

# TMGO Livelihoods Restoration Plan

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*Submitted To:*



**DELPHOS**  
INTERNATIONAL

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This report is submitted by Environmental Resources Management, subcontractor to Delphos International, Ltd, as a work product under Task 11.

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# Glossary

Abbreviation	Description
BOOT	Build own operate transfer
BDO	BDO Consulting, PLC
CLO	Community liason officer
EDHS	Ethiopia Demographic and Health Survey
EEP	Ethiopian Electric Power
ERM	Environmental Resources Management, Inc.
ESIA	Environmental and Social Impact Assessment
ETB	Ethiopian Birr
FDRE	Federal Democratic Republic of Ethiopia
FLS	FLS Law Office
GDP	Gross Domestic Product
GII	Gender Inequality Index
Ha	Hectare
HDI	Human Development Index
IA	Implementation Agreement
IFC	International Finance Corporation
LAP	Land Acquisition Plan
LRP	Livelihoods Restoration Plan
M&P	Monitoring and Evaluation
MW	Megawatt
OFWE	Oromia Forest & Wildlife Enterprise
PAH	Project-Affected Household
PAP	Project-Affected People
PPA	Power purchase agreement
PS	IFC Performance Standards
TMGO	TM Geothermal Operations Private Limited Company
UNDP	United Nations Development Program
USTDA	U.S. Trade and Development Agency



# 1 Introduction

This report, titled “Livelihoods Restoration Plan” (the “Report” or “LRP”), is submitted by Environmental Resources Management, Inc. (“ERM”) as part of a team (the “Team”) comprising Delphos International, Ltd. (“Delphos”) and its subcontractors as part of its provision of services to TM Geothermal Operations Private Limited Company (the “Grantee” or “TMGO”) under a feasibility study (the “Study”) agreement partially funded by the U.S. Trade and Development Agency’s (“USTDA”). The Grantee is acting as an administrator of the Study on behalf of TMGO. The Team led by Delphos includes POWER Engineers, Incorporated (“POWER”), ERM, BDO Consulting PLC (“BDO”), FLS Law Office (“FLS”), and Trinity International LLP (“Trinity”).

The purpose of the Study is to determine the technical, financial, and economic aspects of an anticipated 50 megawatt (“MW”) geothermal power plant (the “Project”) being developed by TMGO in Tulu Moye of the Federal Democratic Republic of Ethiopia. The Study is expected to complement the exploration and site development activities being carried out by the Grantee; including technical assessments of the geothermal resource and the plant, environmental and social impact assessments, financial assessments, and a comprehensive plan for implementing the Project.

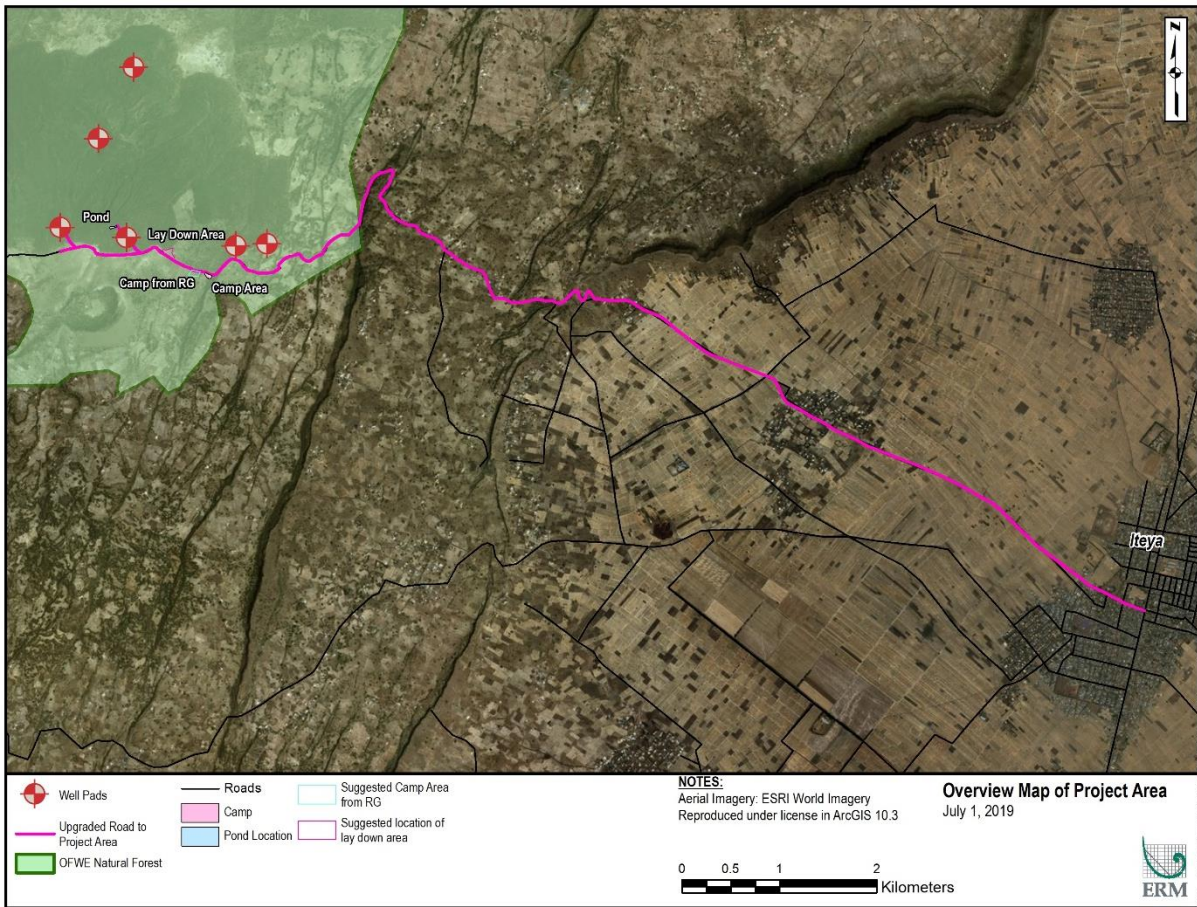
The Project is the first phase of a larger concession to develop up to 520 MW of geothermal power generation capacity awarded by the Government of Ethiopia (the “Concession”). The Grantee entered into a power purchase agreement (“PPA”) and Implementation Agreement (“IA”) with Ethiopian Electric Power (“EEP”) for the full 520 MW concession in December 2017. The Grantee has selected Delphos International, Ltd. (“Contractor”) to perform the Study and to coordinate the work of the Team.

The Tulu Moye geothermal prospect is located about 130 km southeast of Addis Ababa, with Lake Koka to the north and Lake Ziway to the south. The geothermal drilling targets are located beneath largely rocky terrain at a relatively high altitude, resulting from volcanic activity dating from less than 0.8 million years and continuing intermittently into historic times. The surrounding area is rural, characterized by sparse settlements with households primarily engaged in agriculture. Nearby Iteya town is a small population center, and the administrative seat of the Hitosa Woreda.<sup>1</sup>

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<sup>1</sup> A Woreda can be thought of as a district and is a basic administration unit in Ethiopia, as described in Section 5.3.1.

**Figure 1: Project Area**



## 1.1 Scope and Approach

TMGO is committed to compliance with all relevant laws in Ethiopia as well as to meeting the 2012 IFC Performance Standards on Environmental and Social Sustainability.

The purpose of this Livelihoods Restoration Plan (“LRP”) is to characterize the economic displacement that is being caused by Project land acquisition and formalize the plan by which the community and households have been compensated and will be provided with opportunities to restore their livelihoods to at least pre-Project levels, or better. This LRP focuses exclusively on impacts caused by land acquisition for civil works, as described in Section 2.3.

Livelihood restoration focuses on complementing the compensation that has been paid by the Project for lost assets and enabling households to continue, or replace, any lost forms of livelihoods, or adopt new ways of gaining a livelihood.

In this respect, the following specific approaches have been implemented:

- Avoidance and minimization of displacement impacts, especially any need for physical displacement;
- Determination of compensation values for lost assets at (or above) replacement cost and provision of such compensation prior to land take/construction;
- Establishment of processes for communication and feedback from affected communities in the formulation of this LRP and during the Project development and operation in general; and

- Establishment of a framework for effective implementation and monitoring of the LRP to ensure that compensation and livelihood restoration activities are fully realized in alignment with this LRP, and that adjustments are made as necessary to meet the overall objective of the LRP to support households to restore their livelihoods.

## 1.2 Report Structure

This LRP is structured as follows:

- Section 1 presents the overall introduction, scope and context of the LRP;
- Section 2 presents the Project descriptions, efforts employed to avoid and minimize displacement as well as a general view of the Project footprint and land acquisition;
- Section 3 presents the legal and institutional framework that has guided the LRP;
- Section 4 presents a summary of stakeholder engagement activities undertaken to inform and gather feedback for land acquisition and LRP planning;
- Section 5 presents the socio-economic/livelihoods baseline situation of Project-affected persons (“PAPs”) and Project affected households (“PAHs”);
- Section 6 presents categories of impacts generated by the land acquisition;
- Section 7 presents the policies guiding compensation and outlines the valuation methodology applied to compensate for lost assets and other entitlements;
- Section 8 presents the livelihood restoration and enhancement support measures to help PAPs/PAHs re-establish and/or diversify their livelihoods;
- Section 9 presents the monitoring and evaluation framework to objectively determine whether the LRP objectives are being met; and
- Section 10 presents the roles and responsibilities of the different parties involved in the implementation and oversight of the LRP, the anticipated implementation schedule and associated costs.

## 2 Project Description and Alternatives

### 2.1 Project Objectives and Description

The Government of Ethiopia has set ambitious goals to become a middle-income country by 2025, which includes aggressive power generation and connection targets. With regard to power generation, baseload renewable sources will be critical to meet demand and to balance other intermittent generation sources such as wind and solar.

In this context, the objective of the Tulu Moye Geothermal Operations Project (the Project) is to provide up to 520 MW of clean electric power from a renewable source to Ethiopia at a stable, cost competitive price.

The Project will be developed in four phases, the first phase of 50 MW capacity, followed by three phases of 100 MW, 100 MW and 270 MW, respectively.

The Project entails drilling full-sized geothermal exploration wells to evaluate the feasibility of commercial geothermal development in the Tulu Moye area. Specifically, the Project includes the following activities and components:

- Civil works and site development at two potential drilling areas;
- Drilling up three exploration wells;
- Well testing; and
- Well abandonment and site reclamation, if applicable.

This LRP is focused exclusively on the impacts associated with civil works and initial site development, for Phase I of the Project development. The civil works include:

- Expansion and upgrading of the existing 15 km all-weather gravel road from Iteya to the Project area;
- Site development at two potential drilling areas in the lava field;
- Laydown area; and
- Accommodation camp.

### 2.2 Avoidance and Minimization of Project Displacement Impacts

The Project has employed several strategies to avoid and minimize possible displacement impacts. These include design considerations such as directional drilling for the initial exploration wells, which results in having more wells per well pad and thus a smaller surface footprint, and location considerations via the selection of the well pad placement where there would be minimal local disturbance and where less civil work is required in terms of road accessibility.<sup>2</sup> Additionally, when the exploration wells are turned into production wells, they can be connected at the well pad and share well testing equipment and therefore decrease further infrastructure works.

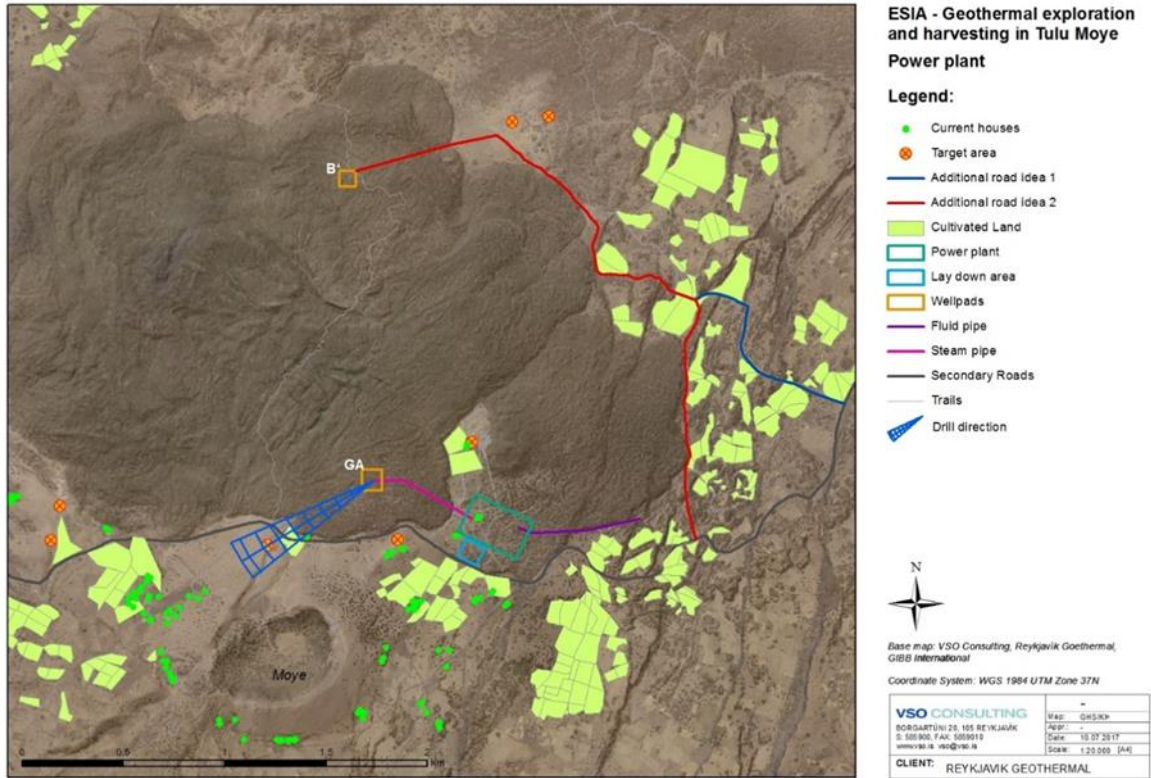
In particular, regarding the drilling targets for Phase I, the choice to site the well pads in the Gnaro lava field was driven by a Project commitment to avoid physical resettlement and attempt to avoid productive agriculture and grazing land to the greatest extent possible. With directional drilling technology, this allows the Project to reach subsurface targets underneath land potentially occupied by settlements or productive livelihood activities with no surface disturbance. The figure below from the 2017 ESIA illustrates this point, demonstrating seven

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<sup>2</sup> Directional drilling technology allows underground reach in a circular path from the surface entrance point, in this case estimated to reach approximately 800 meters from the drill.

targets of interest to the Project, and the well pad siting at points GA and B from which targets can be reached with minimal surface disturbance.

