

Gawo 1: Monga wotumiza mudzalandira koyamba MK 2000 yomwe mungasankhe (yogawanika muma MK 200 okwana nkhumi). Mutha kusankha kudzisungira nokha MK 2000 yonse kapena kuyika ndalama zonse kapena gawo lake m'ndandanda wotsatilawu (monga momwe mukufunira). Ndalama zomwe mutasungitse zidzachulukitsidwa katatu ndi ife (mwachitsanzo ngati muyike MK 800, tichulukitsa katatu mpaka MK 2400 kapena ngati muyike ndalama zonse za MK 2000, tichulukitsa katatu mpaka MK 6000). Tidzayiika ndalama zochulikitsidwazi mu envelopu ya ndalama zanu. N'chimodzimodzinso ndi mamembala onse ama buloku (gulu) ena muma sikimu ena a ulimi wanthirira omwe amatenga nawo mbali komanso kwa anthu ena atenge nawo mbali omwe asankhidwa pogwiritsa tchito mayere mu buloku lina yamu sikimu ina ya ulimi wanthirira wosiyana ndi sikimu yanu m'm'boma lino. Musanadziwe ngati mudzasewere ndi munthu wina m'buloku (gulu) lanu la ulimi wanthirira kapena sikimu yina ya ulimi wanthirira yosiyana ndi sikimu yanu m'boma chanu, tikukupemphani kuti musankhe ndalama zomwe mungagawire anthu osakhidwa ndimayelewo.

Gawo 2: Tikufunanso kudziwa kuchuluka kwa ndalama zomwe inu monga wolandila mudzabweze pa ndalama zochulukitsa katatu zomwe zatumizidwa kwa inu ndi wotumiza wosadziwika mubuloku lanu la ulimi wanthirira kapena buloku lina mu sikimu yina ya ulimi m'boma lanu. Amene mulandireko ndalama nayeso atsimikiziridwa ndi mayere pambuyo pake. Pa ndalama zina zilizonse zomwe mwalandira tikufuna kuti mufotokoze kuchuluka kwa zomwe mwasankha kubweza pamene winayo akuchokera ku buloku lanu la ulimi wanthirira kapena winayo ali mu buloku (gulu) la ulimi wanthirira losiyana ndi sikimu yanu m'boma lanu. Zomwe musankhe pa ndalama iliyonse yomwe mwalandira komanso pa mtundu uliwonse wa munthu, musanadziwe mtundu wa munthu yemwe mwalandirako ndalama, zidzakhala zotsimikizika mukalandira envelopu kuchokera kwa munthu weniweni yemwe adasankhidwa ndi mayere. Mudzangodziwa ngati munthuyo akuchokera ku buloku (gulu) lanu la ulimi wanthirira kapena mubuloku lina ya ulimi wanthirira losiyana ndi sikimu yanu m'boma lanu.

Malangizo owerengera: 1.Ikani MK 2000 mu zolemba khumi za 200 MK. Izi zidzagwiritsidwa ntchito ndi wotumiza kuti asankhe kuchuluka kwa zomwe angatumize kwa wolandira wosadziwika 2.Ikani MK 4000 mu zolemba zitatu za 1000 MK ndi zolemba zisanu za 200 MK ndi envelopu kutsogolo kwa woyankha. Ndalamazi zidzagwiritsidwa ntchito kuchulukitsa katatu ndalama zomwe woyankha adzatumiza kwa wolandira wosadziwika.

Amount invested in MK	2000	1600	1200	800	400	0
Amount retained in MK	0	400 (2 X 200 note)	800 (4 X 200 note)	1200 (1 X 1000 note + 1X 200 note)	1600 (1 X 1000 note + 3X 200 note)	2000 (2X1000 note)

Tripled MK amount to be put in envelope	6000 (all notes)	4800 = (3X 1000 Notes + 9X200 notes)	3600 = (2X 1000 Notes + 8X200 notes)	2400 = (12X200 notes)	1200 = (6X200 notes)	0

Monga wotumiza (trustor)

T1a. Mwapatsidwa MK 2000 ndipo mutha kusankha kuchuluka kwa ndalama zomwe mukufun a kusungitsa pa MK 2000 ndipo ndalama yomw e mwasungitsayi idzachulukitsidwa katatu ndik utumizidwa kwa membala wa buloku (gulu) lan u la ulimi wanthirira osankhidwa kudzera m'ma yele (osadziwika)?	2000	MK 2000 yosungitsa, memb ala wanu wosadziwika wa b uloku (gulu) lanu la ulimi wa nthirira adzalandira MK 6000, simusunga kalikonse
	1600	MK 1600 yosungitsa, membala wanu wosadziwika wa buloku (gulu) lanu la ulimi wanthirira adzalandira MK 4800, inu mudzasunga MK 400
	1200	MK 1200, membala wanu wosadziwika wa buloku (gulu) lanu la ulimi wanthirira adzalandira MK 3600, inu mudzasunga MK 800
	800	MK 800, membala wanu wosadziwika wa buloku (gulu) lanu la ulimi wanthirira adzalandira MK 2400, inu mudzasunga MK 1200
	400	MK 400, membala wanu wosadziwika wa buloku (gulu) lanu la ulimi wanthirira adzalandira MK 1200, inu mudzasunga MK 1600
	0	MK 0, membala wanu wosadziwika wa buloku (gulu) lanu la ulimi wanthirira adzalandira MK 0, inu mudzasunga MK 2000
T1b. Mwapatsidwa MK 2000 ndipo mutha kusankha kuchuluka kwa ndalama zomwe mukufun a kusunga pa MK 2000 ngati ndalama zochuluk itsidwa katatu zingatumizidwe kwa munthu os adziwika koma osankhidwa m'mayele yemwe n di membala wa buloku lina musikimu yina ya ul imi wanthirira m'boma lanu yomwe ikutenga n awo mbali?	2000	MK 2000 yosungitsa, munth u wosadziwika mu buloku (g ulu) lina la ulimi wanthirira wosiyana ndi sikimu yanu m'boma lanu adzalandira MK6000, mukhala ndi MK 0
	1600	MK 1600 yosungitsa, munthu wosadziwika mu buloku (gulu) lina la ulimi wanthirira wosiyana ndi sikimu yanu m'boma chanu adzalandira MK 4800, inu mudzasunga MK400
	1200	MK 1200 yosungitsa, munthu wosadziwika mu buloku (gulu) lina la ulimi wanthirira wosiyana ndi sikimu yanu m'boma lanu adzalandira MK3600, inu mudzasunga MK 800
	800	MK 800 yosungitsa munthu wosadziwika mu buloku (gulu) lina la ulimi wanthirira wosiyana ndi sikimu yanu m'boma chanu adzalandira MK 2400, inu mudzasunga MK 1200
	400	MK 400 yosungitsa, munthuwosadziwika mu buloku (gulu) lina la ulimi wanthirira wosiyana ndi sikimu yanu m'boma chanu adzalandira MK 1200, inu mudzasunga MK 1600
	0	MK 0 yosungitsa, munthu wosadziwika mu buloku (gulu) lina la ulimi wanthirira wosiyana ndi sikimu yanu m'boma chanu adzalandira MK 0, inu mudzasunga MK 2000

Mayere omwe amatsimikizira ngati mudzasewere masewerawa ndi membala wina wosadziwika wa mu buloku (gulu) lanu la ulimi wanthirira kapena ndi munthu wosadziwika wamu buloku (gulu) lina la ulimi wanthirira losiyana ndi sikimu yam'boma lanu, adzachitika mutayankha mafunso ena awa.

Monga wolandila (trustee): Tsopano tikufunsani momwe mungayankhire monga wolandira ndalama(trustee) wa envelopu yotoledwa mwa mayere kuchokera kwa membala wosadziwika mu buloku (gulu) lanu la ulimi wanthirira ndi munthu wosadziwika mu buloku (gulu) lina la ulimi wanthirira losiyana ndi lamu sikimu yanu m'boma lanu, malingana ndi kuchuluka kwa ndalama zomwe zili mu envelopu yomwe mwalandira. Mukudziwa kuti tachulukitsa katatu ndalama zomwe munthu winayo adatumiza mu envelopu. Mlingo wa ndalama womwe muganize kubwenzera tsopano zidzakhala zotsimikizika zomwe muyenera kubweza mukapeza envelopu yeniyeni – koma ndalama zomwe mupeze sizikudziwika mpaka mutatsegula envelopu yotumizidwa, chifukwa zikutengera chisankho cha wotumiza (trustor) wa envelopu imeneyo. Simudzadziwa kuti wotumizayo ndi ndani.

T2a. Kodi mudzasiyamo zingati mu envelopu kubwezera kwa wotumiza, yemwe ali munthu w osadziwika osankhidwa mwa mayele mu bulok u (gulu) lanu la ulimi wanthirira, ngati ndalama zomwe zili mu envelopu ndi MK 6000?	6000	MK 6000 idzabwezedwa kwa munthu wosadziwika mubuloku (gulu) lanu la ulimi wan thirira, mukhala ndi MK 0
	4800	MK 4800 idzabwezedwa kwa munthu wosadziwika mubuloku (gulu) lanu la ulimi wan thirira, MK 1200 idzasungidwa
	3600	MK 3600 idzabwezedwa kwa munthu wosadziwika mubuloku (gulu) lanu la ulimi wan thirira, MK 2400 idzasungidwa
	2400	MK 2400 idzabwezedwa kwa munthu wosadziwika mubuloku (gulu) lanu la ulimi wan thirira, MK 3600 idzasungidwa
	2000	MK 2000 idzabwezedwa kwa munthu wosadziwika mubuloku (gulu) lanu la ulimi wan thirira, MK 4000 idzasungidwa
	1600	MK 1600 idzabwezedwa kwa munthu wosadziwika mubuloku (gulu) lanu la ulimi wan thirira, MK 4400 idzasungidwa
	1200	MK 1200 idzabwezedwa kwa munthu wosadziwika mubuloku (gulu) lanu la ulimi wan thirira, MK 4800 idzasungidwa
	800	MK 800 idzabwezedwa kwa munthu wosadziwika mu bu loku (gulu) lanu la ulimi wan thirira, MK 5200 idzasungid wa
	400	MK 400 idzabwezedwa kwa munthu wosadziwika mu bu loku (gulu) lanu la ulimi wan thirira, MK 5600 idzasungid wa
	0	MK 0 idzabwezedwa kwa m unthu wosadziwika mu bulo ku (gulu) lanu la ulimi wanth irira, MK 6000 idzasungidwa
T2b. Kodi mudzasiyamo zingati mu envelopu k ubwezera kwa wotumiza, yemwe ali munthu w osadziwika osankhidwa mwa mayele mubulok u (gulu) lina la sikumu yina ya ulimi wanthirira l osiyana ndi sikimu yanu m'boma lanu, ngati nd alama zomwe zili mu envelopu ndi MK 6000?	6000	MK 6000 idzabwezedwa kwa munthu wosadziwika wabuloku lina mu sikimu yina ya u limi wanthirira losiyana ndi s ikimu yanu m'boma lanu, MK 0 idzasungidwa
	4800	MK 4800 idzabwezedwa kwa munthu wosadziwika wabuloku lina mu sikimu yina ya u limi wanthirira losiyana ndi s ikimu yanu m'boma lanu, MK 1200 idzasungidwa
	3600	MK 3600 idzabwezedwa kwa munthu wosadziwika wabuloku lina mu sikimu yina ya u limi wanthirira losiyana ndi s ikimu yanu m'boma lanu, MK 2400 idzasungidwa
	2400	MK 2400 idzabwezedwa kwa munthu wosadziwika wabuloku lina mu sikimu yina ya u limi wanthirira losiyana ndi s ikimu yanu m'boma lanu, MK 3600 idzasungidwa

