

## GCF Indicator Reference Sheet

### Ethiopia Resilient Landscapes and Livelihoods Project

#### GCF Indicators

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
4.1 Tonnes of carbon dioxide equivalent (t CO <sub>2</sub> eq) reduced or avoided (including increased removals) as a result of Fund-funded projects/programmes – forest and land-use sub-indicator	Y	Metric ton (CO <sub>2</sub> eq)	0	-1,648,000	Annual	Ex-Act tool with intervention activity data entered for each micro-watershed and processed by the PSU for reporting.	Project Coordination Unit (PCU)
<p><i>Description: Measures net change in CO<sub>2</sub> emissions as a result of the project's wide range of on-ground land management and use interventions. Changes in the amount of carbon present in soil, crop, rangeland and forest/trees or mixed or mosaic systems can indicate overall changes in system productivity or degradation, and the extent to which the natural resource is being managed sustainably and can recover to shocks such as drought. The method used is the ExAct carbon balance estimation tool, which calculates carbon accumulation and emissions based on project biophysical output data. Net greenhouse gas (GHG) emissions are calculated as an annual average of the difference between project gross (absolute) emissions aggregated over the economic lifetime of the project and the emissions of a baseline (counterfactual) scenario aggregated over the same time horizon. The indicator value is negative if the project is reducing emissions, and positive if the project is increasing emissions. The economic lifetime of the project is assumed to be 25 years (5 implementation and 20 post-project years, the same time horizon used in the Economic and Financial Analysis) during which a total of 41M tons CO<sub>2</sub>eq are projected to be offset.</i></p>							
1.2 Number of males and females benefiting from the adoption of diversified, climate-resilient livelihood options (including fisheries, agriculture, tourism, etc.)	N	Number of individuals	0	550,400	Mid-term, Endline	Captured as part of the regular M&E reporting. Included as part of the beneficiary survey conducted by independent 3rd party for verification.	Project Coordination Unit (PCU)

Of which are female			0	300,900			
<p><b>Description:</b> <i>This indicator measures the share of users adopting sustainable land management practices in the project areas. Access to and adoption of climate-adapted agricultural practices/ technologies improves resilience to climate change by increasing absorptive and adaptive capacity as well transformative capacity when these new practices result in a fundamental change in how land resources are used and managed. Adoption refers to change of practice or change in the use of a technology promoted or introduced by the project. Admissible land management and improved technologies refers to a range of locally appropriate physical activities such as soil and water conservation (SWC), agroforestry, and/or climate-smart agriculture (CSA) that are supported by RLLP via extension support or financing. These packages are listed in the Community-based Participatory Watershed Management Guidelines, CSA Field Manual, Project Implementation Manual, and other project documentation. Access to and adoption of climate-adapted agricultural practices/ technologies improves resilience to climate change. Land users are based on the number of adult individuals within the household who are considered to be land users. In married/joint households where both the wife and husband are engaged in livelihood activities using land both individuals can contribute to the total number of users. Users of both individually and communally held land is permissible. Target is based on 40% of adults in project area adopting. Women are targeted at a higher rate of 45%.</i></p> <p><i>This indicator is tracked as part M&amp;E project reporting and verified as a part of the stakeholder/beneficiary survey.</i></p>							
9.1 Hectares of land or forests under improved and effective management that contributes to CO2 emission reductions	N	Number of hectares	406,000	1,709,000	Annual	Based on inputs from M&E reporting. Periodic surveying by independent 3rd party to sample treatment areas to verify.	Project Coordination Unit (PCU)
<p><b>Description:</b> <i>The appropriate package of land management activities restores degraded lands and promotes improved management that not only increases productivity but also enhances resilience by building absorptive and adaptive capacity that limits the adverse affects of climate change. Sustainable landscape management (SLM) practices refers to a combination of technologies and approaches to increase land quality and restore degraded land including catchment management which encompasses a set of different dependent measures in a certain area, with overall planning and management.</i></p> <p><i>Characterizing catchment area in terms of watershed basin, this indicator counts as treated the total area of a micro watershed once all the prescribed soil and water conservation measures identified for that micro watershed in the relevant Multi-Year Development Plan (MYDP) have been fully implemented. MYDPs are developed in accordance with the Community-Based Participatory Watershed Development Guidelines (CBPWDGs) and consist of a range of land management technologies and approaches designed to restore degraded lands and promote improved management, that not only support increased productivity but also enhance resilience by building absorptive and adaptive capacity that limit the adverse effects of climate change.</i></p>							