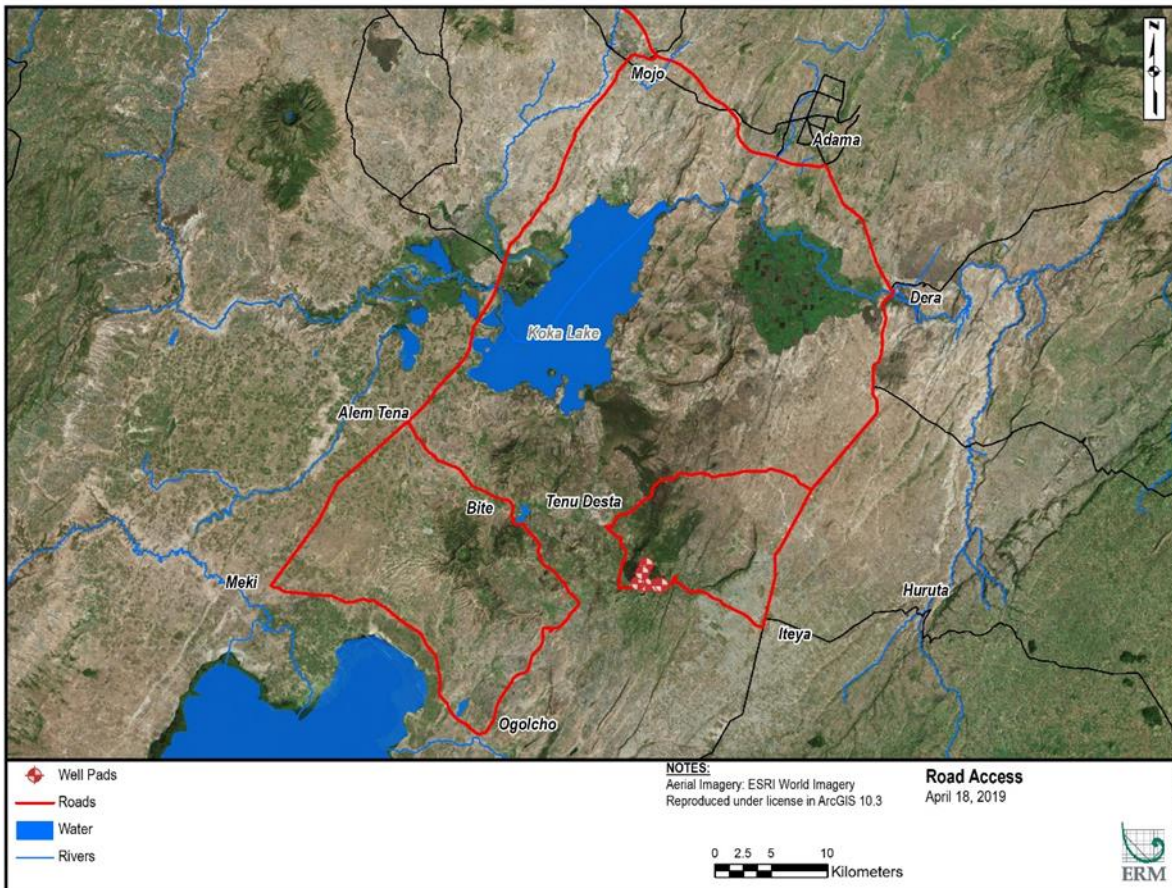
**Figure 2: Siting of Main Project Components for Phase 1<sup>3</sup>**



In terms of roads specifically and accessibility to the general Project Area, two options were analyzed, which are illustrated in the figure below. Both begin in Addis Ababa traveling on the Addis-Adama Expressway, a six-lane heavily utilized toll road and arriving in Mojo, approximately 65 km to the southeast of Addis. The first option would then continue southeast along paved road through Adama, arriving in Iteya, where it would then follow an all-weather gravel road to the drilling area. The second option from Mojo would then continue to Alem Tena, where it could then carry on to Meki then Ogolcho, to the southwest of the Project area on an all-weather road, or from Alem Tena to Bite Daba which is a dry weather road, usually difficult to traverse, especially during rainy season. Regarding the second option, while there is some connectivity through earthen roads from Ogolcho to Bite Daba, creating a loop, these do not have accessibility beyond footpaths to the drilling area. Meanwhile, the first option has established connectivity to the drilling area through a graded earth road in good motorable condition. This analysis made clear that the first option offered multiple advantages, including being the least impactful as the existing road would only need to be widened and upgraded to accommodate Project needs, rather than the second option, which would have required upgrades and widening to longer existing roads, in addition to entirely new roads, implying more land acquisition overall.

<sup>3</sup> Source: 2017 ESIA V2, VSO and TS Environmental Technology.

**Figure 3: Regional Roads Alternatives Analyzed<sup>4</sup>**



### 2.3 Project Footprint and Associated Land Acquisition

The land acquisition process compensated individual land users, and the Oromia Forest and Wildlife Enterprise (“OFWE”). Impacted household lands were classified by a local Compensation Committee (described ahead) as farmland or grassland for compensation purposes. Household farmland acquired for the Project was 9.91 ha of land and grassland was 5.61 ha; 12 ha were acquired from the OFWE. Further details of the land acquisition impacts are described in Section 6.

<sup>4</sup> Source: ERM 2019.

## 3 Legal and Institutional Framework

### 3.1 National Requirements Regarding Land Acquisition

#### 3.1.1 Constitution of the Federal Democratic Republic of Ethiopia

The Constitution of the Federal Democratic Republic of Ethiopia (“FDRE”), which came into force in 1995, provides for a parliamentary form of government comprised of nine regional states. Some sections of the Constitution, which are most relevant to land acquisition, are described below.

- Right to own private property, Article 40, No 2:
  - “Private property”, for the purpose of this Article, shall mean any tangible or intangible product which has value and is produced by the labour, creativity, enterprise or capital of an individual citizen, associations which enjoy juridical personality under the law, or in appropriate circumstances, by communities specifically empowered by law to own property in common.
- No private ownership of land, Article 40, No. 3:
  - The right to ownership of rural and urban land, as well as of all natural resources, is exclusively vested in the State and in the peoples of Ethiopia. Land is a common property of the Nations, Nationalities and Peoples of Ethiopia and shall not be subject to sale or to other means of exchange.
- Right to develop immovable property, and to improvements, Article 40, No. 7:
  - Every Ethiopian shall have the full right to the immovable property he builds and to the permanent improvements he brings about on the land by his labour or capital. This right shall include the right to alienate, to bequeath, and, where the right of use expires, to remove his property, transfer his title, or claim compensation for it. Particulars shall be determined by law
- Government expropriation, Article 40, No. 8:
  - Without prejudice to the right to private property, the government may expropriate private property for public purposes subject to payment in advance of compensation commensurate to the value of the property
- Rights due to physical displacement or livelihood impacts, Article 44, No. 2:
  - All persons who have been displaced or whose livelihoods have been adversely affected as a result of State programmes have the right to commensurate monetary or alternative means of compensation, including relocation with adequate State assistance.

#### 3.1.2 FDRE Rural Land Administration and Land Use Proclamation (Proclamation 456/2005)<sup>5</sup>

This Proclamation primarily concerns rural land administration, including rights and restrictions with regard to use, and provides standards for such administration intended to minimize conflict. As per the Proclamation, farmers and pastoralists engaged in agriculture to earn a living will be given land free of charge. Young people above the age of 18 who wish to engage in agriculture also have the right to use rural land. It also recognizes that women likewise have the right to be given and use rural land.

The legislation recognizes that citizens who have the right to use rural land may obtain rural land from family by donation, inheritance or from the competent authority. It also provides that the competent authority will give any holder of rural land a holding certificate, which indicates the size of the land, type of land use and cover, level of fertility, and borders, as well as the obligations and rights of the holder. The names of all joint holders,

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<sup>5</sup> Proclamation available at: <http://extwprlegs1.fao.org/docs/pdf/eth95459.pdf>

including husbands and wives, are included on such certificates. The Proclamation also recognizes the ability of those with land holding certificates to lease land from their holding to other farmers or investors.

In relation to compensation payment to be made to a holder in relation to public works either by the federal or regional governments, Section 2, Article 7, No. 3 states that:

Holder of rural land who is evicted for purpose of public use shall be given compensation proportional to the development he has made on the land and the property acquired or shall be given substitute land thereon. Where the rural landholder is evicted by the federal government, the rate of compensation would be determined based on the federal land administration law. Where the rural landholder is evicted by regional governments, the rate of compensation would be determined based on the rural land administration laws of regions.

When disputes arise over rural land holding rights, the legislation provides that the concerned parties should endeavor to resolve the dispute through discussion and agreement. If such dispute cannot be resolved, it can be decided by an arbitral body to be elected by the parties or to be decided in accordance with the rural land administration laws of the region.

### **3.1.3 Expropriation of Land Holdings for Public Purposes and Payment of Compensation (Proclamation No. 455/2005)<sup>6</sup>**

This Proclamation clarifies and defines who has the power to expropriate landholdings either in urban or rural sections of the country. This power primarily lies with a Woreda or an urban administration, which, upon payment in advance of compensation, may:

...expropriate rural or urban landholdings for public purposes where it believes that it should be used for a better development project to be carried out by public entities, private investors, cooperative societies or other organs, or where such expropriation has been decided by the appropriate higher regional or federal government organ for the same purpose.

A landholder whose land has been expropriated for public use by the concerned government authorities is entitled to compensation. Part Three, Article 7, No.1 states that:

A landholder whose holding has been expropriated shall be entitled to payment for compensation for his property situated on the land for permanent improvements he made to such land.

The amount of compensation to be paid for the property situated on the expropriated land is determined based on replacement cost. Compensation for permanent improvement to land is required to be equal to the value of the capital and labor expended on the land. Compensation can also be paid in the form of covering the costs of removal, transportation and erection of property that can be moved and continue to serve its purpose as before.

Concerning displacement compensation for rural land holdings; Part Three, Article 8 states that:

A rural landholder whose land holding has been permanently expropriate[d] shall, in addition to the compensation payable under Article 7 of this Proclamation, be paid displacement compensation, which shall be equivalent to ten times the average annual income he secured during the five years preceding the expropriation of the land.

Where a Woreda administration confirms that comparable substitute land is available for the landholder, the compensation is only provided for the average annual income earned during the five years prior.

With regard to the property valuation, the Proclamation states that the valuation shall be determined on the valuation formula to be adopted at national level by the Ministry of Federal Affairs. However, until such time, the valuation of properties will be carried out by property valuation committees to be established both in rural and urban areas. For expropriations in rural areas, the property valuation committees are to be comprised of

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<sup>6</sup> Proclamation available at: <http://extwprlegs1.fao.org/docs/pdf/eth135247.pdf>



not more than five experts, having the relevant qualification and to be designated by the Woreda administration.

In terms of grievances, complaints and appeals in relation to compensation are to be submitted to the regular court having jurisdiction. A party dissatisfied with the decision rendered by such a court can appeal, as appropriate, to the regular appellate court within 30 days from the date of the decision. In accordance with the Proclamation, the decision of the court shall be final.

With regard to implementation of the Proclamation, the Woreda administration has the responsibility to pay or cause the payment of compensation to holders of expropriated land and provide them with rehabilitation support to the extent possible. The Woreda administration are also responsible for maintaining data of properties removed from expropriated landholdings.

### **3.1.4 Council of Ministers Regulation No. 135/2007 Payment of Compensation for Property Situated on Landholding Expropriated for Public Purposes<sup>7</sup>**

This Regulation is related to the proclamation described directly above in Section 3.1.3, and sets forth details for its implementation, especially regarding the payment of compensation but also describing assistance for displaced persons to restore their livelihoods. The Regulation provides the compensation assessment methods for several types of assets including buildings, fences, crops, perennial crops, tress, protected grass, permanent improvement on rural land, relocated property, mining licenses, and burial grounds. This includes both the assessment approach and the specific formula for calculating the compensation payable, generally, where relevant based on current market prices. In its Part Three, the Regulation also provides for “displacement compensation”. The Regulation states that where rural land is used for growing crops or a protected grass, or pastoral land is expropriated for public purpose, the possessor of such land shall, as much as possible, be provided with a plot of land capable of serving a similar purpose. Where replacement land is provided, the displacement compensation paid for crops is the price of the average yield of crops (or the price of those crops multiplied by the number of years required for reestablishment in the case of perennial crops). Where replacement land cannot be provided, the amount of displacement compensation to be paid is ten times the price of the average yield of the crops. For temporary impact, the amount of compensation is calculated by the number of years the project will occupy the land.

Compensation cannot be paid with respect to any construction or improvement of a building, any crops sown, perennial crops planted or any permanent improvement on land, where such activity is done after the possessor of the land is served with the expropriation order.