	2000	MK 2000 idzabwezedwa kwa munthu wosadziwika wabuloku lina mu sikimu yina ya u limi wanthirira losiyana ndi s ikimu yanu m'boma lanu, MK 4000 idzasungidwa
	1600	MK 1600 idzabwezedwa kwa munthu wosadziwika wabuloku lina mu sikimu yina ya u limi wanthirira losiyana ndi s ikimu yanu m'boma lanu, MK 4400 idzasungidwa
	1200	MK 1200 idzabwezedwa kwa munthu wosadziwika wabuloku lina mu sikimu yina ya u limi wanthirira losiyana ndi s ikimu yanu m'boma lanu, MK 4800 idzasungidwa
	800	MK 800 idzabwezedwa kwa munthu wosadziwika wabuloku lina mu sikimu yina ya u limi wanthirira losiyana ndi s ikimu yanu m'boma lanu, MK 5200 idzasungidwa
	400	MK 400 idzabwezedwa kwa munthu wosadziwika wabuloku lina mu sikimu yina ya u limi wanthirira losiyana ndi s ikimu yanu m'boma lanu, MK 5600 idzasungidwa
	0	MK 0 idzabwezedwa kwa m unthu wosadziwika wabuloku lina mu sikimu yina ya uli mi wanthirira losiyana ndi si kimu yanu m'boma lanu, MK 6000 idzasungidwa
T3a. Kodi mudzasiyamo zingati mu envelopu kubwezera kwa wotumiza, yemwe ali munthu wosadziwika osankhidwa mwa mayele wamu buloku (gulu) lanu la ulimi wanthirira, ngati ndalama zomwe zili mu envelopu ndi MK 4800?	4800	MK 4800 idzabwezedwa kwa munthu wosadziwika mu buloku (gulu) lanu la ulimi wanthirira, MK 0 idzasungidwa
	3600	MK 3600 idzabwezedwa kwa munthu wosadziwika mu buloku (gulu) lanu la ulimi wanthirira, MK 1200 yosungidwa
	4800	MK 2400 idzabwezedwa kwa munthu wosadziwika mu buloku (gulu) lanu la ulimi wanthirira, MK 2400 idzasungidwa
	2000	MK 2000 idzabwezedwa kwa munthu wosadziwika mu buloku (gulu) lanu la ulimi wanthirira, MK 2800 idzasungidwa
	1600	MK 1600 idzabwezedwa kwa munthu wosadziwika mu buloku (gulu) lanu la ulimi wanthirira, MK 3200 idzasungidwa
	1200	MK 1200 idzabwezedwa kwa munthu wosadziwika mu buloku (gulu) lanu la ulimi wanthirira, MK 3600 idzasungidwa
	800	MK 800 idzabwezedwa kwa munthu wosadziwika mu buloku (gulu) lanu la ulimi wanthirira, MK 4000 idzasungidwa
	400	MK 400 idzabwezedwa kwa munthu wosadziwika mu buloku (gulu) lanu la ulimi wanthirira, MK 4400 idzasungidwa
	0	MK 0 idzabwezedwa kwa m unthu wosadziwika mu buloku (gulu) lanu la ulimi wanthirira, MK 4800 idzasungidwa
T3b. Kodi mudzasiyamo zingati mu envelopu kubwezera kwa wotumiza yemwe ali munthu wosadziwika osankhidwa mwa mayele mubuloku (gulu) lina la sikumu yina ya ulimi wanthirira losiyana ndi sikimu yanu m'boma lanu, ngati ndalama zomwe zili mu envelopu ndi MK 4800?	4800	MK 4800 idzabwezedwa kwa munthu wosadziwika wa buloku lina mu sikimu yina ya ulimi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK 0 idzasungidwa
	3600	MK 3600 idzabwezedwa kwa munthu wosadziwika wa buloku lina mu sikimu yina ya ulimi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK 1200 idzasungidwa
	2400	MK 2400 idzabwezedwa kwa munthu wosadziwika wa buloku lina mu sikimu yina ya ulimi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK 2400 idzasungidwa
	2000	MK 2000 idzabwezedwa kwa munthu wosadziwika wa buloku lina mu sikimu yina ya ulimi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK 2800 idzasungidwa

	1600	MK 1600 idzabwezedwa kwa munthu wosadziwika wa buloku lina mu sikimu yina ya ulimi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK 3200 idzasungidwa
	1200	MK 1200 idzabwezedwa kwa munthu wosadziwika wa buloku lina mu sikimu yina ya ulimi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK 3600 idzasungidwa
	800	MK 800 idzabwezedwa kwa munthu wosadziwika wa buloku lina mu sikimu yina ya ulimi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK4000 idzasungidwa
	400	MK 400 idzabwezedwa kwa munthu wosadziwika wa bul oku lina mu sikimu yina ya ulimi wanthirira losiyana ndi sikimu yanu m'boma lanu, M K4400 idzasungidwa
	0	MK 0 idzabwezedwa kwa m unthu wosadziwika wa bulo ku lina mu sikimu yina ya ulimi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK 4800 idzasungidwa
T4a. Kodi mudzasiyamo zingati mu envelopu kubwezera kwa wotumiza, yemwe ali munthu wosadziwika osankhidwa mwa mayele wamu buloku (gulu) lanu la ulimi wanthirira, ngati ndalama zomwe zili mu envelopu ndi MK 3600?	3600	MK 3600 idzabwezedwa kwa munthu wosadziwika mu bu loku (gulu) lanu la ulimi wan thirira, MK 0 idzasungidwa
	1200	MK 2400 idzabwerera kwa munthu wosadziwika mu bu loku (gulu) lanu la ulimi wan thirira , MK 1200 idzasungidwa
	1000	MK 2000 idzabwezedwa kwa munthu wosadziwika mu bu loku (gulu) lanu la ulimi wan thirira, MK1600 idzasungidwa
	800	MK 1600 idzabwezedwa kwa munthu wosadziwika mu bu loku (gulu) lanu la ulimi wan thirira, MK2000 idzasungidwa
	1200	MK 1200 idzabwezedwa kwa munthu wosadziwika mu bu loku (gulu) lanu la ulimi wan thirira, MK2400 idzasungidwa
	800	MK 800 idzabwezedwa kwa munthu wosadziwika mu bu loku (gulu) lanu la ulimi wan thirira, MK2800 idzasungidwa
	400	MK 400 idzabwezedwa kwa munthu wosadziwika mu bu loku (gulu) lanu la ulimi wan thirira, MK3200 idzasungidwa
	0	MK 0 idzabwezedwa kwa m unthu wosadziwika mu bulo ku (gulu) lanu la ulimi wanth irira, MK3600 idzasungidwa
T4b. Kodi mudzasiyamo zingati mu envelopu kubwezera kwa wotumiza yemwe ali munthu wosadziwika osankhidwa mwa mayele mubuloku (gulu) lina la sikumu yina ya ulimi wanthirira losiyana ndi sikimu yanu m'boma lanu, ngati ndalama zomwe zili mu envelopu ndi MK 3600?	3600	MK 3600 idzabwezedwa kwa munthu wosadziwika wa buloku lina mu sikimu yina ya ulimi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK 0 idzasungidwa
	2400	MK 2400 idzabwezedwa kwa munthu wosadziwika wa buloku lina mu sikimu yina ya ulimi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK 1200 idzasungidwa
	2000	MK 2000 idzabwezedwa kwa munthu wosadziwika wa buloku lina mu sikimu yina ya ulimi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK 1600 idzasungidwa
	1600	MK 1600 idzabwezedwa kwa munthu wosadziwika wa buloku lina mu sikimu yina ya ulimi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK 2000 idzasungidwa
	1200	MK 1200 idzabwezedwa kwa munthu wosadziwika wa buloku lina mu sikimu yina ya ulimi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK 2400 idzasungidwa

	800	MK 800 idzabwezedwa kwa munthu wosadziwika wa buloku lina mu sikimu yina ya ulimi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK 2800 idzasungidwa
	400	MK 400 idzabwezedwa kwa munthu wosadziwika wa buloku lina mu sikimu yina ya ulimi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK 3200 idzasungidwa
	0	MK 0 idzabwezedwa kwa m unthu wosadziwika wa buloku lina mu sikimu yina ya ulimi wanthirira losiyana ndi si kimu yanu m'boma lanu, MK 3600 idzasungidwa
T5a. Kodi mudzasiyamo zingati mu envelopu kubwezera kwa wotumiza, yemwe ali munthu wosadziwika osankhidwa mwa mayele wamu buloku (gulu) lanu la ulimi wanthirira, ngati ndala ma zomwe zili mu envelopu ndi MK 2400?	2400	MK 2400 munthu wosadziwi ka mu buloku (gulu) lanu la ulimi wanthirira, MK 0 idzasungidwa
	2000	MK 2000 idzabwezedwa kwamunthu wosadziwika mu buloku (gulu) lanu la ulimi wanthirira, MK 400 idzasungidwa
	1600	MK 1600 idzabwezedwa kwamunthu wosadziwika mu buloku (gulu) lanu la ulimi wanthirira, MK 800 idzasungidwa
	1200	MK 1200 idzabwezedwa kwamunthu wosadziwika mu buloku (gulu) lanu la ulimi wanthirira, MK 1200 idzasungidwa
	800	MK 800 idzabwezedwa kwamunthu wosadziwika mu buloku (gulu) lanu la ulimi wanthirira, MK 1600 idzasungidwa
	400	MK 400 idzabwezedwa kwamunthu wosadziwika mu buloku (gulu) lanu la ulimi wanthirira, MK 2000 idzasungidwa
	0	MK 0 idzabwezedwa kwa munthu wosadziwika mu buloku (gulu) lanu la ulimi wanthirira, MK 2400 idzasungidwa
T5b. Kodi mudzasiyamo zingati mu envelopu k ubwezera kwa wotumiza yemwe ali munthu wosadziwika osankhidwa mwa mayele mubuloku (gulu) lina la sikumu yina ya ulimi wanthirira losiyana ndi sikimu yanu m'boma lanu, ngati ndalama zomwe zili mu envelopu ndi MK 2400?	2400	MK 2400 idzabwezedwa kwa munthu wosadziwika wa buloku lina mu sikimu yina ya u limi wanthirira losiyana ndi s ikimu yanu m'boma lanu, MK 0 idzasungidwa
	2000	MK 2000 idzabwezedwa kwa wosadziwika wa buloku lina mu sikimu yina ya ulimi wanthirira losiyana ndi sikimu ya nu m'boma lanu, MK 400 idzasungidwa
	1600	MK 1600 idzabwezedwa kwa munthu wosadziwika wa buloku lina mu sikimu yina ya u limi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK 800 idzasungidwa
	1200	MK 1200 idzabwezedwa kwa munthu wosadziwika wa buloku lina mu sikimu yina ya u limi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK 1200 idzasungidwa
	800	MK 800 idzabwezedwa kwa munthu wosadziwika wa buloku lina mu sikimu yina ya u limi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK 1600 idzasungidwa
	400	MK 400 idzabwezedwa kwa munthu wosadziwika wa buloku lina mu sikimu yina ya u limi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK 2000 idzasungidwa
	0	MK 0 idzabwezedwa kwa munthu wosadziwika wa buloku lina mu sikimu yina ya u limi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK 2400 idzasungidwa
T6a. Kodi mudzasiyamo zingati mu envelopu k	1200	MK 1200 idzabwezedwa kwa munthu wosadziwika mu bu loku (gulu) lanu la ulimi wan thirira, MK 0 idzasungidwa