7.1: Use by vulnerable households, communities, businesses and public-sector services of Fund supported tools, instruments, strategies and activities to respond to climate change and variability	N	Number of individuals	0	412,800	Mid-term, Endline	Based on inputs from M&E reporting. Periodic surveying by independent 3rd party to sample treatment areas to verify.	Project Coordination Unit (PCU)
Of which women			0	229,500			
<p><b>Description:</b> Measures number of individuals engaged in income generating activities promoted by the project. The associated activities increases opportunities for diversifying livelihood and increasing resilience as a result by developing adaptive capacity as well as having a transformative impact through greater access to non-traditional livelihood strategies. Activities include, but are not limited to, apiculture promotion, poultry production, fattening, fruits, vegetables and cash crops as well as those individuals who are involved in the production and marketing of improved cook stoves.</p> <p><i>This indicator treats individuals under this indicator equally whether undertaking activities on their own or as part of a group, in which case the number of active group participants contributes to the total. In some instances individuals may engage in or belong to one or more groups involved with project-supported income generating activities but should be counted only once.</i></p> <p><i>This indicator is tracked as part of the stakeholder/beneficiary survey. Target reflects adoption by 30% of adults. Women are targeted at a higher rate of 35%.</i></p>							
8.1: Number of males and females made aware of climate threats and related appropriate responses	Y	Number of individuals	n/a	1,368,000	Baseline, Mid-term, Endline	Covered as part of the beneficiary survey conducted by independent 3rd party.	Project Coordination Unit (PCU)
Of which women			n/a	581,400			
<p><b>Description:</b> Measures strengthening awareness of climate threats and risk-reduction processes.</p> <p><i>This indicator is tracked as part of the stakeholder/beneficiary survey. Target reflects overall awareness of 80% of land users. Women are targeted at a higher rate of 85%. (The total number of households in the project area is approximately 760,000 and implies approximately 1,368,000 land users at a rate of 1.8 adults per household with equal shares of women and men)</i></p>							

## RLLP Project Indicators

Indicator Name	WB Corporate Indicator	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
<b>PDO1.</b> Land area under sustainable landscape management practices	Y	Hectare	406,000	1,709,000	Annual	Based on inputs from M&E reporting. Periodic surveying by independent 3rd party to sample treatment areas to verify.	Project Coordination Unit (PCU)
1.a. Land area restored or reforested/afforested	Y	Hectare	108,000	164,000	Annual		
1.b. Land area with productivity enhancing practices applied	Y	Hectare	6,000	148,000	Annual		

*Description: The appropriate package of land management activities restores degraded lands and promotes improved management that not only increases productivity but also enhances resilience by building absorptive and adaptive capacity that limits the adverse effects of climate change. Sustainable landscape management (SLM) practices refers to a combination of technologies and approaches to increase land quality and restore degraded land including catchment management which encompasses a set of different dependent measures in a certain area, with overall planning and management.*

*Characterizing catchment area in terms of watershed basin, this indicator counts as treated the total area of a micro watershed once all the prescribed soil and water conservation measures identified for that micro watershed in the relevant Multi-Year Development Plan (MYDP) have been fully implemented. MYDPs are developed in accordance with the Community-Based Participatory Watershed Development Guidelines (CBPWDGs) and consist of a range of land management technologies and approaches designed to restore degraded lands and promote improved management, that not only support increased productivity but also enhance resilience by building absorptive and adaptive capacity that limit the adverse effects of climate change.*

*Sub-indicator 1a: This indicator tracks forest restoration and expansion. It is calculated as a subset of the total land area with sustainable land management practices (indicator 1) that is treated with measures to return the land to its natural, semi-natural, or forested state. It includes habitat restoration and other conservation measures to restore biodiversity, establishment of forest on land with and without recent tree cover, gully area stabilization, degraded area closures, degraded area*