The Regulation requires that any person claiming compensation in accordance with Proclamation No. 455/2005 must produce proof of legitimate possession of the expropriated landholding and ownership of the property entitling him or her to compensation.

### **3.1.5 The Environmental Policy of Ethiopia**

Certain provisions of the Ethiopian Environmental Policy are relevant to resettlement and rehabilitation issues. These provisions include:

- To ensure that essential ecological processes and life support systems are sustained, biological diversity is preserved, and renewable natural resources are used in such a way that their regenerative and productive capabilities are maintained and where possible enhanced so that the satisfaction of the needs of future generations is not compromised; where this capability is already impaired to seek through appropriate interventions a restoration of that capability;

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<sup>7</sup> <https://chilot.me/wp-content/uploads/2017/10/reg-no-135-2007-payment-of-compensation.pdf>

- To ensure that the benefits from the exploitation of non-renewable resources are extended as far into the future as can be managed, and minimize the negative impacts of their exploitation on the use and management of other natural resources and the environment;
- To identify and develop natural resources that are currently underutilized by finding new technologies, and/or intensifying existing uses which are not widely applied;
- To improve the environment of human settlements to satisfy the physical, social, economic, cultural and other needs of their inhabitants on a sustainable basis; and
- To prevent the pollution of land, air and water in the most cost-effective way so that the cost of effective preventive intervention would not exceed the benefits.

### **3.1.6 2001 Oromia Regional State Revised Constitution**

As per the Revised Constitution of the Oromia Regional State Article 40, the right to property is as follows:

- Every resident of the region has the right to own private property. This right shall include the right to acquire, use and dispose of such property by means of sale to the limitations prescribed by law in the public interest and in a manner compatible with the right of other persons.
- Private property per Article 40, means any tangible or intangible product produced by the labor or creativity or capital of an individual resident or association which enjoys juridical personality under the law or in appropriate circumstances by communities especially employed by the law to own property in common.
- The right to ownership of rural and urban lands as well as all-natural resources is exclusively vested in the state and the people of the Region. Land belongs to the people of the region and shall not be subjected to sale or any other mode of transfer of ownership.
- Any farmer of the region shall have the right to obtain without payment, the use of land and shall not be dispossessed thereof; the details shall be specified by law.
- Pastoralists of the region have the right to free land for grazing and cultivation as well as the right not be evicted from the lands they traditionally hold; the details shall be specified by law.
- Without prejudice to the public ownership of land, the government of the region may grant use of land to investors based on payments to be fixed by the law.
- Any person shall have the full right to the immovable property he builds and to the improvements he makes on the land by labor or capital. This right shall include the right to alienate, bequeath and where right of use expires, to remove his property or claim compensation for it.

The government of the region shall have the power to expropriate, in the public interest, private property. In all such cases, it shall pay compensation in advance commensurate to the expropriate property. In this case, the Woreda administration will be responsible for compensation in line with the Regional and Federal policies and laws.

### **3.1.7 Oromia Rural Land Use and Administration Proclamation No. 130/2007**

The Oromia Agricultural Rural and Development Bureau is responsible for the execution of this Proclamation. According to the Proclamation, in the Oromia Regional State, men and women resident of the region, whose livelihoods depend on agriculture, or who desire to live off agriculture, have the right to rural land free of charge. Government and non-governmental organizations, private investors, and social organizations have the right to obtain rural land as well. The rural community has the right to access rural land for grazing, religious or ritual places, water points and other social services. Any peasant, pastoralist, semi pastoralist having the right to use rural land may get such land from family by donation, inheritance, or from the government.

User rights to rural land can only be terminated if that land is required for “more important public uses”, according to Article 6, No. 10 if land is taken for public use, the individual or organ who holds right to that land

is entitled to compensation for property and benefits lost. According to Article 6 No. 11, as far as possible, the compensation should take the form of equivalent land.

The Oromia Agricultural Rural and Development Bureau has the responsibility for maintaining all data regarding rural lands (size, use, fertility status, etc.), as well as surveying and preparing georeferenced boundaries and maps. Holders of rural land are to be given a certificate of their landholding by the same entity; these certificates can be issued in the name of both spouses in the case of joint holdings.

In the case of conflict or disputes related to land, such is to be submitted in the form of an application to the Kebele Administration.<sup>8</sup> The parties then choose two elders each for arbitration. The Kebele Administration will require the selected elders to produce an arbitration result within 15 days. A Woreda Court can hear a complaint related to such result if either party is unsatisfied. Appeals on the decision of the Woreda Court can be sought in a higher court; the same can be appealed in the Supreme Court. The Supreme Court's decision is final.

### 3.2 International Requirements regarding Land Acquisition

In addition to needing to comply with all local legal requirements, TMGO is also committed to implementing all Project-related land acquisition activities in accordance with the IFC Performance Standards ("PS"). The IFC updated its Performance Standards on Environmental and Social Sustainability in January 2012. The outcome-based PS updated the pre-existing 2006 PS, strengthening environmental and social policy, and prescribing more comprehensive and integrated impact assessments and management systems. The IFC has also published Guidance Notes to help explain the requirements of the PS.

As seen below, there are eight PS covering various issues, with PS 1 and PS 5 being the most relevant to this LRP:

- PS 1: Assessment and Management of Environmental and Social Risks and Impacts
- PS 2: Labor and Working Conditions
- PS 3: Resource Efficiency and Pollution Prevention
- PS 4: Community Health, Safety and Security
- PS 5: Land Acquisition and Involuntary Resettlement
- PS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
- PS 7: Indigenous Peoples
- PS 8: Cultural Heritage

PS 1 structures the way in which environmental and social issues are to be handled and serves as the core around which the other PS are framed. PS 1 stipulates that affected communities be appropriately engaged on issues that could potentially affect them. The specific objectives of PS 1 are:

- To identify and evaluate environmental and social risks and impacts of the project;
- To adopt a mitigation hierarchy to anticipate and avoid, or where avoidance is not possible, minimize risk and impacts, and, where residual impacts remain, compensate/offset for these risks and impacts to workers, affected communities, and the environment;
- To promote improved environmental and social performance of clients through the effective use of management systems;
- To create mechanisms for the responsive management of grievances from affected people and communities, as well as external communications from stakeholders; and

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<sup>8</sup> A Kebele is an administration unit in Ethiopia and can be thought of as a sub-district, sitting below a Woreda. This is described in Section 5.3.1.

- To promote and provide means for adequate engagement with affected stakeholders throughout the project cycle on issues that could potentially affect them and to ensure that relevant environmental and social information is disclosed and disseminated.

PS 5 refers to the management of physical and economic involuntary displacement resulting from a given project's activities. Physical displacement is the relocation of people from their residences, and economic displacement is the removal of people's non-residential assets or access to assets. Economic displacement is often, but not always inherent in physical displacement. Displacement is characterized as involuntary, where the entity acquiring the land or other assets can resort to government authority to expropriate the land or impose limits on the use of land and other assets. The term involuntary does not relate to whether people are content with the resettlement processes ultimately developed by a project.

PS 5 is designed to guide a project in the restoration of displaced persons' livelihoods to at least pre-project levels, and if possible, to improve their livelihoods. PS 5 defines displaced persons broadly, as:

- Those that have formal legal rights to the land they occupy;
- Those who do not have formal legal rights to land, but have traditional claims to land or other assets that is recognized or recognizable under the national laws; and
- Those who have no recognizable legal right or claim to the land they occupy such as recently arrived economic migrants who occupy land prior to the project conducting a census and establishing a cut-off date.

Objectives of PS 5 include:

- To avoid, and when avoidance is not possible, minimize displacement by exploring alternative project designs;
- To avoid forced eviction;
- To anticipate and avoid, or where avoidance is not possible, minimize adverse social and economic impacts from land acquisition or restrictions on land use by (i) providing compensation for loss of assets at replacement value and (ii) ensuring that resettlement activities are implemented with appropriate disclosure of information, consultation, and the informed participation of those affected;
- To improve, or restore, the livelihoods and standards of living of displaced persons; and
- To improve living conditions among physically displaced persons through the provision of adequate housing with security of tenure at resettlement sites.

### 3.3 Comparison between International and National Requirements

One of the primary differences between national and international requirements is that Ethiopian law recognizes livelihoods but concentrates on compensation for lost assets, whereas the IFC PSs have an additional focus on livelihood enhancement (or at a minimum restoration) to assist people to improve (or at least restore) standards of living, incomes, and livelihoods. This includes, for example, providing improved means and/or access to income-earning opportunities such as technical training or market access related to agricultural production.

Both the IFC Performance Standards and Ethiopian law emphasize a preference for providing replacement land of equal productive value, where such is possible. Given that land is public property that cannot be privately owned, and individuals only have a use or holding right, Ethiopian legislation does not provide direct compensation for lost land. Instead, where replacement land cannot be provided, Ethiopian legislation provides for an increased cash compensation (in the form of 10 years' worth of the average annual productive value). PS 5, on the other hand, stipulates that where physical replacement of the land is not possible, compensation at full replacement value should be provided, either monetarily, or through other means such as alternative income earning opportunities.

The Project will comply fully with Ethiopian legislation and is committed to implement additional measures as necessary to achieve outcomes that are consistent with the IFC Performance Standards. The table below compares Ethiopian requirements related to land acquisition with pertinent requirements from PS5, highlighting gaps where relevant and the measures needed to address both sets of requirements.

**Table 1: Comparison between International and National Requirements**

Topic	IFC PS5	Ethiopian Requirements	Variance and Approach/Measures to Address any Gap
Project design	Consider feasible alternative project designs to avoid or minimize physical and/or economic displacement, while balancing environmental, social and financial costs and benefits, paying particular attention to impacts on the poor and vulnerable.	Ethiopian law does not require projects to avoid or minimize displacement through alternative designs.	The Project has undertaken a comprehensive approach to avoidance and minimization as described in Section 2.2
Stakeholder / community engagement	Disclosure of relevant information and participation of Affected Communities and persons will continue during planning, implementation, monitoring and evaluation of compensations payments, livelihood restoration activities and resettlement.	Ethiopian law does not specify requirements regarding public consultation; it only mentions the issuance of notice (expropriation order) from the relevant authority.	The Project has undertaken significant stakeholder engagement beginning in 2015. Land-related impacts have always been a centerpiece of the discussions and stakeholder engagement around these issues has been ramped up as the land acquisition planning began in 2018.
Grievance mechanism	A grievance mechanism will be established as early as possible, which will allow the Project to receive and address affected persons' specific concerns about compensation and relocation, including a recourse mechanism designed to resolve disputes in an impartial manner.	Ethiopian law does not require grievance redress mechanisms to be established. Complaints associated with land expropriation processes are referred to the formal administrative organs or courts, and the related appeals processes as relevant.	The Project's grievance redress mechanism was formalized through its Stakeholder Engagement Plan (from November 2017). In practice, PAPs can report grievances through a Community Liaison Officer ("CLO") or in person in the TMGO office in nearby Iteya town. The CLO has taken part in relevant parts of the land acquisition process, thus gaining visibility with PAPs. Additionally, the team applying the socioeconomic survey shared information on the grievance mechanism with each affected household.
Census and asset inventory, and socioeconomic baseline	A census and asset inventory should be carried out in order to collect appropriate socioeconomic baseline data to identify the persons who will be displaced by the project, determine who will be eligible for compensation and assistance, and prevent ineligible persons, such as opportunistic settlers, from claiming benefits.	In the case of expropriations in rural areas, Ethiopian law requires that assets be inventoried and a valuation to be established by valuation committees designated by the relevant Woreda administration.	Ethiopian requirements are consistent in the sense of carrying out surveys to document affected assets; however, IFC requires more comprehensive baseline data collection. To bridge this gap the Project commissioned additional socioeconomic/livelihoods baseline surveys that were applied to all affected households.

Topic	IFC PS5	Ethiopian Requirements	Variance and Approach/Measures to Address any Gap
Cut-off date	A cut-off date should be established to set eligibility for compensation and assistance. Information regarding the cut-off date will be well documented and disseminated throughout the project area. Compensation and assistance are not required for opportunistic settlers who encroach on the project area after the cut-off date for eligibility.	Ethiopian law stipulates that compensation cannot be paid with respect to any construction or improvement of a building, any crops sown, perennial crops planted or any permanent improvement on land, where such activity is done after the possessor of the land is served with the expropriation order.	No notable gap is found, as both sets of requirements imply a 'freeze' related to the asset inventory, which establishes eligibility to be part of the compensation process. This was communicated in multiple stages as part of the land acquisition process (during the initial community meetings, during the inventory and valuation process and by letter through each of the Kebele's Administrators)
Eligibility criteria	Displaced persons may be classified as persons who: (i) have formal legal rights to the land or assets they occupy or use; (ii) do not have formal legal rights to land or assets, but have a claim to land that is recognized or recognizable under national law; or (iii) have no recognizable legal right or claim to the land or assets they occupy or use.	Ethiopian law does not recognize or require compensation for anyone who does not have a proof of legitimate possession of the expropriated landholding and ownership of the property entitling him or her to compensation.	As relevant, the Project will still compensate displaced persons belonging to the third category established by IFC PS5.
Livelihood restoration plan	When a project results in economic displacement only a Livelihoods Restoration Plan ("LRP") should be developed to compensate affected persons and/or communities and offer other assistance.	Ethiopian law does not require the Project to develop a livelihood restoration plan.	The Project has prepared this LRP to address the IFC requirements for economic displacement impacts.
Economic displacement compensation approach	Entitlements will be established and provided in a transparent, consistent and equitable manner. Possession of acquired land and related assets may only take place after compensation has been made available.	The legally required valuation process establishes standard rates for various assets.  Ethiopian law permits government expropriation of private property subject to payment in advance of compensation commensurate to the value of the property.	No notable gap is found. The Compensation Committee derives standard rates and applied consistently to PAPs (as described in Section 7.2.2). No works took place until compensations were paid.
Full replacement cost	Displaced communities and persons should be offered compensation for lost assets at full replacement cost. Replacement cost is defined as the market value of the assets plus transaction costs. In applying this method of valuation, depreciation of structures and assets should not be taken into account. Market value is defined as the value required to allow Affected Communities and persons to replace lost assets with assets of similar value.	Ethiopian law requires compensation for lost assets based on current market value and does not include depreciation; while there are provisions for compensating for relocation costs in the case of property that can be moved, there are no clear requirements to cover transaction costs. Ethiopian law provides for compensation for lost assets except for the land, since land is a public property in Ethiopia and is allocated to citizens free of charge.	Ethiopian law is fairly aligned with PS5 in the valuation approach based on current market values, including labor costs, relocation where relevant, etc. Transaction costs are the only element not expressly covered. Transaction costs, such as taxes, legal and registration fees, etc., will be covered by TMGO when relevant, however, it is noteworthy that since there is no physical relocation transaction costs are expected to be extremely limited.