ubwezera kwa wotumiza, yemwe ali munthu wosadziwika osankhidwa mwa mayele wamu buloku (gulu) lanu la ulimi wanthirira, ngati ndala ma zomwe zili mu envelopu ndi MK 1200?	800	MK 800 idzabwezedwa kwa munthu wosadziwika mu bu loku (gulu) lanu la ulimi wan thirira, MK 400 idzasungidwa
	400	MK 400 idzabwezedwa kwa munthu wosadziwika mu bu loku (gulu) lanu la ulimi wan thirira, MK 800 idzasungidwa
	0	MK 0 idzabwezedwa kwa m unthu wosadziwika mu bulo ku (gulu) lanu la ulimi wanth irira, MK 1200 idzasungidwa
T6b. Kodi mudzasiyamo zingati mu envelopu k ubwezera kwa wotumiza yemwe ali munthu wosadziwika osankhidwa mwa mayele mubuloku (gulu) lina la sikumu yina ya ulimi wanthirira l osiyana ndi sikimu yanu m'boma lanu, ngati nd alama zomwe zili mu envelopu ndi MK 1200?	1200	MK 1200 idzabwezedwa kwa munthu wosadziwika wa bul oku lina mu sikimu yina ya u limi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK 0 idzasungidwa
	800	MK 800 idzabwezedwa kwa munthu wosadziwika wa buloku lina mu sikimu yina ya u limi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK 400 idzasungidwa
	400	MK 400 idzabwezedwa kwa munthu wosadziwika wa buloku lina mu sikimu yina ya u limi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK 800 idzasungidwa
	0	MK 0 idzabwezedwa kwa m unthu wosadziwika wa buloku lina mu sikimu yina ya u limi wanthirira losiyana ndi sikimu yanu m'boma lanu, MK 1200 idzasungidwa

Tisanayambe kusewera mayere, muyenera kuyakhako mafunso otsatirawa

T7a. Ndi ndalama zingati zochulukitsidwa katatu zomwe mwatumiza kwa membala wosankhid wa mwa mayere wa buloku (gulu) lanu la ulimi wanthirira zomwe mukuyembekezera kubwez eredwa?	Ochepera gawo limodzi mw a magawo atatu
	Gawo limodzi mwa magawo atatu
	Theka
	Oposa theka
	Palibe monga sindinatumizendalama
	Palibe, ngakhale ndinatumiza ndalama
T7b. Ndi ndalama zingati zochulukitsidwa katatu zomwe mwatumiza kwa membala wosankhid wa mwa mayere wa buloku (gulu) lina la ulimi wanthirira losiyana ndi sikimu yanu m'boma la nu mukuyembekezera kubwezeredwa?	Ochepera gawo limodzi mw a magawo atatu
	Gawo limodzi mwa magawo atatu
	Theka
	Oposa theka
	Palibe monga sindinatumizendalama
	Palibe, ngakhale ndinatumiza ndalama
T8a. Monga wolandila (trustee) mumasewerawa, munali okakamizika motani kubweza ndalama zochuluka kuposa ndalama zomwe wotumiza wosadziwika (trustor) watumiza kuchokera ku buloku (gulu) lanu la ulimi wanthirira?	Okakamizika kwambiri
	Okakamizika mwa pakatikati
	Osakakamizika mulimonse
T8b. Monga wolandila (trustee) mumasewerawa, munali okakamizika motani kubweza ndalama zochuluka kuposa ndalama zomwe wotumiza wosadziwika (trustor) yemwe	Okakamizika kwambiri
	Okakamizika mwa pakatikati
	Osakakamizika mulimonse

ndi munthu wosadziwika mu buloku (gulu) lanu la ulimi wanthirira losiyana ndi sikimu yanu m'boma lanu?	

Mayere woti wolandirayo akhale munthu wina wochokera ku buloku (gulu) lanu ulimi wanthirira kapena buloku lina:

- Gwiritsani ntchito dayi ya mbali 20 kuti muwone ngati mungasewere nawo mumasewerawa. Ngati zotsatira zili pakati pa 1-10 ndiye kuti mudzasewera ndi buloku (gulu) lanu la wanthirira ndipo ngati zotsatira zili pakati pa 11-20 ndiye kuti mudzasewera ndi munthu wina wosadziwika mu buloku (gulu) lina la ulimi wanthirira losiyana ndi sikimu yanu m'boma lanu

T9. Zotsatira za mayere a ntundu wa trustee m umasewera okhulupilira / okhulupilika Die Outcome:_____ Real Game_____	Trustee ndi wosewera wosa dziwika kuchokera ku buloku (gulu) lanu la ulimi wanthir ira (zotsatira za dayi 1-10)
	Trustee ndi munthu wina w osadziwika mu buloku (gulu) lina la ulimi wanthirira losiy ana ndi sikimu yanu m'bom a lanu (zotsatira za dayi 11-2 0)

Enumerator invites the Supervisor:

- The supervisor triples the amount for the appropriate receiver and the enumerator marks the envelope for whether it is for within block (group) (own irrigation block (group) member) (I=Ingroup) or outgroup (O) (unknown other irrigation block (group) member).

- The envelope is given to the Supervisor who is responsible for collecting and redistributing all envelopes. The unique registration number must specify based on these categories:

    - Type of game (G3),
    - Ingroup (I) or Outgroup (O) based on the lottery,
    - The irrigation group ID, and
    - Member ID of the sender (to make sure the envelope is returned to the correct sender).

Note: The stated amounts returned will be used also to determine how much they have to return when they get the envelopes from the unknown player they play with. E.g., if they find MK 2000 in the envelope, they have to return what they stated they would return in the table above for the type of trustor they received the envelope from.

GAME SET 4: RISKY INVESTMENT GAME

Masewela achinayi: Masewerawa achitika mumagawo atatu. Poyamba, musankha pakati pa ndalama yosatsimikizika ndi yotsimikizika pamasewera ongoyerekeza. Pambuyo pake, mudzasewera masewera awiri enieni omwe mudzasankhe pakati pa ndalama yosatsimikiza ndi yotsimikiza, kapena zophatikiza mukawokhetsera ndalama yosatsimikiza ndi yotsimikizika ngati masewera ongoyerekeza oyambilira aja. Apa ndi pomwe mungasankhe mlingo wa chiwopsezo chomwe mukufuna kutenga posankha ndalamazi mumasewera awiriwa.

Step 1: Hypothetical game

Gawo loyamba: Mukuyenera kusakha pakati pa (1) Ndalama yosatsimikizika ndi yokwana MK 6 000 yomwe ili ndi mwayi wa 50 pa 100 wopamb ana ndalama izi (zitsimikizidwa pogwilitsa ntchi to dice ya mbali 20). Ngati zotsatira za dice zikh ale pakati pa 1-10 ndekuti mwataya ndalama izi ndipo simupeza kalikonse. Ngati zotsatira za di ce zikhale pakati pa 11-20 mwapambana ndala ma izi. (2) Ndalama yotsimikizika yokwana MK 2000. Sankhani zomwe mukufuna.	01. Ndalama yosatsimikiza 02. Ndalama yotsimikizika

Gawo lachiwiri: Kaya munakonda ndalama zosatsimikizika kapena zotsimikizika mugawo loya mba lija, tikupatsani mwayi wosankha pakati p azigawo zophatikiza pakati pa ndalama yosatsi mikizika ndi yotsimikizika. Choyamba, mwayi w opambana ulipa 50 pa 100 muzigawo zonse. Ko di ndi chigawo chiti cha ndalama zophatikizana chomwe musakhe pa zigawo zisanu ndi imodzi zomwe zili pansipa:

Enumerator instruction: Put MK 6000 in **two 2000 MK notes**, **one 1000 MK note**, and **five 200 MK notes** and **an envelope** in front of the respondent. These are to show the Risky amount and Safe amount as listed below in R2 and R5.

R2

R2 Series

Option	Description of alternatives
1	Pa mwayi wa 50 pa 100 mus akha ndalama yosatsimikizika yokwana = MK6000 opan da kuphatikiza ndalama yot simikizika = MK 0 (Yonse ya chiwopsyezo)
2	Pa mwayi wa 50 pa 100 musakha ndalama yosatsimikizika yokwana = MK4800 kuphatikiza ndalama yotsimikizika = MK 400
3	Pa mwayi wa 50 pa 100 musakha ndalama yosatsimikizika yokwana = MK3600 kuphatikiza ndalama yotsimikizika = MK 800
4	Pa mwayi wa 50 pa 100 musakha ndalama yosatsimikizika yokwana = MK2400 kuphatikiza ndalama yotsimikizika = MK 1200
5	Pa mwayi wa 50 pa 100 musakha ndalama yosatsimikizika yokwana = MK1200 kuphatikiza ndalama yotsimikizika = MK 1600

Option preferred (1-6) (Sankhani yankho limodzi)

	6	Simusakha ndalama inailiyonse yosatsimikizika = MK 0 kuphatikiza ndalama yotsimikizika = MK 2000 (yopanda chiwopsyezo)	
R3	Tigwiritsani ntchito Dice ya mbali 20 kamodzi kuti muwone ngati mwapambana kapena mwat aya mwai wopeza ndalama zomwe munasankh a pamasewera enieni mu gawo lachiwiri (R2): Sankhani masewera amene ali enieni: R2: Numbers 11-20 =Win, Numbers 1-10=Loss		**Outcome Code** 1=Win, 0=Loss
R4	**Werengani ndalama zonse zolipila :** Ndalama yosatsimikizika:_____+ Ndalama yotsimikizika:___=Total:_____		MK=

Steep 3: Tikulolani kusewelanso kachiwiri masewelawa:

R5	**R2 Series**		Option preferred (1-6) (Sankhani yankho limodzi)
	Option	**Description of alternatives**	
	1	Pa mwayi wa 50 pa 100 mus akha ndalama yosatsimikizika yokwana = MK6000 opan da kuphatikiza ndalama yot simikizika = MK 0 (Yonse ya chiwopsyezo)	
	2	Pa mwayi wa 50 pa 100 musakha ndalama yosatsimikizika yokwana = MK4800 kuphatikiza ndalama yotsimikizika = MK 400	
	3	Pa mwayi wa 50 pa 100 musakha ndalama yosatsimikizika yokwana = MK3600 kuphatikiza ndalama yotsimikizika = MK 800	
	4	Pa mwayi wa 50 pa 100 musakha ndalama yosatsimikizika yokwana = MK2400 kuphatikiza ndalama yotsimikizika = MK 1200	
	5	Pa mwayi wa 50 pa 100 musakha ndalama yosatsimikizika yokwana = MK1200 kuphatikiza ndalama yotsimikizika = MK 1600	
	6	Simusakha ndalama inailiyonse yosatsimikizika = MK 0 kuphatikiza ndalama yotsimikizika = MK 2000 (yopanda chiwopsyezo)	
R6	Tigwiritsani ntchito Dice ya mbali 20 kamodzi kuti muwone ngati mwapambana kapena mwat aya mwai wopeza ndalama zomwe munasankh a pamasewera enieni mu gawo lachiwiri (R2): Sankhani masewera amene ali enieni: R2: Numbers 11-20 =Win, Numbers 1-10=Loss		**Outcome Code** 1=Win, 0=Loss
R7	**Werengani ndalama zonse zolipila :** Ndalama yosatsimikizika:_____+ Ndalama yotsimikizika:___=Total:_____		MK=

Enumerator Instruction: Cash payments for all the games will be done when we return for the second round of experiments.