Indicator Name	WB Corporate Indicator	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
<p>woodlot establishment, area covered by bamboo plantation on degraded area. This indicator does not include areas, which have been cleared during or in anticipation of the project. Area re/afforested refers to “establishment of forest through planting, and/or deliberate seeding on land that, until then, was not classified as forest” or “re-establishment of forest through planting and/or deliberate seeding on land classified as forest” 6 expressed in hectare (ha). This can include also assisted natural regeneration, coppicing or other locally appropriate methods.</p> <p>Sub-indicator 1b: This covers the total area of individually held land on which Climate Smart Agriculture (CSA) practices have been adopted under the project. The application of improved, productivity enhancing, technologies on farmland promotes transformative resilience by introducing climate conscious practices and undertaking investments that fundamentally changing how land resources are used while at the same time while at the same time improving absorptive and adaptive capacity that limits the adverse effects of climate change.</p>							
<b>PDO 2.</b> Project area showing an increase in NDVI correcting for external climatic impacts		Percent	0	50	Annual	Remote-sensed satellite imagery. Uses historical data to develop a model that is used to control for seasonal and external variations (i.e. precipitation)	Project Coordination Unit (PCU) with support from external GIS and remote-sensing expert
<p><b>Description:</b> <i>The Normalized Difference Vegetation Index (NDVI) measures photosynthetic activity and vegetation cover. Changes in vegetation cover and intensity correlates with improvement in land productivity, increased carbon storage, and greater resilience to climate change due to improved absorptive and adaptive capacity (as per the PDO). Utilizing visible-red and near-infrared spectral bands, NDVI is one measure for detecting vegetation cover and can be used to track changes in vegetation over time. This indicator is meant to add value when used in combination with other indicator and provides a benchmark for physical achievement under the operation and can be computed using remote-sensed satellite imagery data.</i></p> <p><i>Progress under this indicator is tracked by computing, at the pixel-level (using a spatial resolution of 30mx30m), the change in annual average NDVI from baseline, selecting pixels showing an improvement over the baseline after adjusting for external factors (i.e. seasonal or climatic variables). NDVI values are computed using medium resolution imagery (i.e. LandSat 8 or Sentinel-2) and incorporating a masking routine to exclude pixels that can result in unreliable estimates (i.e. containing clouds, shadows, water cover, etc.). The share of the project area showing an improvement in NDVI is evaluated after an appropriate lag (i.e. 1 or 2 years) on areas where interventions have taken place (PDO 1). Information on spatial location and timing of interventions in each of the project watersheds is required for tracking this intervention.</i></p> <p><i>Assessing performance under this indicator measures change from the baseline and compares this against any change that would have occurred without the intervention (i.e. the counterfactual). Given the lack of satisfaction with how remote-sensing based indicators have performed in the past, largely as a result of failing to control for external factors, the methodology establishing the 'counterfactual' for comparison will incorporate best practices and state of the art methods and data for modeling index</i></p>							

Indicator Name	WB Corporate Indicator	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
<i>values based on remote-sensed data. To avail of improvements in methods or data, the underlying methods and benchmark statistical model may be updated during the course of the project as appropriate.</i>							
<b>PDO 3.</b> Project area showing an increase in LSWI correcting for external climatic impacts		Percent	0	50	Annual	Remote-sensed satellite imagery. Uses historical data to develop a model that is used to control for seasonal and external variations (i.e. precipitation)	Project Coordination Unit (PCU) with support from external GIS and remote-sensing expert
<p><b>Description:</b> <i>The Land Surface Water Index (LSWI) measures moisture content in soil and vegetation. Improved land management practices leads to better water retention, less runoff during heaving rains and improves moisture availability during dry seasons thereby supporting more vigorous and enduring plant growth during periods of little or no rain. Soil and vegetation moisture content correlates with improvement in land productivity, increased carbon storage, and greater resilience to climate change due to improved absorptive and adaptive capacity (as per the PDO). The LSWI is the normalized difference between the near-infrared and short wave infrared spectral bands and ranges from -1 to 1. This indicator usefully complements NDVI and is meant to add value when used in combination with other indicators, and provides a benchmark for physical achievement under the operation and can be computed using remote-sensed satellite imagery data.</i></p> <p><i>Progress under this indicator is tracked by computing, at the pixel-level (using a spatial resolution of 30mx30m), the change in annual average LWSI from baseline, selecting pixels showing an improvement over the baseline after adjusting for external factors (i.e. seasonal or climatic variables). LWSI values are computed using medium resolution imagery (i.e. LandSat 8 or Sentinel-2) and incorporating a masking routine to exclude pixels that can result in unreliable estimates (i.e. containing clouds, shadows, water cover, etc.). The share of the project area showing an improvement in LWSI is evaluated after an appropriate lag (i.e. 1 or 2 years) on areas where interventions have taken place (PDO 1). Information on spatial location and timing of interventions in each of the project watersheds is required for tracking this intervention.</i></p> <p><i>Assessing performance under this indicator measures change from the baseline and compares this against any change that would have occurred without the intervention (i.e. the counterfactual). Given the lack of satisfaction with how remote-sensing based indicators have performed in the past, largely as a result of failing to control for external factors, the methodology establishing the 'counterfactual' for comparison will incorporate best practices and state of the art methods and data for modeling index values based on remote-sensed data. To avail of improvements in methods or data, the underlying methods and benchmark statistical model may be updated during the course of the project as appropriate.</i></p>							