Topic	IFC PS5	Ethiopian Requirements	Variance and Approach/Measures to Address any Gap
Replacement land	Where livelihoods of displaced persons are land-based or where land is collectively-owned, land-based compensation should be offered where feasible. If circumstances do not allow the provision of replacement land, alternative income earning opportunities may be provided, such as credit facilities, training, cash, or employment opportunities.	Ethiopian law is primarily focused on monetary compensation, though it does permit compensation to take the form of replacement land as well. Where someone is economically displaced and replacement land cannot be provided, “displacement compensation” takes the form of 10 years’ worth of average yields derived from the land.	While replacement land is a possibility per local law, due to lack of available land in the Project area, TMGO was informed by local authorities that replacement land will not be allocated for economically displaced PAPs in the context of the Project. Given this, the Project is providing other programming to support enhanced income earning opportunities (as described in the next row).
Assistance to restore or improve livelihoods	In addition to compensation for lost assets, economically displaced persons whose livelihoods or income levels are adversely affected will also be provided opportunities to improve, or at least restore, their means of income-earning capacity, production levels, and standards of living.	Ethiopian law does not have clear requirements for providing livelihood restoration support to economically displaced persons. The law does mention that Woreda administrations should “provide [such persons] with rehabilitation support to the extent possible” but there is no further detail as to how this support should take place or clear entitlements for affected persons.	PAPS will be provided with additional assistance to improve (or as a minimum restore) their livelihoods as described in Section 8.
Transitional support	Transitional support should be provided as necessary to all economically-displaced persons, based on a reasonable estimate of the time required to restore their income-earning capacity, production levels, and standards of living.	There are no explicit requirements for transitional support to be provided to economically displaced persons.	Given that no PAPs experienced physical displacement, and land acquisition were in the majority cases only a small percentage of total lands held by PAPs, transitional support was not deemed necessary.
Vulnerable groups	Particular attention must be paid to the needs of the poor and the vulnerable.	Ethiopian law related to land acquisition does not have requirements to specifically assist or support the needs of vulnerable or poor groups.	Vulnerable households have been identified based on vulnerability criteria that has been developed through analysis of the baseline and consultation (see Section 5.12)  Vulnerable households will be targeted for outreach around the livelihood restoration measures to ensure they understand and can access these benefits and will be monitored separately to ensure that they are accessing the livelihood support programs without issue and that the assistance is meeting their needs.
Monitoring and evaluation	Procedures must be put into place to monitor and evaluate the implementation of an LRP and take corrective actions where necessary. The extent of monitoring activities should be commensurate with the project’s risks and impacts. Mitigation will	There is no requirement for an LRP in Ethiopian law, and likewise there are no requirements for monitoring and evaluation of livelihood restoration.	Implementation of this LRP will require monitoring and evaluation to measure whether it has been successful at implementing the stated mitigation measures to support livelihood restoration for affected households.

Topic	IFC PS5	Ethiopian Requirements	Variance and Approach/Measures to Address any Gap
	be considered complete when affected persons or communities have received compensation according to the LRP and PS 5, and are deemed to have been provided with adequate opportunity to re-establish their livelihoods.		Section 9 of this LRP includes details on monitoring and evaluation.



## 4 Stakeholder Engagement and Land Acquisition Process

### 4.1 Prior Stakeholder Engagement

Stakeholder engagement has been carried out regarding the proposed geothermal development since as early as 2015. These efforts were ramped up in recent years as more detailed Project studies were being developed. This has included specific engagement over the course of three weeks in 2015 related to Project feasibility, stakeholder identification, and key concerns and opportunities for the ESIA. Another series of stakeholder engagements was carried out in June 2017. These engagements were general and focused on sharing information and consulting stakeholders regarding Project status, impacts and mitigation measures, and the processes for communication, consultation and grievances.

Effective participation is measured by how well a project takes into account the issues and concerns raised by PAPs and other key stakeholders. To this end, feedback received through these engagements relevant to the land acquisition processes, and therefore this LRP, are summarized below.<sup>9</sup>

#### **Public Meetings and Focus Group Discussions with Community Members:**

- Anxiousness to know the extent of land acquisition and a desire to be sure that land and assets are surveyed accurately for compensation purposes;
- Worry about a potential to be relocated somewhere new and unfamiliar;
- Concern about the use of a local road for heavy trucks which could create issues for community members' uninterrupted use;
- Concern that vulnerable social groups – elderly, orphaned children, widows and disabled persons – will need additional support to recover from Project impacts; and
- Specific worry that the local requirement to pay ten years of yields for land loss may not be sufficient for livelihood restoration. Relatedly, a preference was mentioned for land-for-land compensation over cash, given that cash implies greater risk (can be used for short-term consumption rather than productive investment).

#### **Local and Regional Officials**

- Local officials emphasized their primary responsibilities with regard to land expropriation, including providing replacement land, organizing compensation and resettlement committees, etc. and underlined their commitment to supporting the Project's land acquisition needs;
- The scarcity of land that could be offered as replacement land to PAPs was mentioned;
- Concerns that cash compensation is not desirable as it could be "wasted" by PAPs; others expressed concerns that the compensation valuation prescribed by law results in compensation that is too low and recommended the Project provide something more adequate;
- Regarding livelihood restoration, officials mentioned the following:
  - Livelihood restoration schemes need to be studied thoroughly for their economic viability and socio-cultural acceptability, before being implemented;
  - Options could include livestock rearing for cattle fattening which is fairly common in the area, as well as small-scale trade and business, irrigation, artisanship, handicrafts, and poultry rearing;

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<sup>9</sup> A more complete summary of these stakeholder engagement activities is found in the Tulu Moya Geothermal Development Project, Stakeholder Engagement Plan, Version 2, Reykjavik Geothermal & Gibb International, November 2017.

- Access to credit would be key, this would require organizing PAPs and encouraging Micro Finance Institutions to offer packages in the area;
- Property inventories must be done in a transparent and accurate manner, in the presence of the PAPs themselves; and
- PAPs need to be engaged and sensitized about land acquisition in advance of any activities.

#### **Female Specific Discussions:**

- Concerns that cash compensation could exacerbate vulnerabilities/ poverty;
- Fear that land take for the Project will lead to reduced grazing areas, harming productivity; and
- Worry about potential gravesite relocation.

These discussion points were considered in formulating the approach for the land acquisition described in this LRP, including the outreach and engagement with PAPs, compensation packages, and design of livelihood restoration measures.

## **4.2 Stakeholder Identification**

Stakeholders encompass a range of individuals and groups who can be directly or indirectly affected by a project. Stakeholder identification is crucial to establishing not only who will be affected by a project, but also what groups or individuals may have an interest in or influence over project activities, both positively and negatively. Stakeholders can include, for example, affected individuals, communities, local organizations, non-governmental organizations and government authorities. Stakeholders can also include politicians, commercial and industrial enterprises, labor unions, academics, religious groups, national social and environmental public sector agencies, and the media.

TMGO carried out extensive scoping exercises to identify Project stakeholders. This exercise initiated in the early Project concept stages and was intensified during the development of the ESIA and other environmental and social baseline studies between 2016 and 2017. Stakeholder identification remains a fluid and ongoing exercise. The stakeholders identified to date and relevant to this LRP are described in the next subsections.

### **4.2.1 Directly-Affected Population**

The most important stakeholders are those persons and households that are directly affected by the Project namely:

- Persons or households who have a claim to or fixed use of land affected by the civil works; and
- Community members who utilize resources for livelihood purposes in other areas affected by civil works without having a direct claim on such lands.

### **4.2.2 Other Key Stakeholders**

Other key stakeholders who are crucial to the land acquisition process and livelihood restoration measures include:

- Woreda-level officials including specifically those representing the following bureaus:
  - Agricultural
  - Environment, Forest and Climate Change
  - Livestock and Fishery Development
  - Land Administration
  - Trade and Market Development
  - Woreda Administration

- Local Kebele Administrators, especially through their role in ensuring land certificates and helping to identify PAPs; and
- The OFWE, which administers forest and wildlife resources in a concession totaling over 3 million hectares (“ha”) in Oromia regional state, part of which overlaps with the Project area.

### 4.3 Engagement during the Land Acquisition Process

#### 4.3.1 Compensation Committee

Engagement with Woreda- and Kebele-level officials began early in the process, especially around the need to form the Compensation Committee in compliance with requirements contained in the Expropriation of Land Holdings for Public Purposes and Payment of Compensation (Proclamation No. 455/2005). Per local legislation, such a committee is responsible for carrying out the inventories of affected properties and valuations. During these early meetings, the number and arrangement of the committee, issues concerning assessment methods, the duration of assessment, asset classes to be enumerated, and the asset valuation approach were discussed and agreed upon. The Compensation Committee was established in September 2018 with six members from the Woreda Administration as required by law, and one rotating member from each Kebele to participate with the committee.

#### 4.3.2 Community Engagements

As described above, stakeholder engagement has been an ongoing activity in the Project area since 2015. In terms of the land acquisition specifically, general community meetings were held in all affected Kebeles prior to the land acquisition process officially beginning and again after the Compensation Committee had finished the valuation process.

The objective of the first general meetings was to share Project updates, in particular those related to the road construction and water drilling works, to engage in a focused discussion regarding the land acquisition plans, the valuation process, cut-off date, and to introduce of the Compensation Committee members. The concept of a cut-off date, per IFC PS, was explained and participants understood and agreed that the date of the asset inventory would be the effective cut-off date. Finally, TMGO’s grievance procedure was introduced and participants were informed about where and how they could register grievances related to land valuation and related matters. Time was then allotted for questions and concerns from participants, which were addressed by TMGO representatives or the Compensation Committee members, as relevant.

The objective of the second general community meetings was to review the valuations carried out by the Compensation Committee and to share details on the compensation matrix and entitlement criteria. The calculation methodology, based on national laws and the data secured from the Compensation Committee, was also explained along with practical information on payment terms and terms of the agreement between the land users and TMGO. Finally, TMGO’s grievance procedure was reiterated and participants were informed about where and how they could register grievances related to land valuation and related matters. Time was then allotted for questions and concerns from participants which were addressed by TMGO representatives or the Compensation Committee members, as relevant.

These community engagement meetings are summarized in the table below. TMGO keeps records of meeting minutes and participant registries for each.

**Table 2: Community Engagement Summaries**

Date	Location	Main Topics	Summary of main questions and concerns raised
<b>General Community Meetings in Advance of the Land Acquisition Activities</b>			
February 20, 2019	Dawi-Guticha	General Project information, planned	Dust during construction.

Date	Location	Main Topics	Summary of main questions and concerns raised
		work, land compensation process and grievance management mechanisms	Who makes the payment and how it will be paid?  We lost agricultural land for the existing road five years ago and no payment was made at the time and we are glad that the situation is different at this time.
February 20, 2019	Tero Moyo	General Project information, planned work, land compensation process and grievance management mechanisms	We lost agricultural land for the existing road five years ago and no payment was made at the time and we are glad that the situation is different at this time.  Why did the road not extend to our village, why does it stop at the lava field?  Where do we go if we do not agree on the compensation estimate?  There will be noise and dust disturbance during the construction – how do you plan to address these issues?
February 19 and 20, 2019	Anole	General Project information, planned work, land compensation process and grievance management mechanisms	---
February 25, 2019	Iteya 01/02	General Project information, planned work, land compensation process and grievance management mechanisms	Who makes the payment and how it will be paid?  There will be noise and dust disturbance during the construction how do you plan to address these issues?  We are expecting the road to be an asphalt road with 15m width, why don't you build it as such?
February 20, 2019	Shaki Sheraro	General Project information, planned work, land compensation process and grievance management mechanisms	There will be noise and dust disturbance during the construction – how do you plan to address these issues?
<b>Post Valuation Community Meetings</b>			
April 10, 2019	Anole	Entitlement, Compensation calculation and payment transfer	Why are 10 years of average income/yield used for the compensations?  Will there be job opportunities for affected households?
April 16, 2019	Shaki Sheraro	Entitlement, Compensation calculation and payment transfer	Why are 10 years of average income/yield used for the compensations?  The estimates for trees are very low and under the market price.

Date	Location	Main Topics	Summary of main questions and concerns raised
April 9, 2019	Shaki Sheraro	Entitlement, Compensation calculation and payment transfer for water well drilling activity	As much as we want water in the area, we do not want to sell our land for it, our life is dependent on the land.
April 18, 2019	Tero Moye	Entitlement, Compensation calculation and payment transfer	Why are 10 years of average income/yield used for the compensations? Will there be job opportunities for affected households?
April 11, 2019	Dawi Guticha	Entitlement, Compensation calculation and payment transfer	Why are 10 years of average income/yield used for the compensations? Will there be job opportunities for affected households? Dust disturbance especially for inhabitants along the road.
April 10, 2019	Iteya Town 01/02	Entitlement, Compensation calculation and payment transfer	Dust prevention plan. Kebele/local administration should take the compensation payment rather than dwellers. Will we be compensated for trees and fences?