KUNVETSETSA KWAKA WELENGEDWE KA NTHAWI

Awa ndi mafunso omwe angawunikire kumvetsetsa kwanu ndipo palibe malipiro a ndalama pa gawoli. Pamafunso awa, muyenera kuzindikira yankho limodzi lolondola.

Kusiyana kwa Nthawi

1. Yohane akukonzekera kuchoka miyezi itatu (3) kuchokera pano ndikubwerera pakatha miyezi nkhumi ndi iwiri (12) kuchokera pano. Alisi akukonzekera kuchoka pakatha miyezi itatu (3) kuchokera pano ndikubwerera pakatha miyezi nkhumi ndi umodzi (11) kuchokera pano. Kodi ochoka nthawi yayitali kwambiri ndi ndani?
    a. Yohane
    b. Alisi
    c. Onse achoka muthawi yof anana.

2. Yohane akukonzekera kukakhala kutali kwamiyezi isanu ndi umodzi (6). Alisi akukonzekerakuchoka pakatha mwezi umodzi (1) ndikudzabwerera pakatha miyezi isanu ndi umodzi (6) kuchokera pano. Kodi ochoka nthawi yayitali kwambiri ndi ndani?

    Yohane
    b. Alisi
    c. Onse achoka muthawi yof anana.

3. Yohane akukonzekera kuchoka pakatha miyezi itatu kuchokera pano ndikudzabwerera pakatha miyezi nkhumi ndi ziwiri (12) kuchokera pano. Alisi akukonzekera kuchoka pakatha mwezi umodzi kuchokera pano ndikudzabwerera pakatha miyezi nkhumi ndi umodzi (11) kuchokera pano. Kodi ochoka nthawi yayitali kwambirindi ndani?

    Yohane
    b. Alisi
    c. Onse achoka muthawi yof anana.

KUMVETSETSA KWA KAWERENGEDWE KA NTHAWI NDI UBALE WAKE

4. Mwatsala pang'ono kumanga nyumba. Nyu mba yoyamba (A) itenga milungu nkhumi ndi is anu (15) kuti imangidwe, pomwe Nyumba yachi wiri (B) itenga miyezi itatu (3) kuti imangidwe. Mukufuna kuti nyumbayo ithe msanga, ndi nyu mba iti yomwe mungasakhe kumanga?

a. Nyumba yoyamba (A)
b. Nyumba yachiwiri (B)
c. Palibe kusiyana zonse zim angidwa munthawi yofanana

5. Mwatsala pang'ono kumanga nyumba. Nyu mba yoyamba (A) imatenga milungu nkhumi n di isanu (15) kuti imangidwe, pomwe Nyumba y achiwiri (B) imatenga miyezi inayi (4) kuti imang idwe. Mukufuna kuti nyumbayo ithe msanga, n di nyumba iti yomwe mungasankhe kumanga?

a. Nyumba yoyamba (A)
b. Nyumba yachiwiri (B)

c. Palibe kusiyana zonse zim angidwa munthawi yofanana

KUMVETSETSA KWAKA WELENGEDWE KOTENGA NJIRA ZOSATSIMIKIZIKA

6. Mudzi woyamba (A) uli ndi anthu okwana 10 0, Mudzi woyamba (B) uli ndi anthu okwana 1000.
•Mudzi woyamba (A) umalandira ma kilogal amu okwana 200 a mpunga. Mudzi woyamba (B) umalandira ma kilogalamu okwana 2000 a m punga.
•Mpunga umagawidwa mofanana paka ti pa anthu a m'midzi yonse iwiri.
•Yohane ama khala ku m'Mudzi woyamba (A), Alisi amakhala ku m'Mudzi woyamba (B).
•Kodi Yohane amala ndira mpunga wochuluka kuposa Alisi?
a. Eya
b. Ayi, Alisi amalandira wambiri
c. Ayi, amalandira mpunga wamlingo wofanana

7. Mudzi woyamba (A) uli ndi anthu okwana 100, Mudzi woyamba (B) uli ndi anthu okwana 200.
•Mudzi woyamba (A) umalandira ma kilogalamu okwana 200 a mpunga. Mudzi woyamba (B)umalandira ma kilogalamu okwana 400 a mpunga.
•Mpunga umagawidwa mofanana pakati pa anthu a m'midzi yonse iwiri.
•Yohane amakhala m'Mudzi woyamba (A), Alisi amakhala m'Mudzi woyamba (B).
•Kodi Yohane amalandira mlingo wa mpunga wochuluka kuposa Alisi?
a. Eya
b. Ayi, Alisi amalandira wambiri
c. Ayi, amalandira mpunga wamlingo wofanana

8. Mudzi woyamba (A) uli ndi anthu okwana 100, Mudzi woyamba (B) uli ndi anthu okwana 150.
•Mudzi woyamba (A) umalandira ma kilogalamu okwana 200 a mpunga. Mudzi woyamba (B)umalandira ma kilogalamu okwana 300 a mpunga.
•Mpunga umagawidwa mofanana pakatipa anthu a m'midzi yonse iwiri.
•Yohane amakhala m'Mudzi woyamba (A), Alisi amakhala m'Mudzi woyamba (B).
•Kodi Yohane amalandira mlingo wa mpunga wochuluka kuposa Alisi?
a. Eya
b. Ayi, Alisi amalandira wambiri
c. Ayi, amalandira mpunga wamlingo wofanana

9. Mudzi woyamba (A) uli ndi anthu okwana 100, Mudzi woyamba (B) uli ndi anthu okwana 500.
•Mudzi woyamba (A) umalandira ma kilogalamu okwana 200 a mpunga. Mudzi woyamba (B)umalandira ma kilogalamu okwana 1015 a mpunga.
•Mpunga umagawidwa mofanana pakatipa anthu a m'midzi yonse iwiri.
•Yohane amakhala m'Mudzi woyamba (A), Alisi amakhala m'Mu
dzi woyamba (B).
•Kodi Yohane amalandira mlingo wa mpunga wochuluka kuposa Alisi?
a. Eya

b. Ayi, Alisi amalandira wambiri
c. Ayi, amalandira mpunga wamlingo wofanana

KUMVETSETSA KAGWIRITSIDWE NTCHITO KA DAYI

10. Tikamagubuduza dayi yambali zisanu ndi i modzi 1 mpaka 6, timati mbali iliyonse ili ndi m wayi wofanana wotera moyang'ana m'mwamba. Kodi izi zikutanthauza kuti mwayi wopeza na mbala yotsika 1,2 kapena 3 kuti ikhale pamwa mba ndi wofanana ndi mwayi wopeza nambala yayikulu 4,5 kapena 6?
a. Ayi, ndizovuta kuyankha
b. Eya, pali mwai wofanana (50-50) kuti nkhope zamana mbala akulu ndi ang'ono kuti zikhale pamwamba.
c. Zimatengera, izi zitha kuc hitika nthawi zina kapena ayi.

11. Ngati mugubuduza madayisi awiri ofanana ndikuphatikiza manambala omwe abwera pam wamba pankhope yama dayi awiriwa, Kodi ndi nambala yochepa kwambiri iti yomwe mungayi peze mukaphatikiza ma dayi awiriwa?
a. 1
b. 2
c. 3
d. Zovuta kuyankha

12. Ngati mugubuduza madayisi awiri ofanana ndikuphatikiza manambala za nkhope zomwe ziri pamwamba pama dayi awiriwa. Ndi nkhope ziti zomwe zitha kumabwelerabwera mutati m wagubuduza madayiwa kokwana 1000? (Mutha kuganiza atakulungidwa madayisi awiri kokwa na 1000)
a. Zovuta kuyankha, pakuti i zi zimasithasitha
b. Zovuta kuyakha, komano thawi zambari ankhonza ku makhala manambala ochep era 6
c. 6
d. 7
e. 8

13. Mutha kusankha pakati pa kugubuduza im odzi mwa madayisi atatu (3) awa. Yoyamba yok hala ndi mbali zisanu (5), Yachiwiri yokhala ndi mbali zisanu ndi imodzi (6) ndi yachitatu yokhal a ndi mbali zisanu ndi ziwiri (7). Mwa ma dayisi onsewa, mbali iliyonse imakhala ndi mwayi wof anana woyang'ana m'mwamba mukagubuduza. Mwa madayi onse atatuwa iliyonse ili ndi nkh ope imodzi yobiriwira (green), ndipo nkhope zo tsalazo ndi yofiira (red). Ngati dayi yomwe mwa sankha kugubuduza ndipo nkhope yomwe yak hala pamwamba ndiya mtundu wobiriwira (gre en), Mulandira 1000 kwacha. Kodi musankha k ugudubuza dayi iti?
a. Dayi yambali zisanu (5)
b. Dayi yambali zisanu ndi i modzi (6)
c. Dayi yambali zisanu ndi zi wiri (7)

14. Mutakhalaso ndima dayi atatu okhala ndi nkhope imodzi yobiriwira (green) ndi nkhope zin a zofiyira (red). Yoyamba ili ndi nkhope zisanu (5), yachiwiri ili ndi nkhope zisanu ndi imodzi (6), yachitatu ili ndi nkhope zisanu ndi ziwiri (7). Tso pano tikufuna musankhe ma dayi awiri (2) kuti muwagubuduze mofanana. Ngati mupeze mitu ndu yobiriwira pa nkhope zonse zama dayi awi ri, mupeleka 1000 kwacha. Munkhonza kusank ha madayi awiri (2) ati mwa atatu (3) awa?

a. Dayi ya nkhope zisanu (5) ndi dayi ya nkhope zisanu ndi imodzi (6)
b. Dayi ya nkhope zisanu (5) ndi dayi ya nkhope zisanu ndi ziwiri (7)
c. Dayi ya nkhope zisanu ndi imodzi (6) ndi dayi ya nkhope zisanu ndi ziwiri (7)