Indicator Name	WB Corporate Indicator	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
<b>PDO 4. Net greenhouse gas emissions</b>	Y	Metric ton (CO2eq)	0	-1,648,000	Annual	Ex-Act tool with intervention activity data entered for each micro-watershed and processed by the PSU for reporting.	Project Coordination Unit (PCU)
<p><i>Description: Measures net change in CO2 emissions as a result of the project's wide range of on-ground land management and use interventions. Changes in the amount of carbon present in soil, crop, rangeland and forest/trees or mixed or mosaic systems can indicate overall changes in system productivity or degradation, and the extent to which the natural resource is being managed sustainably and can recover to shocks such as drought. The method used is the ExAct carbon balance estimation tool, which calculates carbon accumulation and emissions based on project biophysical output data. Net greenhouse gas (GHG) emissions are calculated as an annual average of the difference between project gross (absolute) emissions aggregated over the economic lifetime of the project and the emissions of a baseline (counterfactual) scenario aggregated over the same time horizon. The indicator value is negative if the project is reducing emissions, and positive if the project is increasing emissions. The economic lifetime of the project is assumed to be 25 years (5 implementation and 20 post-project years, the same time horizon used in the Economic and Financial Analysis) during which a total of 41M tons CO2eq are projected to be offset.</i></p>							
<b>PDO 5. Households adopting diversified livelihood activities supported by the project</b>	N	Number	0	229,700	Baseline, Mid-term, Endline	Based on information collected as part of stakeholder/ beneficiary survey.	Project Coordination Unit (PCU) responsible for contracting 3rd party or arranging data collection.
5a. Female-headed households participating in diversified livelihood activities supported by the project		Number	0	40,100			

Indicator Name	WB Corporate Indicator	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
<p><i>Description: This variable captures household's reduced vulnerability to climate change through the adoption of nontraditional activities. By diversifying their livelihood portfolios, households are being proactive in adapting and transforming their livelihoods to limit exposure to future shocks due to climate change and extreme weather events. This indicator is measured as the percent of households engaging in approved, non-traditional activities, relative to the total number of households in the project area. The definition of what constitutes the set of potential non-traditional activities is set out in the Project Implementation Manual (PIM) and applies to activities that are expected to reduce households' vulnerability to future shocks associated with extreme weather events and climate change by diversifying livelihood activities and increasing the resilience of natural (i.e. land) resources. The total population in the project area is approximately 3.8 million, and assuming 5 individuals per household, approximately 760,000 households. The target value reflects a household adoption rate of 30 percent. Female-headed households (approx. 15% of all households) are targeted at a higher rate of 35 percent.</i></p>							