#### 4.3.3 Socioeconomic/livelihoods baseline

Between March and April 2019, household surveys were carried out by a team of social science researchers and community engagement specialists with support from the Community Liaison Officer (“CLO”) for TMGO and Kebele Administrators. The methodology and outputs from this effort are described in Section 5. Though not explicitly a stakeholder engagement activity, the household surveys were another opportunity to engage with affected households on an individual level about the Project and the land acquisition process. As a part of each household visit, the team explained the purpose and status of the Project as well as the grievance process and contact information for the CLO.

#### 4.3.4 Key Stakeholder Issues

Key Stakeholder issues identified through the stakeholder engagements and responses from TMGO are provided in the table below.

**Table 3: Key Stakeholder Issues and Project Response**

Key Stakeholder Issue	Response
Negative impacts associated with construction such as noise and dust	TMGO explained that well-known and easily implementable dust control measures would be implemented by the construction contractors, including spraying as necessary. It was emphasized that once the road was complete, dust that has been a source of complaint for the communities would be lessened.  Noise impacts can be managed through embedded controls associated with the machinery; impacts to communities can be reduced by only carrying out construction during daytime hours and avoiding construction noise during periods of religious observance.
Job opportunities	TMGO emphasized that all unskilled labor to the extent possible would be recruited from the local area, so participants could expect that job opportunities will be created through the Project though most

Key Stakeholder Issue	Response
Sufficiency of the compensation	<p>of these would be short-term opportunities during the construction period.</p> <p>Participants were largely satisfied with the valuation derived by the compensation committee for farmland but were uncertain of the sufficiency of paying just 10 years of yield. It was explained that this is the requirement per national law and was not created by the Project. TMGO emphasized in all cases that it would provide livelihood restoration support to PAPs to help them with other means of restoring or ideally improving their livelihoods, in addition to plans to support general development in the local communities.</p>
Why was the Gnaro lava field chosen instead of other areas where a household could receive that compensation?	<p>TMGO relayed Project development and key decision points related to the choosing of the well pad site and it was emphasized that the lava field was chosen to avoid resettlement and other impacts to productive farm or grazing land.</p>

## 5 Socio-Economic/Livelihoods Baseline

### 5.1 Introduction

The information presented in this Section was considered in the formulation of this LRP to better understand current livelihood strategies and how the Project land acquisition would affect them. In addition, the baseline data allows for analysis of particular vulnerabilities amongst PAHs that might make them more vulnerable to the impacts related to economic displacement or otherwise limit their ability to take advantage of livelihood restoration support offered by the Project (as described in Section 5.12). With this information at hand, such factors could be taken into consideration in the planning and development of compensation and livelihood restoration measures (as described in Section 8 **Error! Reference source not found.**).

### 5.2 Data Collection Methodology

The information presented in this Section is largely derived from household surveys applied to PAHs between March and April 2019. A total of 126 households were interviewed as part of this effort by three social science researchers and community engagement specialists from a consulting firm, ESSD, based in Addis Ababa. ERM designed the survey with input from TMGO and ESSD, and data was collected via a tablet application. Additional baseline information was also drawn from the 2017 ESIA and associated baseline studies, as well as general publicly-available resources such as government census data, government and international institution reports and other online sources.

### 5.3 Demographic Profile

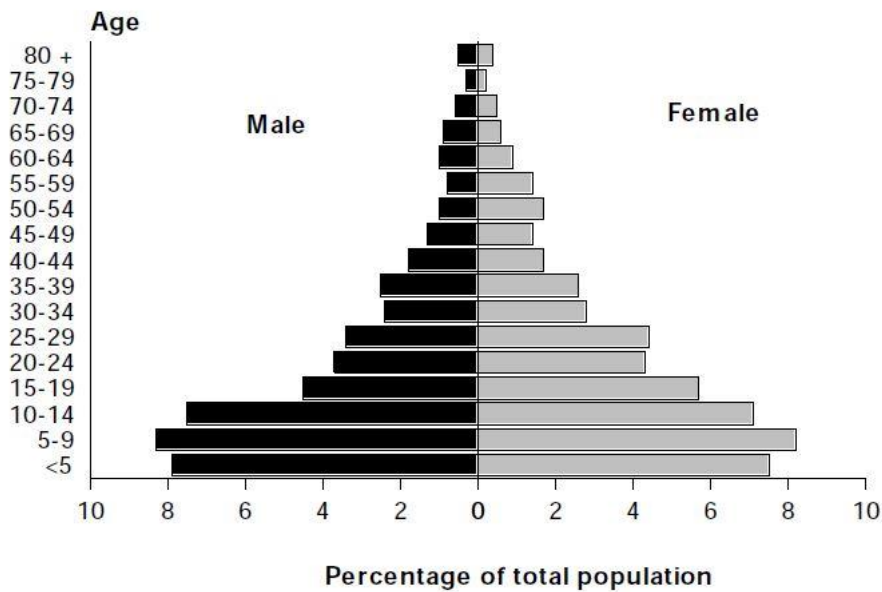
#### 5.3.1 Population

Ethiopia's population is primarily rural, and in 2010, only 16% of the population was estimated to live in urban areas. The overall population has been growing steadily over recent census periods from 42.6 million in 1984 to 53.5 million in 1994 and 73.8 million in 2007. In terms of its age structure, Ethiopia has a young population, and nearly half of the population (47%) is under the age of 15, while just 4% of Ethiopians are over the age of 65.<sup>10</sup>

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<sup>10</sup> Ethiopia Central Statistical Agency and ICF International, *Ethiopia Demographic and Health Survey 2011*. Available at: <https://dhsprogram.com/pubs/pdf/FR255/FR255.pdf>

**Figure 4: 2011 National Age and Sex Distribution<sup>11</sup>**



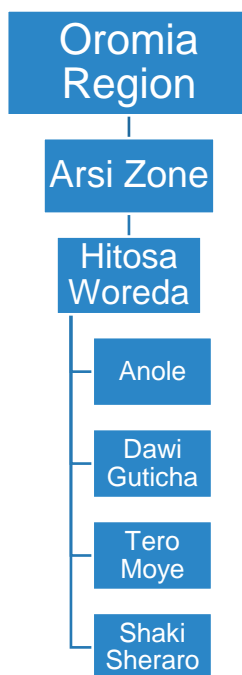
The FDRE constitutionally comprises the Federal State and nine Regional States. Each region is divided into Zones, and Zones into Woredas. The basic administration unit is the Woreda and each Woreda is further sub divided into Kebeles.

The land acquisitions covered in this LRP took place in the regional state of Oromia, Arsi Zone, Hitosa Woreda, in the Anole, Dawi Guticha, Tero Moye ,and Shaki Sheraro Kebeles, as well as Iteya town.

<sup>11</sup> Source: Ethiopia Demographic and Health Survey (EDHS)



**Figure 5: Project Area Administrative Structure**



The Oromia Region encompasses the national capital Addis Ababa and is the most populous region in the country, with a total population of 26,993,933 made up of approximately 50.4% males and 49.6% females, according to 2007 estimates. It is considered a predominantly rural region, with approximately 87.7% of the population residing in rural settings.<sup>12</sup> Detailed population figures are not available for Kebeles, but the Arsi Zone and Hitosa Woreda population figures are provided in the table below along with population density.

**Table 4: Area Projected Population Data<sup>13</sup>**

Administrative Unit	Male	% Male	Female	% Female	Total	Area in KM <sup>2</sup>	Density (habitant/km <sup>2</sup> )
Arsi Zone	1,557,984	49.7%	1,577,702	50.3%	3,135,686	23,724.44	132.2
Hitosa Woreda	123,496	49.7%	124,808	50.3%	248,304	1,215.47	204.3

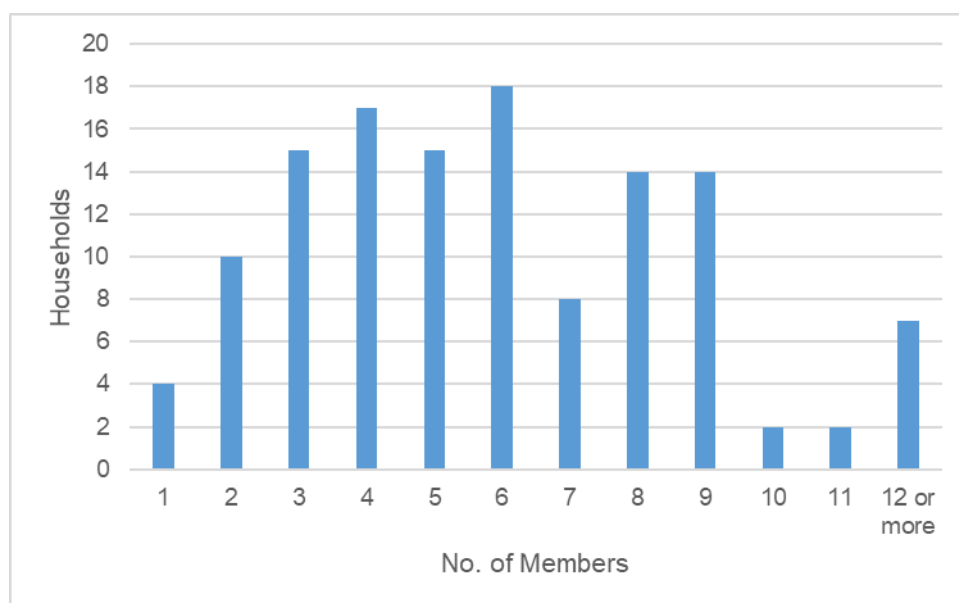
In terms of the profile of PAHs, households have on average six members, a figure just slightly above the national average for rural areas. The distribution of reported number of household members per household is presented in the graph below.

**Figure 6: Number of People per Household<sup>14</sup>**

<sup>12</sup>Central Statistical Agency, Population and Housing Census 2007 Report, National, 2007. <http://microdata.worldbank.org/index.php/catalog/2747/download/39211>

<sup>13</sup> Population estimates, Central Statistical Agency. Available at: [https://web.archive.org/web/20071124181200/http://www.csa.gov.et/text\\_files/national%20statistics%202005/Population.pdf](https://web.archive.org/web/20071124181200/http://www.csa.gov.et/text_files/national%20statistics%202005/Population.pdf)

<sup>14</sup> Source: ERM/ESSD Household Surveys



Very numerous households can be partially attributed to the fact that some families in the Project area practice polygamy, and men can marry as many wives as wealth permits. Though not extensively practiced, approximately 7% of households surveyed reported two or more wives.

Similar to, though slightly more favorable than national level statistics, households affected by the land acquisitions exhibit a significant portion of the population (37%) under the age of 15, as seen in the table below. Overall, males make up a higher percentage of household members.

**Table 5: PAHs Age and Sex Distribution<sup>15</sup>**

Age Group	Percent of Total	% Male	% Female
0-14 years	37%	51%	49%
15-24	28%	59%	41%
25-54	28%	46%	54%
55-64	3%	52%	48%
65 years and over	4%	61%	39%
Total Population	---	53%	47%

### 5.3.2 Gender Context

According to the United Nations Development Program (“UNDP”), Ethiopia has a Gender Inequality Index (“GII”) value of 0.502, ranking it 121 out of 160 countries in the recent 2017 index.<sup>16</sup> The GII refers to the inequality in achievement between women and men in three dimensions: reproductive health, empowerment, and economic activity and can be interpreted as the loss in human development due to inequality between female and male achievements in the three GII dimensions. Some of the indicators relevant to gender context in Ethiopia are reflected in the table below. For comparison purposes, the same numbers for sub-Saharan

<sup>15</sup> Source: ERM/ESSD Household Surveys

<sup>16</sup> The larger the number value in the ranking the poorer the gender equality achievement per the GII.

Africa are also included.<sup>17</sup> In terms of these gender indicators, Ethiopia outperforms regional averages in most categories, however, secondary education lags behind.

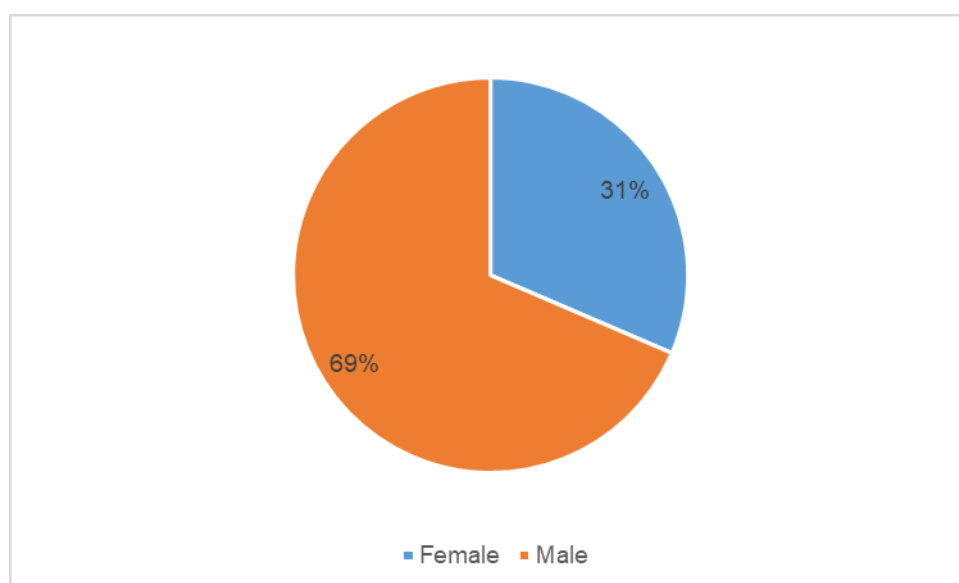
**Table 6: National Level Gender Indicators<sup>18</sup>**

Indicator	Ethiopia	Sub-Saharan Africa
Maternal mortality ratio	353	549
Adolescent birth rate	62.5	101.3
Female seats in parliament (%)	37.3	23.5
Population with at least some secondary education (%)	Female: 11.2 Male: 21.4	Female: 28.8 Male: 39.2
Labor force participation rate (%)	Female: 77.2 Male: 87.8	Female: 65.2 Male: 74.0

Generally, men are considered dominant figures in the household, accounting for approximately 75% of heads of household, while 25% of households in Ethiopia are female-headed households.