15. Mutakhalaso ndima dayi atatu okhala ndi nkhope imodzi yobiriwira (green) ndi nkhope zin a zofiyira (red). Yoyamba ili ndi nkhope zisanu (5), yachiwiri ili ndi nkhope zisanu ndi imodzi (6), yachitatu ili ndi nkhope zisanu ndi ziwiri (7). Tso pano tikufuna musankhe ma dayi awiri (2) kape na atatu (3) kuti muwagubuduze. Malamulo ak e ndiwofanana ndi fuso lam'mbuyo lija, kuti ng ati mupeze mitundu yobiriwira (green) pa nkho pe zama dayi awiri (2), mupeleka 1000 kwacha. Munkhonza kusankha madayi angati a nkhope zingati?

a. Dayi ya nkhope zisanu (5) ndi dayi ya nkhope zisanu ndi imodzi (6)
b. Dayi ya nkhope zisanu (5) ndi dayi ya nkhope zisanu ndi ziwiri (7)
c. Dayi ya nkhope zisanu ndi imodzi (6) ndi dayi ya nkhope zisanu ndi ziwiri (7)
d. Madayi onse atatu

16. Mutakhalaso ndima dayi atatu okhala ndi nkhope imodzi yobiriwira (green) ndi nkhope zin a zofiyira (red). Yoyamba ili ndi nkhope zisanu (5), yachiwiri ili ndi nkhope zisanu ndi imodzi (6), yachitatu ili ndi nkhope zisanu ndi ziwiri (7). Tso pano tikufuna musankhe ma dayi awiri (2) kape na atatu (3) kuti muwagubuduze. Malamulo ak e asithidwa kusiyana ndi fuso lam'mbuyo lija, k uti ngati mupeze mitundu yobiriwira (green) pa nkhope zama dayi awiri (2), mulandira 1000 kw acha. Munkhonza kusankha madayi angati a n khope zingati?

a. Dayi ya nkhope zisanu (5) ndi dayi ya nkhope zisanu ndi imodzi (6)
b. Dayi ya nkhope zisanu (5) ndi dayi ya nkhope zisanu ndi ziwiri (7)
c. Dayi ya nkhope zisanu

CHICHEWA VERSION

PROGRAMMED ON PRINTED PAPER

SMARTEX project. Irrigation Experiments 2024 Experimental Round 2.

For Round 2 of experiments the payments for all Round 1 experiments have to be arranged in envelopes for each respondent (parcel manager):

1. **Envelope for social preference game (money kept in real game+money received from other player (ingroup or outgroup))**
2. **Envelope for dictator game (money retained in real game+money received from other player (ingroup or outgroup))**
3. **Envelope for trustees in trust game (money kept as trustor+money received from trustor, info on how much they have committed to return to trustor that has been subtracted+money returned from trustee (ingroup or outgroup))**
4. **Payout for risky investment game (payout from two rounds)**

This will be handed out to all respondents (parcel managers) after the Time and Risk experiment is completed.

Time and Risk Experiment

Informed consent form

Good morning/afternoon. My name is_____(Name of interviewer) from Lilongwe University of Agriculture and Natural Resources (LUANAR), Bunda College. This is the second round of experiments that you have been randomly been selected to participate in. The payments for all experiments will be made at the end today for all the experiments in both rounds.

We expect that you give us truthful responses according to the way you understand the questions. Your participation is voluntary, and you can choose to opt out at any time during our discussion. However, we hope you will participate in the whole experimental study, and we believe that your participation will help us understand important factors associated with improved performance of irrigation schemes.

This second round of experiments will involve decisions over time and involve risky and safe prospects and aim to get measures of your risk and time preferences that are relevant for investment decisions. There will be a 10% chance of winning money in one of these experiments. You decide for yourself how much risk you are willing to take in each of the experiments by choosing between risky and safe amounts received at different points in time. The interview will take roughly 1 hour to complete. The information you provide will be anonymized to anyone outside the research team and will only be used for research and irrigation policy analysis.

If you have questions or comments, you can ask me now. For further details, you can contact Sarah Tione, PhD of 0999544664 the Director of Research and Outreach at LUANAR, Associate Prof Sam Katengeza on 0888446202.

Do you agree to proceed with the interview?

Mwadzuka bwanji/ mwaswera bwanji? Dzina langa ndine_____ndipo ndachokera ku sukulu ya ukachenjede ya za ulimi ndi zachilengedwe yotchedwa LUANAR. Uwu ndi ulendo wachiwiri wakafukufuku womwe mwasankhidwa kuti mutenge nawo gawo. Malipiro amagawo onse awiri akafukufukuyu aperekedwa kumapeto lero.

Tikuyembekeza kuti mudzatipatsa mayankho oona mogwirizana ndi momwe mukumvetsetsala mafunso. Kutenga nawo gawo ndikosakakamiza ndipo mutha kusankha kusiya nthawi iliyonse pamene tikukambirana. Komabe, tikuyembekezela kutimutenga nawo gawo mpaka pamapeto akafukufukuyi ndipo tikukhulupira kuti kutenga nawo gawo kwanu kutithandiza kumvetsetsa zinthu zofunikira zomwe zimakhudzana ndi mchitidwe wa ulimi wothirira.

Gawo lachiwiri la kafukufukuli, mukhala mukupanga ziganizo zomwe zionetse khalidwe lomwe muli nalo popanga ziganizo zokuyikani pachiopsezo kapena ayi. Cholinga chake ndikutiwonetsa kuti mumakhala pachiopsyezo chotani mukamapanga ziganizo zokhudza ndalama. Pakhala mwayi wawung'ono wopambana ndalama pa imodzi mwa mayesero omwe tipange. Mudzisankhila nokha kuchuluka kwa chiopsezo chomwe mukufuna kutenga pa mayesero aliwonse posankha pakati pa ndalama zokhala pachiwopsezo ndi zotetezeka zomwe mulandire pa nthawi zosiyanasiyana. Kucheza kwathu kutenga pafupifupi ola limodzi kuti timalize. Mayankho anu akhala otetezedwa kwa aliyense kunja kwa gulu lofufuzali ndipo zidzagwiritsidwa ntchito pokhapokha pofufuza komanso kusanthula ndondomeko ya ulimi wothirira.

Ngati muli ndi mafunso kapena ndemanga, mutha kundifunsa pompano. Kapena kuti mumve zambiri, mutha kulankhula ndi Sarah Tione, PhD pa 0999544664, nkulu wa zakafukufuku ku LUANAR, kapena Associate Prof Sam Katengeza pa 0888446202.

Kodi mukuvomereza kucheza nane?

Yes, I agree (Yes .... 01) |___|___| Proceed with interview

No, I don't agree (No .... 02) |___|___| End interview.

Name of Respondent: _____

Signature or thumbprint: _____

Instructions to enumerators:

- **a.** The first set of four Choice Lists (CLs) have no risk while the next 16 CL experiments include one (or two) risky prospects.
- **b.** Here is a 10% lottery chance that one of the 20 Choice Lists will be real for the respondents (determined by throwing a 20-sided die in front of the respondents after completion of all CL experiments).
- **c.** In each CL the choices are between amounts of money to be received with certainty or a specific probability at different points in the future.
- **d.** In each case the respondent chooses between two options and indicates the one he/she prefers.
- **e.** You tick the preferred choice in each task.

f. You will introduce Choice Lists with more distant future (six months to two years) and near future (one week from now) money options (in MK).
g. In each Choice List (CL), we keep the future amount constant while we vary the near future amount till we identify the switch point for the respondents.
h. We expect only one switch point per series for responses to be consistent in that specific series.
i. Make sure that you in each series make it very clear to the respondents when the two points in time are as compared to the date of the interview.
j. Remind the respondent about this when presenting each binary choice to the respondents.
k. They should make choices that are most preferred given their current living conditions and need for money at the different points in time that are indicated in each series.

Standard Rapid Elicitation Method. There may be a problem of starting point bias and respondents to continue to give the same answer as you move through a CL stepwise from one end. To minimize the risk of starting point bias you should:

a) Randomize the starting point in each CL (throw the die for each CL and mark the starting point. Use die numbers 1-11 for randomizing the starting point in each CL. If for determining the starting point for CL series 1 you roll the die and die no 6 turns up, mark X row along Task 6 on the column "Start row". If any of the die numbers 12 to 20 turns up, repeat rolling the die until you get die number less than 12. Do this for all CLs before you start).
b) After the respondent has made the choice on the random starting row move to the corner where you expect a switch compared to the first response to the random starting point.
    a. If the near future amount is preferred, go to the bottom row.
    b. If the far future amount is preferred, go to the top row.
c) When (if) you get a switch, select the task row in the middle between the last two rows.
d) If you do not get a switch continue in the same direction to a new middle row where the choice was opposite.
e) And continue like that till you have narrowed in and identified the switch point.
f) If the near future amount is preferred when you are at the bottom row in a series, add a line and reduce the near future amount to half of that on the bottom line to see if that leads to a switch point. If not, repeat the same on another line till you get a switch (some may have extremely high discount rates).
g) You should then also explore the reasons for such extreme discount rates and note these down on the experimental protocol.

Identification of winners. When all games have been played you will arrange the lottery to identify winners for the time and risk Preference experiments and pure risk experiments. For the time and risk experiments there is a 10% probability of the respondent becoming a winner. Use the die once to identify winners. Winners should get die number 19 or 20. You should do this carefully in front of the respondent after you have explained which numbers represent winning. You shake the die once under the cup on the board and jointly with the respondent examine the outcome.

For winners you need to identify which of the 20 series will be used for real payout. You use the die+cup again with numbers 1-20 representing each of the 20 Choice Lists (1-4 for time pref. + 6-20 for time+risk Choice Lists).

Each Choice List has Task Row numbers 1-11 (or more for lists where rows had to be added). You use the die+cup again to identify the row number for payout. You will use the respondent's choice at this Task row number as the basis for payout. You identify the timing of the payout and whether it is a lottery or certain payout. If it is a lottery you use the die-cup again to find the outcome of the lottery by assigning die numbers according to the probability of winning. A reward card is issued to the respondent as a guarantee for the future payment including the amount and timing of the payment.