## Intermediate Results Indicators

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
IR 1. Share of target beneficiaries with rating 'Satisfied' or above on project interventions (aspects: livelihoods, environmental benefits, others)	Y	Percent	n/a	65	Baseline, Mid-term, Endline	Based on information collected as part of stakeholder/ beneficiary survey.	Project Coordination Unit (PCU) responsible for contracting 3rd party or arranging data collection.
1a. Share of target women beneficiaries with rating 'Satisfied' or above on project interventions		Percent	n/a	65	Baseline, Mid-term, Endline		
<p><b>Description:</b> Captures engagement with stakeholders and extent to which project is meeting stakeholder demand. This is based on a survey administered to households in the project watersheds. The survey instrument is comprised of small number of questions (approx. 15-25).</p> <p>This will measure the extent to which the project reflected expectations and preferences of beneficiaries in the project watersheds.</p> <p>Survey techniques will be used to document male and female beneficiary priorities at project outset. Surveys during and at the close of the project may identify respondents' satisfaction with project investments, including a specific question about the degree to which respondents felt project activities reflected their preferences (ex post). This indicator will draw on one question from a survey that sampled to be representative of beneficiaries. A meaningful analysis of satisfaction with project outputs will require analysis of more than one question.</p> <p>The survey will include the following question: "How satisfied are you that the project activities associated with RLLP is useful to you? [scale 1-5 representing very unsatisfied to very satisfied, with a score of "3" representing neither satisfied nor dissatisfied.]". The indicator will record the percentage of men and women reporting scores of 4 or 5 in response to this question. A project beneficiary is anyone who is benefiting from a project/program.</p>							
IR 2. Targeted major watersheds with Multi-Year Plan Development Plan 100% implemented		Number	0	147	Annual	Reported by woreda and captured as part of the regular M&E reporting.	Project Coordination Unit (PCU)

2a. Targeted major watersheds with Multi-Year Development Plan approved		Number	90	147	Annual		
<p><i>Description: Number of major watersheds in the project area that have developed or updated a Multi-Year Development Plan (MYDP) that has been approved by the Woreda or regional SLMP coordination platform. In a given major watershed, the MYDP is a collection of multi-year plans for each micro-watershed targeted by the project. The MYDP should include each have baseline data, basemaps, and detailed information on the activities and interventions prescribed to stabilize each of the targeted micro-watersheds (included detailed maps, timelines and budgets).</i></p> <p><i>The percent of the multi-year development plan (MYDP) implemented is based on the area treated relative to the total area to be treated as outlined in the MYP.</i></p>							
IR 3. Area enclosure as a result of the project.	N	Hectare	0	54,000	Annual	Collected by DA's and other local agents as appropriate using mapping application on tablets. After reviewing by Woreda agent, data is processed by PSU for reporting.	Project Coordination Unit (PCU)
<p><i>Description: This indicator tracks areas where grazing is restricted. Limiting or completely restricting livestock to these areas improves the resilience by increasing absorptive and adaptive capacity of the lands treated and, when complemented with other improved management practices like cut-and-carry, increases productivity and potential for generating additional income.</i></p>							
IR 4. Land users adopting sustainable land management practices as a result of the project	Y	Number	0	550,400	Mid-term, Endline	Based on information collected as part of stakeholder/ beneficiary survey and annual household survey.	Project Coordination Unit (PCU) responsible for contracting 3rd party or arranging data collection.
4a. Women land users		Number	0	300,900			

adopting sustainable land management practices as a result of the project							
4b. Female headed households adopting sustainable land management practices as a result of the project		Number	0	51,400			
<p><i>Description: This indicator measures the share of users adopting sustainable land management practices in the project areas. Access to and adoption of climate-adapted agricultural practices/ technologies improves resilience to climate change by increasing absorptive and adaptive capacity as well transformative capacity when these new practices result in a fundamental change in how land resources are used and managed. Adoption refers to change of practice or change in the use of a technology promoted or introduced by the project. Admissible land management and improved technologies refers to a range of locally appropriate physical activities such as soil and water conservation (SWC), agroforestry, and/or climate-smart agriculture (CSA) that are supported by RLLP via extension support or financing. These packages are listed in the Community-based Participatory Watershed Management Guidelines, CSA Field Manual, Project Implementation Manual, and other project documentation. Access to and adoption of climate-adapted agricultural practices/ technologies improves resilience to climate change. Land users are based on the number of adult individuals within the household who are considered to be land users. In married/joint households where both the wife and husband are engaged in livelihood activities using land both individuals can contribute to the total number of users. Users of both individually and communally held land is permissible. Target is based on 40% of adults in project area adopting. Women are targeted at a higher rate of 45%.</i></p> <p><i>This indicator is tracked as part M&amp;E project reporting and verified as a part of the stakeholder/beneficiary survey.</i></p>							
IR 5. Functional Common-Interest Groups (CIGs) established or supported.	N	Number	0	2628	Annual	Collected by DA's and other local agents as appropriate using data collection application on tablets.	Project Coordination Unit (PCU)
<p><i>Description: This indicator tracks the number of formal community-based groups established or supported under RLLP that are active in watershed management and/or income generating activities. Through these groups communities management of watershed resources are improved and opportunities for new, non-traditional activities are promoted. Improved community ownership and management of land resources combined with greater livelihood alternatives increases resilience by developing adaptive and transformative capacity. Groups covered under this indicator include, but are not limited to, community coordination platforms such as local watershed teams, watershed user associations, water user associations and different self-help groups for such activities as poultry promotion, shoat fattening, and apiculture promotion. "Established" refers to a documented list of individuals and positions, and by-laws. "Functional" refers to the level of activity as evidenced by minutes and other documentation. Detailed reporting by the PSU will break down these groups by category.</i></p>							