Amongst affected households, in married households, men were almost always reported to be the head of household, however, among the total households interviewed as part of the household surveys, there were a significant number of female-headed households, as seen in the graphic below. The primary status of female heads of household was widowed.

**Figure 7: Head of Household Gender<sup>19</sup>**



<sup>17</sup> UNDP, Human Development Indices and Indicators: 2018 Statistical Update, Available at [http://hdr.undp.org/sites/all/themes/hdr\\_theme/country-notes/ETH.pdf](http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/ETH.pdf)

<sup>18</sup> Source: UNDP

<sup>19</sup> Source: ERM/ESSD Household Surveys

### 5.3.2.1 Gender Roles

In rural areas in the country, though women have significant and often dominant roles in most aspects of agricultural production, there can be a view that farming is a male job. Women generally have a leading role in the cultivation of horticulture, especially vegetable crops, while tending to livestock typically falls to boys and young men. In peak cropping seasons, particularly during weeding and harvesting, women and men work together with other household members. On top of such productive activities, women in Ethiopia also tend to be responsible for household chores, resulting in females bearing a disproportionate work burden, which leads to time poverty.<sup>20</sup>

Within affected households, similar patterns are observed and though men and women alike were engaged in livelihood occupations, especially farming, women were reported to also be responsible for fetching and preparing food, fetching water, collecting firewood, caring for children, etc.

### 5.3.3 Marital Status

In Ethiopia, the Family Code of 2000 sets the minimum age to marry for both men and women at 18 years old. However, under its article 7.2, the Minister of Justice may grant a waiver of not more than two years to future spouses or parents or guardians to marry earlier. Nevertheless, early marriage remains a traditional practice and laws may not always regularly be enforced. According to a recent study, nationally approximately 36.7% of women ages 18-22 were married before the age of 18, a share much lower than the same share for women ages 23-30 (50.5%) demonstrating a substantial reduction in child marriage in recent years. Early marriage in Ethiopia has tended to give rise to early childbirths (i.e. children born to mothers younger than 18), and approximately 17.4% of women ages 18-22 have their first child before the age of 18 according to the same study. The table below presents trends over time on these factors nationally.<sup>21</sup>

**Table 7: Child Marriage and Early Childbirth for Women in Ethiopia<sup>22</sup>**

Age Group in 2012	Child Marriage (women)		Early Childbirth (women)	
	Before 18 years	Before 15 years	Before 18 years	Before 15 years
<b>All women ages 18-49</b>	52.0	21.7	31.9	5.7
<b>18-22 years</b>	36.7	11.7	17.4	2.5
<b>23-30 years</b>	50.5	20.7	31.5	5.2
<b>31-40 years</b>	60.1	26.8	39.5	7.7

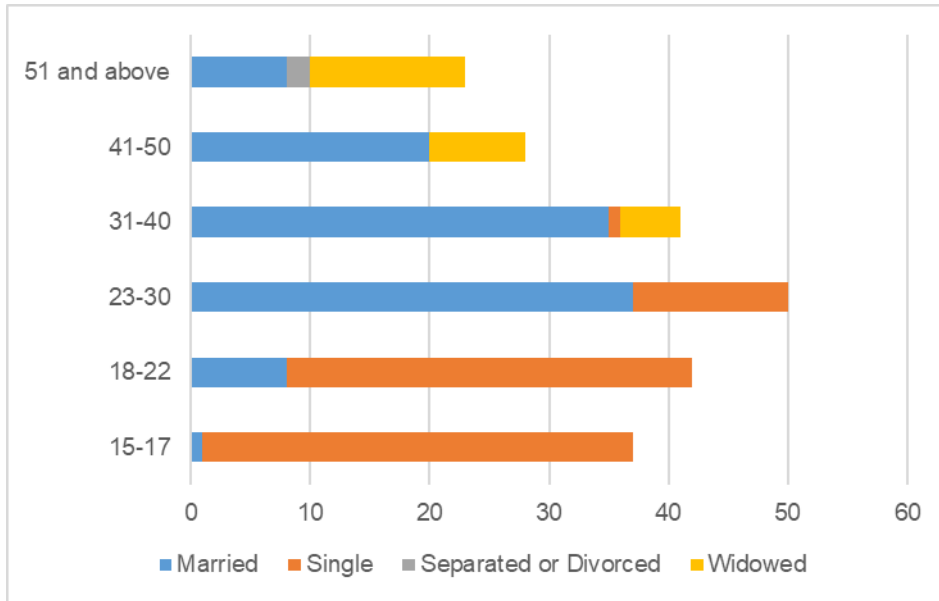
Amongst PAHs 73% of heads of households reported being married, and 22% reported being widowed with very few cases of single or divorced/separated heads of household. Breakdowns of marital status for males and females by age range are shown in the graphs below.

<sup>20</sup> Food and Agriculture Organization of the United Nations (FAO), Ethiopia: National gender profile of agriculture and rural livelihoods (Country Gender Assessment Series), 2019. Available at: <http://www.fao.org/3/ca3224en/ca3224en.pdf>

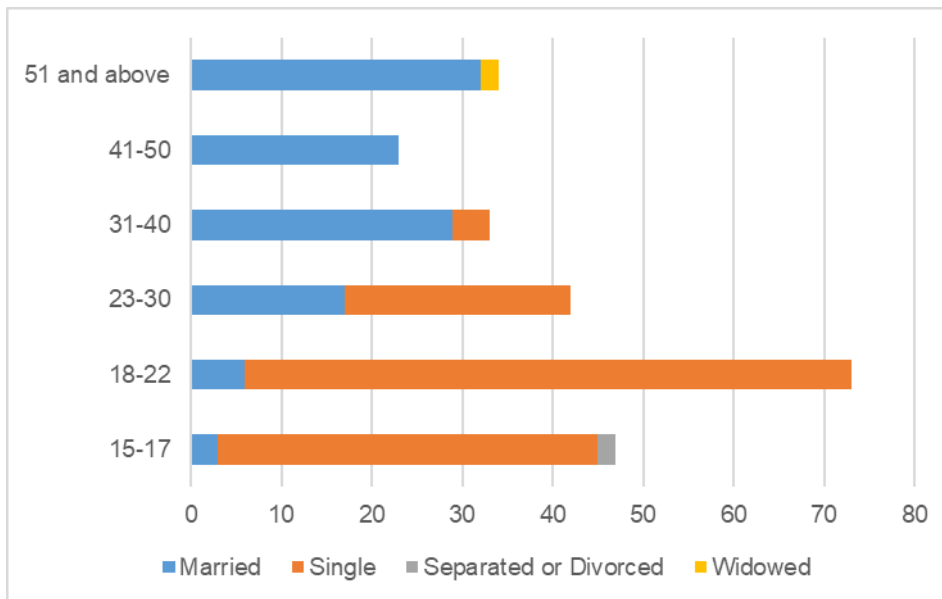
<sup>21</sup> The World Bank and the International Center for Research for Women, Economic Impacts of Child Marriage: Ethiopia Synthesis Report, March 2018. Available at <http://documents.worldbank.org/curated/en/149721525196131393/pdf/125883-WP-P151842-PUBLIC-Ethiopia-EICM-May-1-2018.pdf>

<sup>22</sup> Source: World Bank, 2018

**Figure 8: Female Marital Status<sup>23</sup>**



**Figure 9: Male Marital Status<sup>24</sup>**



The Household Surveys did not collect information on the age at which household members were married, but as observed in the figures, in the under 18 category there were very few instances of marriages, representing just 4.8% of the total population in the 15 to 17 years of age category. Women tend to marry younger than

<sup>23</sup> Source: ERM/ESSD Household Surveys

<sup>24</sup> Source ERM/ESSD Household Surveys

men, with 19% married in the 18 to 22 years of age category, and 74% married in the 23 to 30 years of age category, compared to 8.2% and 40.5% of males respectively. Widowers were much more likely to be female.

### 5.3.4 Ethnicity and Language

Ethiopia has a rich ethnic diversity and more than 80 ethnic groups were listed on the 2007 census. Ten groups had a population of a million or more at the time of the census, with Oromo being the largest as seen in the table below.<sup>25</sup>

**Table 8: 2007 Distribution of Major Ethnic Groups<sup>26</sup>**

	<b>Ethnic Group</b>	<b>Number</b>	<b>Percent</b>
1.	Oromo	25,488,344	34.5%
2.	Amhara	19,867,817	26.9 %
3.	Somali	4,581,793	6.2%
4.	Tigrrie	4,483,776	6.1%
5.	Sidama	2,966,377	4.0%
6.	Guragie	1,867,350	2.5%
7.	Welaita	1,707,074	2.3%
8.	Hadiya	1,284,366	1.7%
9.	Afar	1,276,372	1.7%
10.	Gamo	1,107,163	1.5%

Oromia regional state is inhabited chiefly by two main ethnic groups – the Oromo (approximately 88% of the population) and Amhara (approximately 7 to 8%). Amongst PAHs 100% reported belonging to the Oromo ethnicity.

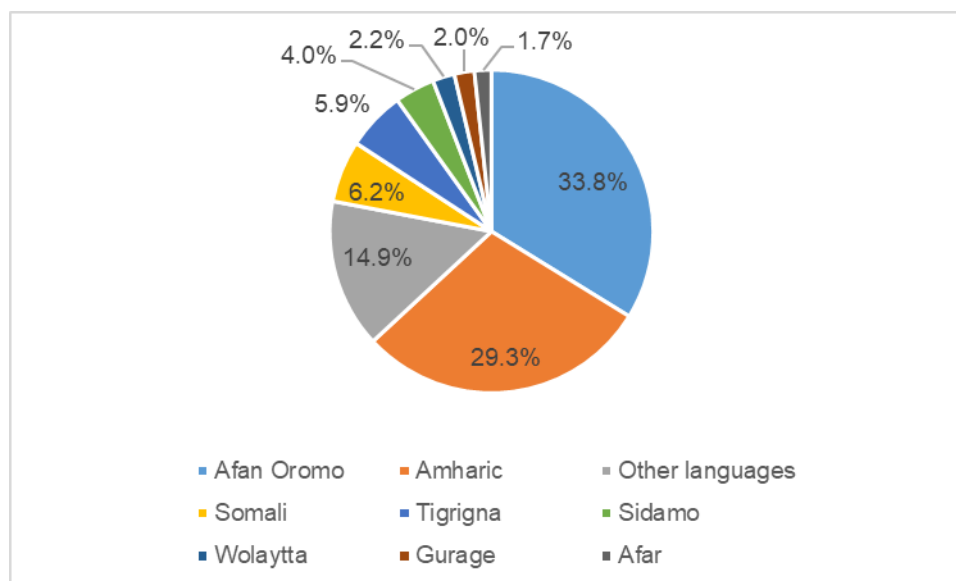
Though Amharic is the official national language, Afam Oromo (also called Oromiffa or simply Oromo) is the most commonly spoken language in Ethiopia, and the official working language of the Regional State of Oromia. Other prominent languages are also the official working languages of their respective regional states, and such is the case with Somali, Tigrigna and Afar. English is a major foreign language taught in schools. In Oromia state, about 85% of the population speaks Oromo.<sup>27</sup>

<sup>25</sup> United Nations Population Fund (UNFPA), Summary and Statistical Report of the 2007 Population and Housing Census, December 2008. [https://web.archive.org/web/20120214221803/http://www.csa.gov.et/pdf/Cen2007\\_firstdraft.pdf](https://web.archive.org/web/20120214221803/http://www.csa.gov.et/pdf/Cen2007_firstdraft.pdf)

<sup>26</sup> Source: United Nations Population Fund

<sup>27</sup> Tulu Moye Geothermal Development Project - Phase I: ESIA V2, VSO and TS Environmental Technology, November 2017.

**Figure 10: Languages Spoken in Ethiopia<sup>28</sup>**



In Oromia regional state, Afan Oromo is the most commonly spoken language, spoken by about 85% of the population. Amongst PAHs, 99.7% of household members were reported to use Afan Oromo as their primary language.

### 5.3.5 Religion

In the 2007 census, religions were classified under six categories, covering the major religions in the country. As can be observed in the table below, Orthodox Christian, followed by Muslim were the predominant religions in the country. There are notable variations in percentages between urban and rural populations, with urban populations being more likely to have an Orthodox Christian affiliation than their rural counterparts, and rural populations having a greater percentage of Muslims and Protestants.

**Table 9: Religion in Urban and Rural Areas<sup>29</sup>**

Religion	National Total		Urban		Rural	
	Number	Percent	Number	Percent	Number	Percent
<b>All Persons</b>	<b>73,918,505</b>	<b>100%</b>	<b>11,956,170</b>	<b>100%</b>	<b>61,962,335</b>	<b>100%</b>
Orthodox	32,138,126	43.5%	7,070,932	59.1%	25,067,194	40.5%
Protestant	13,746,787	18.6%	1,614,145	13.5%	12,132,642	19.6%
Catholic	536,827	0.7%	66,468	0.6%	470,359	0.8%
Muslim/Islam	25,045,550	33.9%	3,098,275	25.9%	21,947,275	35.4%
Traditional	1,957,944	2.6%	39,252	0.3%	1,918,692	3.1%
Others	471,861	0.6%	67,098	0.6%	404,763	0.7%

<sup>28</sup> Source: CIA World Factbook

<sup>29</sup> Source: Central Statistical Agency/United Nations Population Fund, 2007

In Oromia regional state, Islam is the predominant religion (practiced by approximately 48% of the population), followed by Orthodox Christianity (30%) and Protestant Christianity (18%). Amongst PAHs, 89% reported being Muslim, followed by 11% identifying as Christian.