SMARTEX: Irrigation experiments 2024: Introduction and Experiments (Part 2)

S.No.	Question	Unit	Response
0	Experimental enumerator: List with names and codes: 1-12	Code	
1	Date	Date	
2	Time when interview starts (Nthawi yofunsa)	Hour:Minute	
3	Name of household househead (Dzina la mwini nkhomo)		
4	DistrictID (Chizindikiro cha Boma)		
5	VillageID (Chizindikiro cha Mudzi)		
5a	Irrigation Scheme ID (1=Mtendere, 2=Nkamalathu, 3= Nanzolo B, 4= Nanzolo A, 5= Nkhate, 6= Limphangwi, 7= Matabwa, 8=Chilengo, 9= Malata, 10=Namigoza, 11=Mulunga, 12=Phala, 13=Kazitche, 14= Other)	Use code	
6	Irrigation group ID		
7	HouseholdID (Nyumba)		
8	Household memberID (Chizindikiro cha nyumba)		
9	Household member name (Munthu wacheza naye pa nkhomo)		
10	Sex (mwamuna kapena mkazi)	1=Female 0=Male	
11	Year of birth (Chaka chobadwa)		
12	Month of birth, 1-12 (Mwezi obadwa)		
13	Mobile phone number Nambala ya phone		

Instructions to respondents:

a. You will be asked to respond to a series of money payment options at different points in time in the future. **(Mufunsidwa kuti musankhe njira zingapo zolipirira ndalama pazigawo zosiyanasiyana m'tsogolomu.)**

b. The distance into the future as well as the amounts will vary from task to task and you shall always in each case indicate which of the two options you prefer, given your current situation and future anticipated needs. (**Mtunda wamtsogolowu komanso kuchuluka kwa ndalama kudzisiyana malinga ndi zochitikachitikazi. Muli ndi ufulu wosankhapo magawo awiri omwe mufune kutengela ndi momwe mulili pano komanso zomwe mukuyembekezera mtogolomu.)**

c. Make sure you make careful decisions as you do not know which of these may become subject to real payout after you have answered all the questions. **(Onetsetsani kuti mwapanga zisankho mosamalitsa popeza simukudziwa kuti ndi iti mwa izi yomwe ikhoza kulipilidwa mutayankha mafunso onse.)**

d. This will be determined through a lottery afterwards. Lucky winners will get

payout at the time specified in the randomly chosen (using the die) Choice List and task that was picked in the lottery and your choice in that Choice List and task. **(Izi zidzatsimikizidwa kudzera pa mayele pomaliza. Opambana adzalandira malipiro panthawi yomwe yalembedwa (pogwiritsa ntchito dice) pa mndandanda wamayankho apelekedwa and asankhidwa mu mayele.)**

e. LUANAR (**Name: Sarah Tione, PhD**) takes responsibility for the payouts. **(Dr. Tione ndi amene ali ndi udindo wazolipira)**

f. The lucky winners will get a **Reward ticket** as a guarantee of the future payment. **(Opambana wamwayi adzalandira tikiti ya Mphotho monga chitsimikizo cha malipiro amtsogolo.)**

g. All payments will be done through either bank account or mobile money transfers based on your choice. **(Malipiro onse azichitika kudzera mu akaunti yaku banki kapena mu foni (airtelmoney/mpamba) kutengera zomwe mwasankha.)**

h. There is a 10% chance (lottery) of you being selected for a real game in this experiment that includes potential payouts at different points in time. A die will be used to identify those who will have the real game. **(Pali mwayi ochepetsetsa 10 pa 100 (lotale) kuti mulowe nawo m'masewera enieni mukafukufukuyu komanso kulandila nawo malipiro omwe angakhalepo panthawi zosiyanasiyana. Dice iyi igwiritsidwa ntchito kupeza omwe akhale nawo mu masewera enieni.)**

Enumerator instruction:

1. Put **MK 31000** in six 5000 MK note and one 1000 MK note. These are going to be used for displaying the **far future amounts**. (6000 = one 5000 MK note + 0ne 1000 MK note when asking CL1 and CL2; and 30000= six 5000 MK notes when asking CL3-CL20)
2. Put another MK 30000 in five 5000 MK notes, one 2000 MK note, two 1000 MK notes, and five 200 MK notes. These will be used to show the near future certain amounts, ranging from 200 MK to 30000 MK for all CL1 to CL20.

Time and risk preference experiments

*Page number:*_____

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL5: _____

Kodi mungakonde kulandira 30000 MK ndi mwayi wa magawo 75 mwa 100 (75%) wopambana sabata imodzi kuchokera pano Kapena kulandira___MK motsimikiza sabata imodzi kuchokera pano. (Do you prefer receiving **30000** MK with a **75% probability of winning 1 week** from now OR receiving MK **for sure 1 week** from now

Time pref. Series no.	Start row	Task no.	Prob of winning 75%	Receive at far future period: **1 week from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
5		1	15/20	30000		1	30000	
5		2	15/20	30000		1	27000	
5		3	15/20	30000		1	24000	
5		4	15/20	30000		1	21000	
5		5	15/20	30000		1	18000	
5		6	15/20	30000		1	15000	
5		7	15/20	30000		1	12000	
5		8	15/20	30000		1	9000	
5		9	15/20	30000		1	6000	
5		10	15/20	30000		1	3000	
5		11	15/20	30000		1	1000	

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL20: _____

Kodi mungakonde kulandira 30000 MK ndi mwayi wa magawo 50 mwa 100 (50%) wopambana miyezi isanu ndi umodzi kuchokera pano Kapena kulandira__MK motsimikiza sabata imodzi kuchokera pano.(Do you prefer receiving **30000** MK with a **50% probability of winning 6 months** from now OR receiving MK **for sure 1 week** from now)

Time & Risk Preference CL 20

Time pref. Series no.	Start row	Task no.	Prob of winning 50%	Receive at far future period: **6 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
20		1	10/20	30000		1	30000	
20		2	10/20	30000		1	27000	
20		3	10/20	30000		1	24000	
20		4	10/20	30000		1	21000	
20		5	10/20	30000		1	18000	
20		6	10/20	30000		1	15000	
20		7	10/20	30000		1	12000	
20		8	10/20	30000		1	9000	
20		9	10/20	30000		1	6000	
20		10	10/20	30000		1	3000	
20		11	10/20	30000		1	1000	

Page number:_____

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL2: _____

Kodi mungakonde kulandira 6000 MK motsimikizika mu miyezi khumi ndi iwiri kuchokera pano Kapena kulandira motsimikiza_____MK mu sabata imodzi kuchokera pano (Do you prefer receiving **for sure 6000** MK **12 months** from now **OR** receiving **for sure**_____MK **1 week** from now)

Time pref. Series no.	Start row	Task no.	Prob of winning 100%	Receive at far future period: **12 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
2		1	1	6000		1	6000	
2		2	1	6000		1	5400	
2		3	1	6000		1	4800	
2		4	1	6000		1	4200	
2		5	1	6000		1	3600	
2		6	1	6000		1	3000	
2		7	1	6000		1	2400	
2		8	1	6000		1	1800	
2		9	1	6000		1	1200	
2		10	1	6000		1	600	
2		11	1	6000		1	200	

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL17: _____

Kodi mungakonde kulandira 30000 MK ndi mwayi wa magawo 90 mwa 100 (90%) wopambana mu miyezi khumi ndi iwiri kuchokera pano Kapena kulandira_MK_ motsimikiza sabata imodzi kuchokera pano.(Do you prefer receiving **30000** MK with a **90% probability of winning 12 months** from now OR receiving MK **for sure 1 week** from now)

Time pref. Series no.	Start row	Task no.	Prob of winning 90%	Receive at far future period: **12 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
17		1	18/20	30000		1	30000	
17		2	18/20	30000		1	27000	
17		3	18/20	30000		1	24000	
17		4	18/20	30000		1	21000	
17		5	18/20	30000		1	18000	
17		6	18/20	30000		1	15000	
17		7	18/20	30000		1	12000	
17		8	18/20	30000		1	9000	
17		9	18/20	30000		1	6000	
17		10	18/20	30000		1	3000	
17		11	18/20	30000		1	1000	

Page number:_____

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL18: _____

Kodi mungakonde kulandira 30000 MK ndi mwayi wa magawo 75 mwa 100 (75%) wopambana mu miyezi khumi ndi iwiri kuchokera pano Kapena kulandira_MK motsimikiza sabata imodzi kuchokera pano.(Do you prefer receiving **30000** MK with a **75% probability of winning 12 months** from now OR receiving MK **for sure 1 week** from now)

Time pref. Series no.	Start row	Task no.	Prob of winning 75%	Receive at far future period: **12 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
18		1	15/20	30000		1	30000	
18		2	15/20	30000		1	27000	
18		3	15/20	30000		1	24000	
18		4	15/20	30000		1	21000	
18		5	15/20	30000		1	18000	
18		6	15/20	30000		1	15000	
18		7	15/20	30000		1	12000	
18		8	15/20	30000		1	9000	
18		9	15/20	30000		1	6000	
18		10	15/20	30000		1	3000	
18		11	15/20	30000		1	1000	

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL11: _____

Kodi mungakonde kulandira 30000 MK ndi mwayi wa magawo 10 mwa 100 (10%) wopambana mu sabata imodzi kuchokera pano Kapena kulandira_MK motsimikiza sabata imodzi kuchokera pano.(Do you prefer receiving **30000** MK with a **10% probability of winning 1 week** from now OR receiving MK **for sure 1 week** from now)

Time pref. Series no.	Start row	Task no.	Prob of winning 10%	Receive at far future period: **1 week from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
11		1	2/20	30000		1	15000	
11		2	2/20	30000		1	12000	
11		3	2/20	30000		1	10000	
11		4	2/20	30000		1	8000	
11		5	2/20	30000		1	6000	
11		6	2/20	30000		1	4000	
11		7	2/20	30000		1	3000	
11		8	2/20	30000		1	2000	
11		9	2/20	30000		1	1400	
11		10	2/20	30000		1	800	
11		11	2/20	30000		1	400	

Page number_____

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL10: _____

Kodi mungakonde kulandira 30000 MK ndi mwayi wa magawo 25 mwa 100 (25%) wopambana mu miyezi isanu ndi umodzi kuchokera pano Kapena kulandira_MK motsimikiza sabata imodzi kuchokera pano.(Do you prefer receiving **30000** MK with a **25% probability of winning 6 months** from now OR receiving_MK **for sure 1 week** from now)

Time & Risk Preference CL 10

Time pref. Series no.	Start row	Task no.	Prob of winning 25%	Receive at far future period: **6 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
10		1	5/20	30000		1	15000	
10		2	5/20	30000		1	12000	
10		3	5/20	30000		1	10000	
10		4	5/20	30000		1	8000	
10		5	5/20	30000		1	6000	
10		6	5/20	30000		1	4000	
10		7	5/20	30000		1	3000	
10		8	5/20	30000		1	2000	
10		9	5/20	30000		1	1400	
10		10	5/20	30000		1	800	
10		11	5/20	30000		1	400	

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL15: _____

Kodi mungakonde kulandira 30000 MK ndi mwayi wa magawo 90 mwa 100 (90%) wopambana miyezi isanu ndi umodzi kuchokera pano Kapena kulandira___MK motsimikiza sabata imodzi kuchokera pano. (Do you prefer receiving **30000** MK with a **90% probability of winning 6 months** from now OR receiving_MK **for sure 1 week** from now)

Time pref. Series no.	Start row	Task no.	Prob of winning 90%	Receive at far future period: **6 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
15		1	18/20	30000		1	30000	
15		2	18/20	30000		1	27000	
15		3	18/20	30000		1	24000	
15		4	18/20	30000		1	21000	
15		5	18/20	30000		1	18000	
15		6	18/20	30000		1	15000	
15		7	18/20	30000		1	12000	
15		8	18/20	30000		1	9000	
15		9	18/20	30000		1	6000	
15		10	18/20	30000		1	3000	
15		11	18/20	30000		1	1000	

Page number:_____

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL7: _____

Kodi mungakonde kulandira 30000 MK ndi mwayi wa magawo 10 mwa 100 (10%) wopambana miyezi khumi ndi iwiri kuchokera pano Kapena kulandira__MK motsimikiza sabata imodzi kuchokera pano. (Do you prefer receiving **30000** MK with a **10% probability of winning 12 months** from now OR receiving_MK **for sure 1 week** from now)