IR 6. People participating in income-generating activities supported by the project		Number	0	412,800	Mid-term, Endline	Based on information collected as part of stakeholder/ beneficiary survey and annual household survey.	Project Coordination Unit (PCU) responsible for contracting 3rd party or arranging data collection.
6a. Women participating in income generating activities supported by the program.		Number	0	229,500			
<p><i>Description: Measures number of individuals engaged in income generating activities promoted by the project. The associated activities increases opportunities for diversifying livelihood and increasing resilience as a result by developing adaptive capacity as well as having a transformative impact through greater access to non-traditional livelihood strategies. Activities include, but are not limited to, apiculture promotion, poultry production, fattening, fruits, vegetables and cash crops as well as those individuals who are involved in the production and marketing of improved cook stoves.</i></p> <p><i>This indicator treats individuals under this indicator equally whether undertaking activities on their own or as part of a group, in which case the number of active group participants contributes to the total. In some instances individuals may engage in or belong to one or more groups involved with project-supported income generating activities but should be counted only once.</i></p> <p><i>This indicator is tracked as part of the stakeholder/beneficiary survey. Target reflects adoption by 30% of adults. Women are targeted at a higher rate of 35%.</i></p>							
IR 7. Watershed user associations established and strengthened		Number	0	170	Annual	Reported by woreda and captured as part of the regular M&E reporting.	Project Coordination Unit (PCU)
IR7a. WUA's with Watershed Management and Use Plan		Number	0	130	Annual		
<p><i>Description: Number of targeted major watersheds in the project area that have developed a Watershed Management and Use Plan that has been approved locally by the community user group, and either the Woreda or regional SLMP coordination platform. Micro watershed land management and use plans, established by farmers user associations, detail management and use for treated areas, outline agreements with the Kebele Watershed Team to conserve and utilize the resources, and outlines bylaws</i></p>							

*for managing and implementing conservation activities and the distribution/sharing of benefits. The development of these plans are a critical for ensuring land resources are used and managed in a way that enhances absorptive and adaptive capacity to climate change, promoting resilience broadly at the landscape level.*

IR 8. Woredas information centers being effectitvely used by project stakeholders		Number	0	147	Annual	Based on data collected by Regions and physical verification by PSU and supplemented with information collected as part of an annual survey on institutional performance.	Project Coordination Unit (PCU)
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*Description: Woreda information centers serve as repositories for data, information and knowledge products relating to SLM and make this information publically available for multiple audiences. Access relevant and up-to-date information improves decision making that supports initial planning as well as current and future activities by having access to knowledge used to develop climate resilient strategies that are absorptive, adaptive, and transformative. The information provided by these centers includes, for example, best practices, indigenous knowledge and experience of farmers, and scientific knowledge and practices. These centers also collect and document biophysical, socio-economic, and spatial information (i.e. maps) as part of a comprehensive database to track changes and impacts of RLLP. These information centers are expected to be equipped with basic office furniture, computers, shelf cabinets, scanners, photocopiers, as relevant, and may provide space for reading and learning (i.e. library/reading room).*

*The functionality and effectiveness of these information centers is expected to be tracked as part of the stakeholder/beneficiary survey.*

IR 9. Parcels of land surveyed and mapped for certification	N	Number	1,776,000	4,776,000	Annual	Information extracted from NRLAIS database or generated using data collected from woreda land administration offices.	Project Coordination Unit (PCU)
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*Description: This indicator is the total number of parcels surveyed and mapped. This includes the number of individual and communal land parcels surveyed (using one or a combination of GPS, total stations, ortho-photo, or satellite imagery), mapped and registered with the woreda land administration office as part of second-level land certification activities. Interventions that increase tenure security and define the associated rights provides holders with an incentive to take a long-term term perspective when managing the land resources and undertaking investments, increasing productivity and enhancing resilience trough adaptive and transformative means.*