## 5.4 Education

### 5.4.1 Educational Achievement

According to the 2011 EDHS, most Ethiopians have little or no education. Females tend to be less educated than males, and 52% of females and 38% of males have never attended school. Though poor indicators with marked gender disparities, there was a substantial decrease from the findings of the 2005 EDHS, when 67% of females and 52% of males had never attended school.

Nationally, approximately 39% of females and 49% of males have only some primary education, while 3% of females and 5% of males have completed secondary education or higher. Gender gaps tend to be more pronounced at lower levels due to the very small numbers participating higher levels of education overall. Generally, urban dwellers tend to have higher levels of education and less gender disparities than the rural population.

As see in the table below, locally, amongst PAHs, 15% of household members over the age of seven have no education. The majority, 61% report primary school as their highest level of education, with just 7% having attained secondary education.

**Table 10: Educational Attainment by Age Group in Local Area<sup>30</sup>**

Age	No Education	Pre-primary/ Nursery	Primary	Junior Secondary	Senior Secondary	Tertiary
7-9	1%	2%	7%	0%	0%	0%
10-14	1%	1%	17%	0%	1%	0%
15-19	0%	1%	13%	4%	1%	1%
20-24	0%	0%	6%	3%	2%	1%
25-29	1%	0%	4%	2%	2%	1%
30-34	0%	0%	4%	0%	0%	0%
35-39	2%	0%	3%	1%	0%	0%
40-44	2%	0%	2%	0%	0%	0%
45-49	1%	0%	2%	0%	0%	0%
50-54	2%	0%	1%	0%	0%	0%
55-59	0%	0%	1%	0%	0%	0%
60-64	1%	0%	0%	0%	0%	0%
65+	3%	0%	2%	0%	0%	0%
<b>Total</b>	<b>15%</b>	<b>5%</b>	<b>61%</b>	<b>10%</b>	<b>7%</b>	<b>3%</b>

<sup>30</sup> Source: ERM/ESSD Household Surveys



## 5.4.2 Literacy Levels

Nationally, 65% of men and 38% of women aged 15 and over are literate. Rural populations tend to have worse literacy levels than their urban counterparts, and approximately 90% of urban men compared to 59.8% of rural men are literate. Similarly, approximately, 69% of urban women are literate compared to approximately 29% of rural women.<sup>31</sup>

As seen in the table below, PAHs are more literate than national averages, and had especially better rates considering the national averages for rural areas, with 91% of males and 68% of females aged 15 and over reporting being literate.

**Table 11: Literacy and Gender in the Population Aged 15 and Over<sup>32</sup>**

Literacy	Male	Female
Literate	91%	68%
Illiterate	9%	32%
<b>Total</b>	<b>100%</b>	<b>100%</b>

Further, data indicates that younger generations are achieving even better literacy levels, with no disparities between males and females in the population between ages 15 and 24, which are 98% literate for each gender.

## 5.5 Livelihoods

Ethiopia has a Human Development Index (“HDI”) of 0.463 (0.424 for females, 0.501 for males), which measures average achievements in the following key dimensions of human development: a long and healthy life, being knowledgeable and have a decent standard of living. Ethiopia’s rank as 173<sup>rd</sup> out of 189 countries in the world, categorizes it as one of the low human development countries globally.<sup>33</sup>

Ethiopia is classified as a “low-income food-deficit” country by the World Bank, with a Gross Domestic Product (GDP) of US \$181.6 billion and a GDP per capita at Purchasing Power Parity of US \$1,719.<sup>34</sup> Agriculture accounts for 46% of the GDP, making it the largest contributing economic sector. Agriculture is also the leading sector for employment in Ethiopia, employing approximately 73% of the population.<sup>35</sup> There are on average 2.2 women for every 2.4 men working per ha each day. Poverty is significant in the country and especially in rural areas, where 48% of smallholder farmers live below Ethiopia’s national poverty threshold, compared to 30% living below the national poverty threshold nationally.<sup>36</sup>

In the Project area, affected households’ livelihoods are predominantly based on agriculture followed by livestock rearing. While natural resource utilization was reported, it was primarily for household use and not income generation. Just a handful of households reported small businesses in the form of a kiosk (two households) or tea house (two households). The following sections provide further detail on affected households’ livelihoods.

<sup>31</sup> 2011 Ethiopia Demographic and Health Survey Central Statistical Agency and ICF International, March 2012.

<sup>32</sup> Source: ERM/ESSD Household Surveys

<sup>33</sup> UNDP Human Development Index, 2018. Available at <http://www.fao.org/3/ca3224en/ca3224en.pdf>

<sup>34</sup> Ethiopia National Human Development Report, United Nations Development Programme, 2018.

<sup>35</sup> Ethiopia: National Gender Profile of Agriculture and Rural Livelihoods (Country Gender Assessment Series), Food and Agriculture Organization of the United Nations (FAO), 2019. Available at: <http://www.fao.org/3/ca3224en/ca3224en.pdf>

<sup>36</sup> Food and Agriculture Organization (FAO) of the United Nations, The economic lives of smallholder farmers, 2015. Available at <http://www.fao.org/3/a-i5251e.pdf>

### 5.5.1 Income and Expenditure

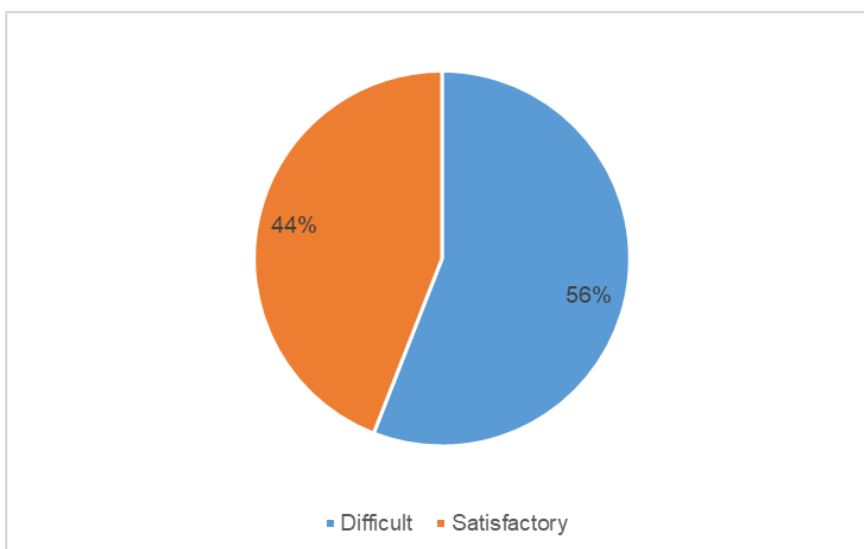
In the local area, household surveys revealed that the median monthly income is 6,944 Ethiopian Birr (“ETB”) and the mode monthly income is 5,000 ETB, or approximately US \$239.45 and US \$172.41 per month respectively (using an exchange rate of 29 ETB to 1 USD).<sup>37</sup> In terms of income distribution in the local area, monthly income averages broken down into quintiles are presented in the table below. Though unequal income distribution is observed, with a skew towards the top quintile, it is positive to see most of the local population lying within the middle three income bands. When compared to the global poverty line of \$1.90 per person per day, (or approximately US\$58 monthly per person), the mean income in the bottom quintile (approximately US\$96 monthly for a household), suggests a precarious economic situation.

**Table 12: Monthly Income Quintiles<sup>38</sup>**

Quintile	Quintile Mean (ETB)	Share of Total Household Incomes
Bottom Quintile	2,796	8%
Second Quintile	4,617	13%
Middle Quintile	6,188	18%
Fourth Quintile	7,742	22%
Top Quintile	13,120	39%

Along the same lines, most households reported that their incomes made it “difficult” to make ends meet (namely to pay necessary expenses).

**Figure 11: Reported Household Income Sufficiency<sup>39</sup>**



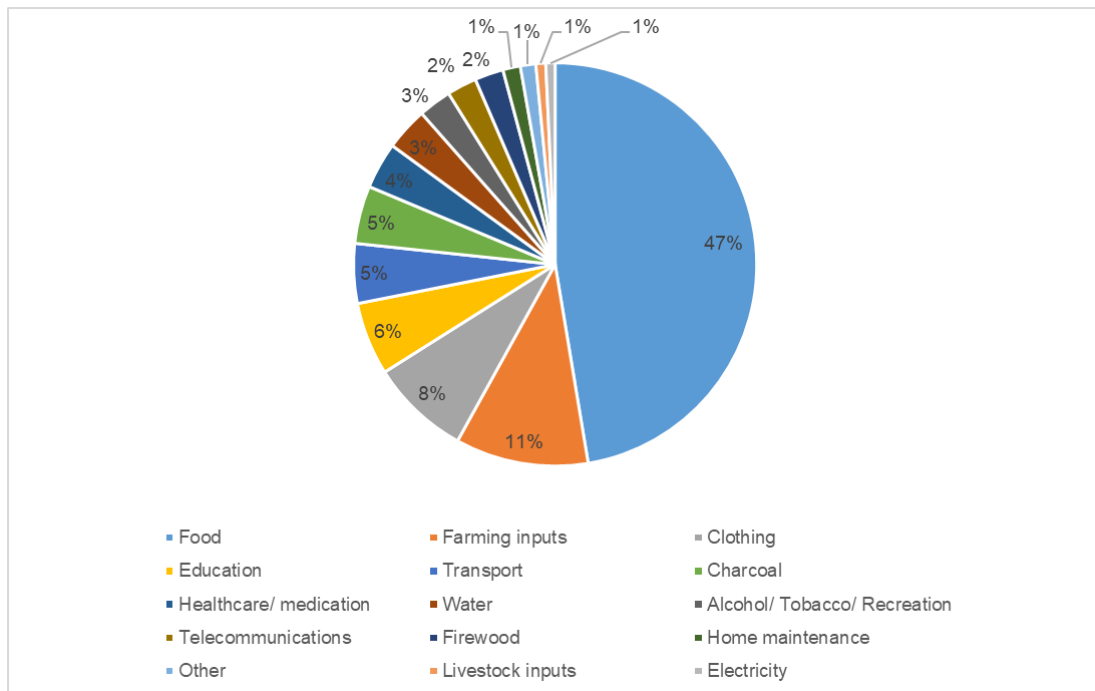
In terms of prominent expenses borne by most households surveyed, respondents reported the following regarding their monthly expenses in order of significance: food, farming inputs, clothing, education, transport and charcoal.

<sup>37</sup> The exchange rate referenced is a 90 day average retrieved at the time of the drafting of this LRP (June 2019).

<sup>38</sup> Source: ERM/ESSD Household Surveys

<sup>39</sup> Source: ERM/ESSD Household Surveys

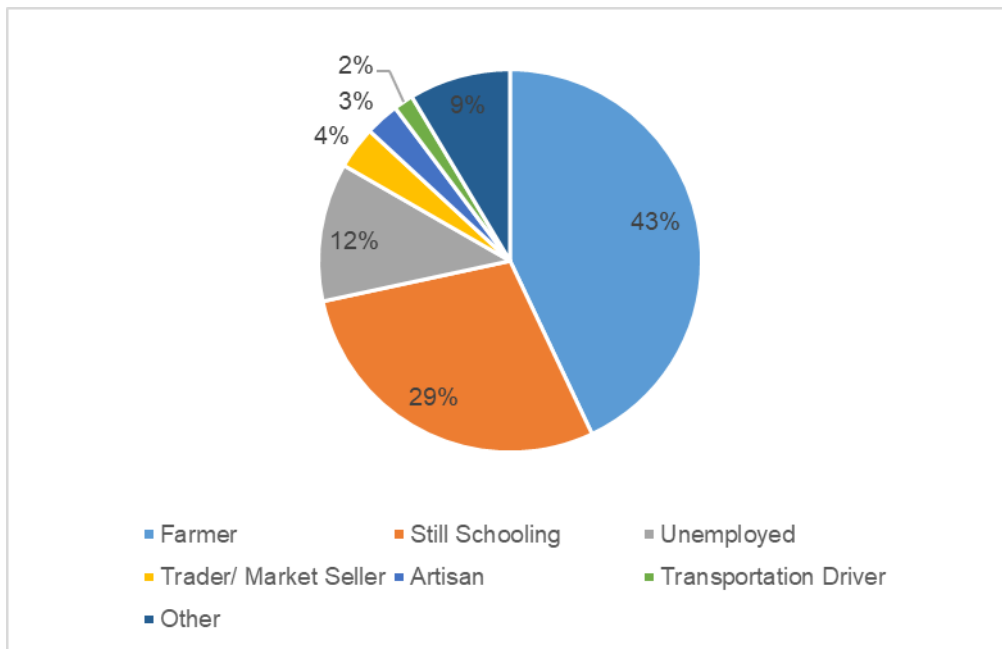
**Figure 12: Average Total Household Monthly Expenditure by Category<sup>40</sup>**



More than half (57%) of the PAH members fall within the working age population (15-59 years). Within this age group, of those working, the primary livelihood occupation was farming, with no notable other significant job category. A significant portion, 12%, was reported to be unemployed.