Time pref. Series no.	Start row	Task no.	Prob of winning 10%	Receive at far future period: **12 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
7		1	2/20	30000		1	15000	
7		2	2/20	30000		1	12000	
7		3	2/20	30000		1	10000	
7		4	2/20	30000		1	8000	
7		5	2/20	30000		1	6000	
7		6	2/20	30000		1	4000	
7		7	2/20	30000		1	3000	
7		8	2/20	30000		1	2000	
7		9	2/20	30000		1	1400	
7		10	2/20	30000		1	800	
7		11	2/20	30000		1	400	

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL14: _____

Kodi mungakonde kulandira 30000 MK ndi mwayi wa magawo 75 mwa 100 (75%) wopambana mu zaka ziwiri kuchokera pano Kapena kulandira_MK motsimikiza sabata imodzi kuchokera pano.(Do you prefer receiving **30000** MK with a **75% probability of winning 2 years** from now OR receiving_MK **for sure 1 week** from now)

Time pref. Series no.	Start row	Task no.	Prob of winning 75%	Receive at far future period: **2 years from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
14		1	15/20	30000		1	30000	
14		2	15/20	30000		1	27000	
14		3	15/20	30000		1	24000	
14		4	15/20	30000		1	21000	
14		5	15/20	30000		1	18000	
14		6	15/20	30000		1	15000	
14		7	15/20	30000		1	12000	
14		8	15/20	30000		1	9000	
14		9	15/20	30000		1	6000	
14		10	15/20	30000		1	3000	
14		11	15/20	30000		1	1000	

Page number:_____

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL19: _____

Kodi mungakonde kulandira 30000 MK ndi mwayi wa magawo 50 mwa 100 (50%) wopambana miyezi khumi ndi iwiri kuchokera pano Kapena kulandira__MK motsimikiza sabata imodzi kuchokera pano.(Do you prefer receiving **30000** MK with a **50% probability of winning 12 months** from now OR receiving MK **for sure 1 week** from now)

Time pref. Series no.	Start row	Task no.	Prob of winning 50%	Receive at far future period: **12 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
19		1	10/20	30000		1	30000	
19		2	10/20	30000		1	27000	
19		3	10/20	30000		1	24000	
19		4	10/20	30000		1	21000	
19		5	10/20	30000		1	18000	
19		6	10/20	30000		1	15000	
19		7	10/20	30000		1	12000	
19		8	10/20	30000		1	9000	
19		9	10/20	30000		1	6000	
19		10	10/20	30000		1	3000	
19		11	10/20	30000		1	1000	

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL16: _____

Kodi mungakonde kulandira 30000 MK ndi mwayi wa magawo 75 mwa 100 (75%) wopambana miyezi isanu ndi umodzi kuchokera pano Kapena kulandira____MK motsimikiza sabata imodzi kuchokera pano. (Do you prefer receiving **30000** MK with a **90% probability of winning 6 months** from now OR receiving MK **for sure 1 week** from now)

Time pref. Series no.	Start row	Task no.	Prob of winning 75%	Receive at far future period: **6 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
16		1	15/20	30000		1	30000	
16		2	15/20	30000		1	27000	
16		3	15/20	30000		1	24000	
16		4	15/20	30000		1	21000	
16		5	15/20	30000		1	18000	
16		6	15/20	30000		1	15000	
16		7	15/20	30000		1	12000	
16		8	15/20	30000		1	9000	
16		9	15/20	30000		1	6000	
16		10	15/20	30000		1	3000	
16		11	15/20	30000		1	1000	

Page number _____

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL3: _____

Kodi mungakonde kulandira 30000 MK yotsimikizika mu miyezi isanu ndi umodzi kuchokera pano Kapena kulandira motsimikiza_____MK mu sabata imodzi kuchokera pano. (Do you prefer receiving **for sure 30000** MK **6 months** from now **OR** receiving **for sure**_____MK **1 week** from now)

Time & Risk Preference CL 3

Time pref. Series no.	Start row	Task no.	Prob of winning 100%	Receive at far future period: **6 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
3		1	1	30000		1	30000	
3		2	1	30000		1	27000	
3		3	1	30000		1	24000	
3		4	1	30000		1	21000	
3		5	1	30000		1	18000	
3		6	1	30000		1	15000	
3		7	1	30000		1	12000	
3		8	1	30000		1	9000	
3		9	1	30000		1	6000	
3		10	1	30000		1	3000	
3		11	1	30000		1	1000	

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL6: _____

Kodi mungakonde kulandira 30000 MK ndi mwayi wa magawo 90 mwa 100 (90%) wopambana miyezi khumi ndi iwiri kuchokera pano Kapena kulandira_MK motsimikiza sabata imodzi kuchokera pano. (Do you prefer receiving **30000** MK with a **90% probability of winning 12 months** from now OR receiving _____MK **for sure 1 week** from now

Time & Risk Preference CL 6

Time pref. Series no.	Start row	Task no.	Prob of winning 90%	Receive at far future period: **12 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
6		1	18/20	30000		1	30000	
6		2	18/20	30000		1	27000	
6		3	18/20	30000		1	24000	
6		4	18/20	30000		1	21000	
6		5	18/20	30000		1	18000	
6		6	18/20	30000		1	15000	
6		7	18/20	30000		1	12000	
6		8	18/20	30000		1	9000	
6		9	18/20	30000		1	6000	
6		10	18/20	30000		1	3000	
6		11	18/20	30000		1	1000	

Page number:_____

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL1: _____

Kodi mungakonde kulandira 6000 MK yotsimikizika mu miyezi isanu ndi umodzi kuchokera pano Kapena kulandira motsimikiza_____MK mu sabata imodzi kuchokera pano. (Do you prefer receiving **for sure 6000** MK **6 months** from now **OR** receiving **for sure**_____MK **1 week** from now)

Time & Risk Preference CL 1

Time pref. Series no.	Start row	Task no.	Prob of winning 100%	Receive at far future period: **6 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
1		1	1	6000		1	6000	
1		2	1	6000		1	5400	
1		3	1	6000		1	4800	
1		4	1	6000		1	4200	
1		5	1	6000		1	3600	
1		6	1	6000		1	3000	
1		7	1	6000		1	2400	
1		8	1	6000		1	1800	
1		9	1	6000		1	1200	
1		10	1	6000		1	600	
1		11	1	6000		1	200	

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL12: _____

Kodi mungakonde kulandira 30000 MK ndi mwayi wa magawo 25 mwa 100 (25%) wopambana mu sabata imodzi kuchokera pano Kapena kulandira MK motsimikiza sabata imodzi kuchokera pano.(Do you prefer receiving **30000** MK with a **25% probability of winning 1 week** from now OR receiving MK **for sure 1 week** from now)

Time pref. Series no.	Start row	Task no.	Prob of winning 25%	Receive at far future period: **1 week from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
12		1	5/20	30000		1	15000	
12		2	5/20	30000		1	12000	
12		3	5/20	30000		1	10000	
12		4	5/20	30000		1	8000	
12		5	5/20	30000		1	6000	
12		6	5/20	30000		1	4000	
12		7	5/20	30000		1	3000	
12		8	5/20	30000		1	2000	
12		9	5/20	30000		1	1400	
12		10	5/20	30000		1	800	
12		11	5/20	30000		1	400	

Page number _____

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL8: _____

Kodi mungakonde kulandira 30000 MK ndi mwayi wa magawo 25 mwa 100 (25%) wopambana miyezi khumi ndi iwiri kuchokera pano Kapena kulandira__MK motsimikiza sabata imodzi kuchokera pano. (Do you prefer receiving **30000** MK with a **25% probability of winning 12 months** from now OR receiving_MK **for sure 1 week** from now)

Time & Risk Preference CL 8

Time pref. Series no.	Start row	Task no.	Prob of winning 25%	Receive at far future period: **12 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
8		1	5/20	30000		1	15000	
8		2	5/20	30000		1	12000	
8		3	5/20	30000		1	10000	
8		4	5/20	30000		1	8000	
8		5	5/20	30000		1	6000	
8		6	5/20	30000		1	4000	
8		7	5/20	30000		1	3000	
8		8	5/20	30000		1	2000	
8		9	5/20	30000		1	1400	
8		10	5/20	30000		1	800	
8		11	5/20	30000		1	400	

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL9: _____

Kodi mungakonde kulandira 30000 MK ndi mwayi wa magawo 10 mwa 100 (10%) wopambana mu miyezi isanu ndi umodzi kuchokera pano Kapena kulandira_MK motsimikiza sabata imodzi kuchokera pano.(Do you prefer receiving **30000** MK with a **10% probability of winning 6 months** from now OR receiving_MK **for sure 1 week** from now)

Time pref. Series no.	Start row	Task no.	Prob of winning 10%	Receive at far future period: **6 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
9		1	2/20	30000		1	15000	
9		2	2/20	30000		1	12000	
9		3	2/20	30000		1	10000	
9		4	2/20	30000		1	8000	
9		5	2/20	30000		1	6000	
9		6	2/20	30000		1	4000	
9		7	2/20	30000		1	3000	
9		8	2/20	30000		1	2000	
9		9	2/20	30000		1	1400	
9		10	2/20	30000		1	800	
9		11	2/20	30000		1	400	

Page number_____

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL4: _____

Kodi mungakonde kulandira 30000 MK motsimikizika mu miyezi khumi ndi iwiri kuchokera pano Kapena kulandira motsimikiza_____MK sabata imodzi kuchokera pano (Do you prefer receiving **for sure 30000** MK **12 months** from now **OR** receiving **for sure**_____MK **1 week** from now)

Time pref. Series no.	Start row	Task no.	Prob of winning 100%	Receive at far future period: **12 months from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
4		1	1	30000		1	30000	
4		2	1	30000		1	27000	
4		3	1	30000		1	24000	
4		4	1	30000		1	21000	
4		5	1	30000		1	18000	
4		6	1	30000		1	15000	
4		7	1	30000		1	12000	
4		8	1	30000		1	9000	
4		9	1	30000		1	6000	
4		10	1	30000		1	3000	
4		11	1	30000		1	1000	

Randomize the task you start with (Die number 1 = Task No. 1; ….. Die No. 11 = Task No. 11)

Randomized task number for CL13: _____

Kodi mungakonde kulandira 30000 MK ndi mwayi wa magawo 90 mwa 100 (90%) wopambana mu zaka ziwiri kuchokera pano Kapena kulandira_MK motsimikiza sabata imodzi kuchokera pano.(Do you prefer receiving **30000** MK with a **90% probability of winning 2 years** from now OR receiving MK **for sure 1 week** from now)

Time pref. Series no.	Start row	Task no.	Prob of winning 90%	Receive at far future period: **2 years from now, MK**	Choice	Prob of winning 100%	Receive at near future period: **1 week from now, MK**	Choice
13		1	18/20	30000		1	30000	
13		2	18/20	30000		1	27000	
13		3	18/20	30000		1	24000	
13		4	18/20	30000		1	21000	
13		5	18/20	30000		1	18000	
13		6	18/20	30000		1	15000	
13		7	18/20	30000		1	12000	
13		8	18/20	30000		1	9000	
13		9	18/20	30000		1	6000	
13		10	18/20	30000		1	3000	
13		11	18/20	30000		1	1000	

Instructions to experimental enumerators: (separate from data recording forms): Random winners and payout.