<b>IR 10.</b> Second level land certificates issued as a result of the project	Y	Number	0	2,500,000	Annual	Information extracted from NRLAIS database or generated using data collected from woreda land administration offices.	Project Coordination Unit (PCU)
<p><i>Description: The number of second-level land certificates issued. This is a WB core indicator for the number of land parcels with use or ownership rights recorded as a result of the project. Interventions that increase tenure security and define the associated rights provides holders with an incentive to take a long-term perspective when managing the land resources and undertaking investments, increasing productivity and enhancing resilience through adaptive and transformative means.</i></p> <p><i>Note: Second-level certification differs from the earlier first-level certification program by providing additional spatial (i.e. location and boundary) data in the form of a parcel map.</i></p>							
<b>IR 11:</b> Households who have received second level land holding certificates		Number	438,000	1,038,000	Annual	Information extracted from NRLAIS database or generated using data collected from woreda land administration offices.	Project Coordination Unit (PCU)
<b>11a.</b> Women who have received second level land holding certificates individually or jointly with a man		Number	300,000	750,000	Annual	Information extracted from NRLAIS database or generated using data collected from woreda land administration offices.	
<p><i>Description: This indicator measures improved land rights as evidenced by the number of households who have received second-level land holding certificates for individual parcels that have been surveyed, mapped and registered by the woreda. Interventions that increase individual tenure security and define the associated rights provides households with an incentive to take a long-term perspective when managing the land resources and undertaking investments, increasing productivity and enhancing resilience through adaptive and transformative means.</i></p> <p><i>Second-level certification differs from the earlier first-level certification program by providing additional spatial (i.e. location and boundary) data in the form of a parcel map. HHs include male-headed, female-headed and jointly-headed HHs. Female-headed households are those usually headed by widows, unmarried, divorced or separated women.</i></p> <p><i>The sub-indicator disaggregates the parent indicator to better track improvements in women's land rights under the project.</i></p>							

<b>IR 12.</b> Landless youth who are members of groups who have been issued a second level certificate or other legal documentation to use communal land holdings in exchange for restoring land		Number	14,000	34,000	Annual	Information extracted from NRLAIS database or generated using data collected from woreda land administration offices.	Project Coordination Unit (PCU)
12a. Women Landless youth who are members of groups who have been issued a second level certificate or other legal documentation to use communal land holdings in exchange for restoring land		Number	4,200	10,200	Annual		
<p><i>Description: This indicator captures the number of individual landless youth that are organized into user groups and who, as a result of the project, have secured greater land rights in exchange for rehabilitating degraded communal land. These rights are documented by a second level certificate or other legal documentation such as a lease, which is issued to a given user group in exchange for rehabilitating and managing the land and applying appropriate SLM practices to sustain land productivity. This innovation has potential for scaling up. Interventions that increase tenure security and define the associated rights provides holders with an incentive to take a long-term term perspective when managing the land resources and undertaking investments, increasing productivity and enhancing resilience through adaptive and transformative means.</i></p>							
<b>IR 13.</b> Woredas with functioning land administration information systems		Number	0	112	Annual	Information extracted from NRLAIS database or generated using data collected from woreda land administration offices.	Project Coordination Unit (PCU)
<p><b>Description:</b>  <i>Institutions that support good land governance and land administration play a key role in defining and enforcing land holder rights which enhances tenure security. Security of tenure requires reliable and up to date land information whereas the sustainability of functional land administration depends on the ability to keep the land information constantly up to date. The data contained in the Information systems reflect actual physical and legal data of the parcels, their landholders or possessors and match with the reality on the ground (reflecting the actual link between the cadastre and the register and the reality on the ground). All the information registered in the systems comes from data accurately collected in the field and this can be managed effectively through a functional land information management system such as NRLAIS.</i></p>							

*Therefore, this indicator will track Woredas with WORLAIS installed and manages the land administration services in daily basis. Security of tenure allows rights holders to take a long-term term perspective when managing the land resources and undertaking investment, increasing productivity and enhancing resilience through adaptive and transformative means.*