The outcome of the time and risk Preference game series 1-20

Zotsatira zamasewera a nthawi ndi mndandanda wamasewera okondedwa mwa chiopsyezo 1-20

1. For the time and risk experiments, there is a 10% probability of the respondent becoming a winner. Use the die once to identify winners. Winners should get die number 19 or 20.

   Kwa nthawi ndi kuyesa kwachiwopsezo, pali kuthekera kwa magawo 10 mwa 100 (10%) kwa woyankha kukhala wopambana. Gwiritsani ntchito dayi kamodzi kuti mudziwe opambana. Opambana ayenera kukhala ndi dayi nambala 19 kapena 20.

   Die outcome:

   Zotsatira za dayi

Game outcome (circle) **Zotsatira za masewera**	
Die 19 and 20 = Win **Dayi 19 ndi 20 = kupambana**	1 = Win **1 = kupambana**
Die 1 to 18 = Loss **Dayi 1 mpaka 18 = kusapambana**	0 = Loss **0 = kusapambana**

2. If the outcome is Win, roll the die to determine the real game from the CL series 1-20. Use the die+cup again with numbers 1-20 representing each of the 20 Choice Lists (1- 4 for time pref. + 5-20 for time+risk Choice Lists).

   Ngati zotsatira zake ndi Kupambana, perekani dayi kuti mudziwe masewera enieni kuchokera pamndandanda wa CL 1-20. Gwiritsani ntchito dayi+cup kachiwiri ndi manambala 1-20 omwe akuyimira mndandanda uliwonse wa Zosankha 20 (1- 4 kwa nthawi yokondedwa + 5-20 kwa nthawi+mndandanda wosankha zoopsa).

   Die outcome:

   Zotsatira za dayi

Die Number **Nambala ya dayi**	
Real game CL series No. **Masewera enieni mu mndandanda wa CL**	

3. Use the die+cup again to identify the row number for payout (die numbers 1-11 representing task numbers 1 to 11 of the real game CL series determined in 2 above.

   Gwiritsani ntchito dayi+cup kachiwiri kuti muzindikire nambala ya mzere wolipira (manambala a dayi 1-11 kuyimira manambala a ntchito 1 mpaka 11 pamasewera enieni a CL omwe atsimikiziridwa mu 2 pamwambapa.

Die Number **Nambala ya dayi**	
Task Number **Nambala ya ntchito**	

4. Go to the real game CL series and identify the timing of the payout and whether it is a lottery or a certain payout.

Pitani kumasewera enieni a mndandanda wa CL ndikuzindikira nthawi yolipira komanso ngati ndi lottery kapena kulipira kwina.

Real Game Outcome **Zotsatira za masewera enieni**	
1 = Lottery **1 = Lotale** 2 = Certain payout **2 = Malipiro ena**	

5. Time of the payout for the real CL at the real identified task number(circle):

Nthawi yolipira CL yeniyeni pa nambala yeniyeni yodziwika:

Time of Payout **Nthawi yolipira**	
1= After one week **1 = pakadutsa sabata imodzi** 2= After 6 months **2 = pakadutsa miyezi isanu ndi umodzi** 3= After 12 months **3 = pakadutsa miyezi khumi ndi iwiri**	

6. If it is a lottery you use the die-cup again to find the outcome of the lottery by assigning die numbers according to the probability of winning.
Ngati ndi lotale mumagwiritsanso ntchito chikho cha dayi (dayi+cup) kuti mupeze zotsatira za lotale popereka manambala adayi malinga ndi kuthekera kopambana.

Enumerator Instructions

Malangido kwa owerenga

o For probability of winning = 2/20 or 10%, use die numbers 19-20 =win and die numbers 1-18=Loss

Kuti mupeze mwayi wopambana = magawo awiri mwa 20 (2/20) kapena magawo 10 mwa 100 (10%), gwiritsani ntchito manambala a dayi 19-20
=kupambana ndi manambala a dayi 1-18=kusapambana;

Win/Loss **Kupambana / kusapambana (kutaya)**	
Die 19 and 20 = Win **Dayi 19 ndi 20 = kupambana**	1 = Win **1 = kupambana**
Die 1 to 18 = Loss **Dayi 1 mpaka 18 = kusapambana**	0 = Loss **0 = kusapambana**

- For probability of winning 5/20 or 25%, use die numbers 16-20 =win and die numbers 1-15=Loss;

- *Kuti mupeze mwayi wopambana pa magawo 5 mwa 20 (5/20) kapena magawo 25 mwa 100 (25%), gwiritsani ntchito manambala a dayi 16-20 =kupambana ndi manambala a dayi 1-15=kusapambana*

Win/Loss	

- o

Win/Loss **Kupamabana / kusapambana**	
Die 16 to 20 = Win **Dayi 16 mpaka 20 = kupamabana**	1 = Win **1 = kupambana**
Die 1 to 15 = Loss **Dayi 1 mpaka 15 = kusapambana**	0 = Loss **0 = kusapambana**

- For the probability of winning 10/20 or 50%, use die numbers 11-20 =win and die numbers 1- 10=Loss;

- *Kuti mupeze mwayi wopambana pa magawo 10 mwa 20 (10/20) kapena magawo 50 mwa 100 (50%), gwiritsani ntchito manambala a dayi 11-20 =kupambana ndi manambala 1- 10=kusapambana;*

Win/Loss **Kupambana / kusapambana**	
Die 11 to 20 = Win **Dayi 11 mpaka 20 = kupambana**	1 = Win **1 = kupambana**
Die 1 to 10 = Loss **Dayi 1 mpaka 10 = kusapambana**	0 = Loss **0 = kusapambana**

- For probability of winning 15/20 or 75%, use die numbers 6-20 =win and die numbers 1- 5=Loss;

- *Kuti muthe kupambana pa magawo 15 mwa 20 (15/20) kapena magawo 75 mwa*

  100 (75%), gwiritsani ntchito manambala a dayi 6-20 =kupambana ndi manambala 1- 5=kusapambana;

Win/Loss **Kupambana / kusapambana**	
Die 6 to 20 = Win **Dayi 6 mpaka 20 = kupambana**	1 = Win **1 = kupambana**
Die 1 to 5 = Loss **Dayi 1 mpaka 5 = kusapambana**	0 = Loss **0 = kusapambana**

- For probability of winning 18/20 or 90%, use die numbers 3-20 = win and die numbers 1-2 =Loss.)

- *Kuti mupeze mwayi wopambana pa magawo 18 mwa 20 (18/20) kapena magawo 90 mwa 100 (90%), gwiritsani ntchito manambala a dayi 3-20 = kupambana ndi manambala 1-2 =Kusapambana.)*

Win/Loss **Kupambana / kusapambana**	
Die 3 to 20 = Win **Dayi 3 mpaka 20 = kupambana**	1 = Win **1 = kupambana**
Die 1 to 2 = Loss **Dayi 1 mpaka 2 = kusapambana**	0 = Loss **0 = kusapambana**

Responses

6a. Probability of winning the real game CL identified above (circle):

Kuthekera kopambana masewera enieni a CL omwe adziwika pamwambapa:

Die outcome **Zotsatira za dayi**	Probability **Mwayi (kuthekera)**	Win/loss **Kupambana / kusapambana**
1= After one week (**pakadutsa sabata imodzi)** 2= After 6 months (**pakadutsa miyezi isanu ndiumodzi** 3= After 12 months (**pakadutsa miyezi khumi ndiiwiri** 4 = After 2 years		

1= 2/20 =10%; **magawo 2 mwa 20**

2= 5/20 =25%, **magawo 5 mwa 20**

3= 10/20 =50%, **magawo 10 mwa 20**

4 = 15/20 =75%, **magawo 15 mwa 20**

5= 18/20=90%, **magawo 18 mwa 20**

6b. Die outcome **(Zotsatira za dayi)**: die number **(nambala ya dayi)**_____1 = Win **(kupambana)** , 0= Loss **(kusapambana)**

6c. If won, the amount in MK (**Ngati adapambana, kuchuluka kwa makwacha) (MK)**_____

7. Time interview ended (Hour:minutes)_____

8. For winners, provide a reward card to the respondent as a guarantee for future payment including the amount and timing of the payment.

Kwa opambana, perekani khadi la mphotho kwa woyankhayo ngati chitsimikizo cha malipiro amtsogolo kuphatikizapo kuchuluka ndi nthawi ya malipiro.

- Write the name of the respondent, and the amount of the reward in MK, circle the time of the payment on the reward card and issue it to the winning respondent.
- *Lembani dzina la woyankhayo, ndi kuchuluka kwa mphotho mu MK, zungulizani (circle) nthawi yolipira pa khadi la mphotho ndikuiperekakwa wopambana.*

Potethe pa macheza anthu. Zikomo

Norwegian University of Life Sciences
School of Economics and Business

HH-IRB date: 16.07.2024
HH-IRB reference: 21/00232

Ethical review conducted by HH's Institutional Review Board (IRB)

In reference to the notification form received for the project:

Project title: SMARTEX, Experiments for Development of Climate-Smart Agriculture
Principal investigator: Stein T. Holden
Submitted: 21.05.2024

The HH-IRB **approves** the project based on the information contained in the HH-IRB Short Form application received by the HH-IRB on the submission date stated above. You have an independent responsibility to follow the conditions stated below.

The approval is valid until the approval expiration date:

Approval expiration date: 16.07.2026

Conditions for our assessment
Our approval presupposes that you will carry out your project in line with:
• the information given in the HH-IRB Short Form application
• current scientific and ethical guidelines as formulated by the National Research Ethics Committee for Social Sciences and Humanities (NESH)
NMBU's Procedure for Research Data Management and its underlying routines

Comments from the HH-IRB Office
- You should add the following to your information letter:

If you need advice on how to exercise your rights, please contact:
NMBU's Data Protection Officer Hanne Pernille Gulbrandsen
Tel: +47 402 81 558
E-mail: personvernombud@nmbu.no

Any complaint/allegation/suspicion of breach of ethics and good research practice must be given in the form of written notification to the Dean of the School of Economics and Business:
Professor Casper Claudi Rasmussen
Tel. +47 901 68 120
E-mail: casper.claudi.rasmussen@nmbu.no

Norwegian University of Life Sciences
School of Economics and Business

HH-IRB date: 16.07.2024
HH-IRB reference: 21/00232

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In reference to the notification form received for the project:

Project title: SMARTEX, Experiments for Development of Climate-Smart Agriculture
Principal investigators: Stein T. Holden and Sarah Tione
Submitted: 21.05.2024

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Notify us if you make any significant changes to your project
Please notify us of any unforeseen event that might affect continued ethical acceptability of the project. We advise you to re-apply for ethical approval if you add new studies to the project or when you modify the protocol of the studies, because future changes are not included in the current evaluation. We also advise you to re-apply for ethical approval if data collection extends beyond the expiration date of this approval. Please refer to the earlier application and approval when you reapply for any of the abovementioned reasons.

We encourage you to footnote the HH-IRB approval in publications that follow from this proposal.

Your sincerely,

N. Worren (sign).
Professor Nicolay Worren
Associate Dean for Research

Senior Advisor Kirsti Pettersen
Research Administration Office