<sup>40</sup> Source: ERM/ESSD Household Surveys

**Figure 13: Primary Livelihood Occupation for Local Working Age Population<sup>41</sup>**



### 5.5.2 Banking and Access to Credit

In the Project area there are some financial institutions such as the Oromo Cooperative Bank, Oromo International Bank, Commercial Bank of Ethiopia and Oromo Saving and Credit institution. In the 2017 ESIA, baseline studies found that about 16% of households had bank accounts and that, consistent with rural areas in Ethiopia generally, a culture of saving and borrowing among people in the Project area is low. Among those who reported having bank accounts, the baseline study further established that account opening started increasing around 2011.

Household surveys amongst households affected by the land acquisition, however, revealed better utilization of banking, with approximately 71% of households reporting that a member of the household had a bank account. Approximately 64% of households reported having savings, though these savings were said to be held exclusively in cash. Access to credit was extremely uncommon and 96% of households had not accessed credit or borrowed in the past 12 months, this may be partially attributed to societal/religious norms associated with the Islamic faith.

### 5.5.3 Agriculture

Nationally, agriculture accounts for approximately 66% of employment.<sup>42</sup> However, despite a large percentage of employment in this sector, agricultural productivity continues to remain low in Ethiopia, due to reasons such as severe land degradation, low technological outputs, few productive assets, and poor soil quality.

<sup>41</sup> Source: ERM/ESSD Household Surveys

<sup>42</sup> The World Bank. 2019. Internal Labor Organization, ILOSTAT database. Available at: <https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS?locations=ET>

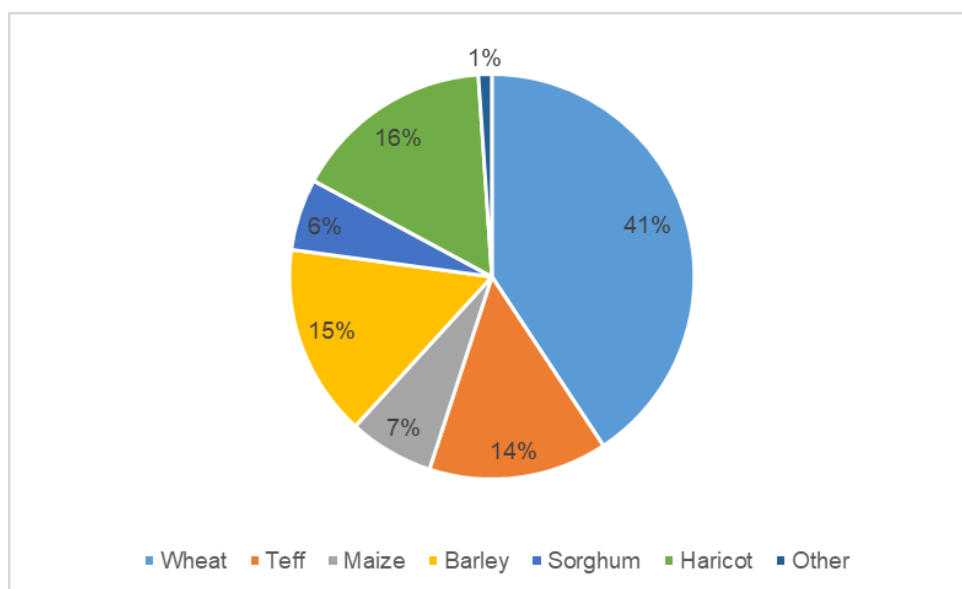
In Ethiopia, farms smaller than 2 ha constitute nearly 90% of the total number of farms. The average small farm in Ethiopia is 0.9 ha.<sup>43</sup> Smallholder farms produce approximately 28% of food in Ethiopia. Smallholder farmers typically sell less than a quarter of their production, retaining most of it for household consumption.

Access to mechanization is extremely rare for smallholder farms and still rare for larger farms (those averaging 4.3 ha); only approximately 16% of the larger farms in Ethiopia have access to mechanically powered technologies.

Approximately 5% of smallholder farms in Ethiopia have access to irrigation. In Ethiopia, according to data from 2009, the overall average income gain due to access to irrigation ranges from 4,000 ETB to 4,500 ETB per household, per year. This means that the average income of non-irrigating households is less than 50% of irrigating households.<sup>44</sup>

In the local area, patterns are consistent with national level observations for smallholder farms with most households cultivating crops for both sale and consumption. PAHs in the local area reported producing six main crops. As seen in the figure below, wheat predominated, followed by haricots and barley.

**Figure 14: Top Crops Produced by Households<sup>45</sup>**



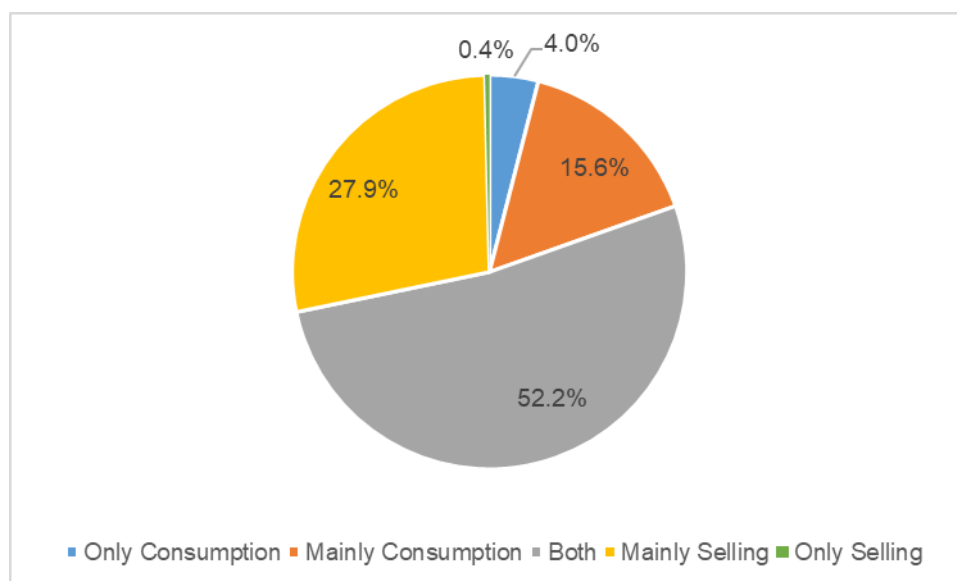
Overall, households reported that crops are grown for both consumption and sale (approximately 52%), with some predominance of “mainly selling” (28%) as compared to “mainly consumption (16%). There were very few cases of crops being solely for sale or solely for consumption. Viewed by crop, some crops, such as wheat and sorghum, tend to skew towards sale, while others, like barley and maize tend to skew towards consumption. Households appeared to meet their food needs through their agricultural and general livelihood strategies, and only 2% reported suffering from food shortages during any part of the year.

<sup>43</sup> Food and Agriculture Organization (FAO) of the United Nations, The economic lives of smallholder farmers, 2015. Available at <http://www.fao.org/3/a-i5251e.pdf>

<sup>44</sup> Food and Agriculture Organization (FAO) of the United Nations, The economic lives of smallholder farmers, 2015. Available at <http://www.fao.org/3/a-i5251e.pdf>

<sup>45</sup> ERM/ESSD Household Surveys

**Figure 15: Primary Purpose of Crop Production<sup>46</sup>**



Consistent with the above, higher volumes of wheat were produced seasonally and generated more income compared to the other main crops grown by the households. In addition, as seen in the table below, most households producing wheat earn more than 25,000 ETB in a season.

**Table 13: Crop Seasonal Production and Income<sup>47</sup>**

Crop	Approximate Quintal Produced in a Season	Average Income Generated per Season						
		< 5,001	5,001-10,000	10,001-15,000	15,001-20,000	20,001-25,000	25,001-30,000	>30,001
Wheat	51.4	1%	6%	5%	6%	3%	23%	57%
Teff	11.7	20%	47%	10%	7%	3%	10%	3%
Maize	20	14%	36%	21%	14%	7%	7%	0%
Barley	13.5	29%	39%	16%	6%	3%	3%	3%
Sorghum	10.9	17%	58%	17%	8%	0%	0%	0%
Haricots	8.4	43%	36%	11%	4%	0%	4%	4%

In terms of agricultural production practices, irrigation is generally not practiced in the Project area, due to water scarcity/lack of ease of access to water. Of the households interviewed, just one reported irrigating crops. Farmers are largely engaged in non-mechanized farming technologies with simple farm tools and some using oxen and plow. Many reported using fertilizers, improved seed varieties, and crop rotation to improve their yields.

<sup>46</sup> Source: ERM/ESSD Household Surveys

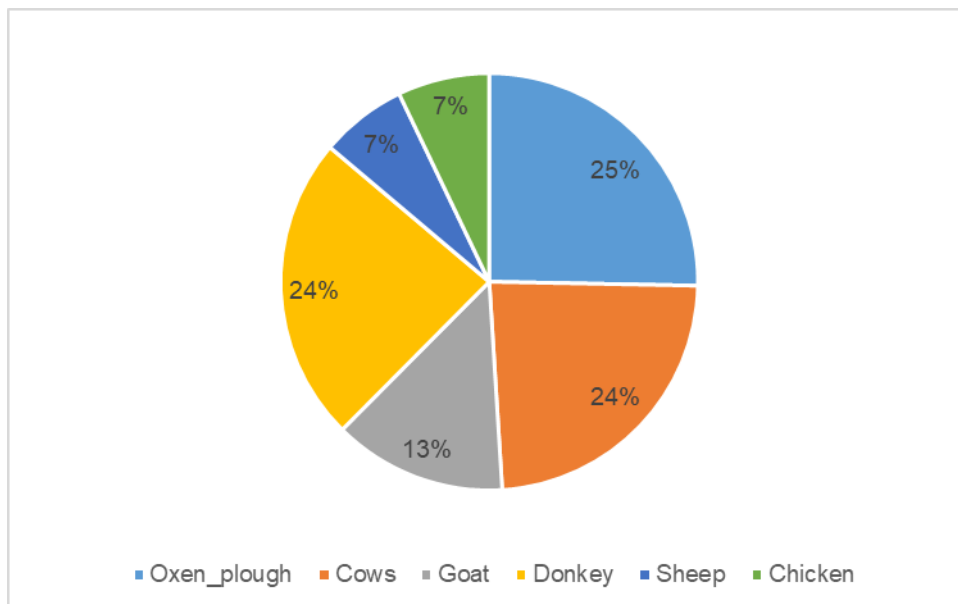
<sup>47</sup> Source: ERM/ESSD Household Surveys

### 5.5.4 Livestock

Ethiopia is the world’s tenth largest livestock producer and the biggest exporter of livestock in Africa. According to the Central Statistics Authority of Ethiopia, between 2010 and 2011, the country had 53 million cattle, 25 million sheep, 22 million goats, and one million camels. Smallholder farms in Ethiopia keep approximately 57% of total livestock in the country.<sup>48</sup>

Though secondary to agriculture, livestock production is one of the main livelihood streams in the Project area and contributes to agricultural production, access to markets, income generation and food needs of households. Household surveys indicate that most households keep livestock, with the most predominant types being oxen, cows, donkeys and goats. Oxen and donkeys are used for draught power and transport, respectively, while other species such as goats, cows and chicken are kept for meat and milk for both household consumption and sales. Households reported owning on average 2.1 oxen, 2.8 cows, 7.8 goats, 1.8 donkeys, 4.2 sheep, and 7.8 chickens.

**Figure 16: Livestock Kept by Households<sup>49</sup>**



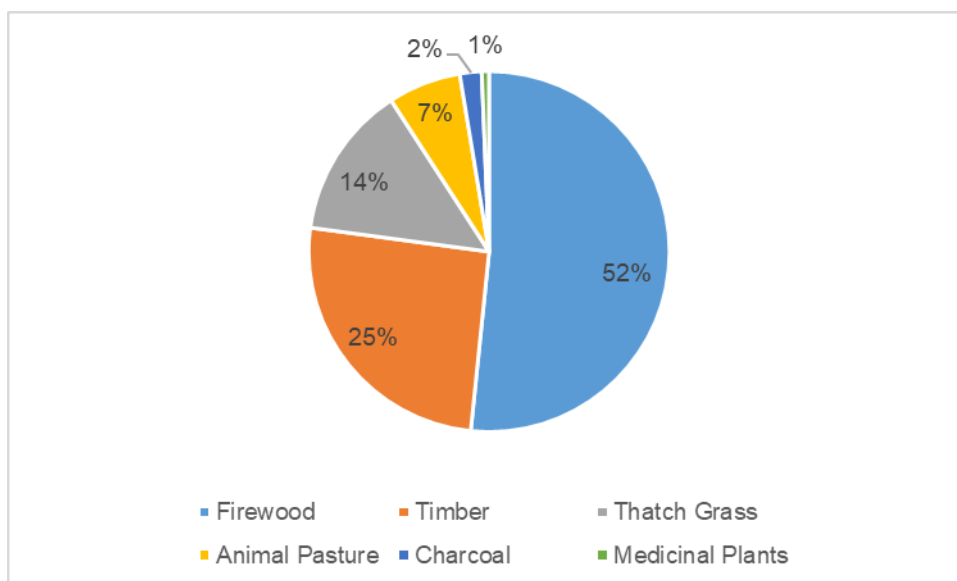
### 5.5.5 Natural Resources

Most households, approximately 82%, reported utilizing natural resources as part of their livelihood strategies. Households reported that firewood was the primary natural resource utilized, followed by timber (for construction) and thatch grass.

<sup>48</sup> Tulu Moya Geothermal Development Project - Phase I: ESIA V2, VSO and TS Environmental Technology, November 2017.

<sup>49</sup> Source: ERM/ESSD Household Surveys

**Figure 17: Natural Resources Utilized by Households<sup>50</sup>**



Natural resources are primarily utilized exclusively, or mainly for household use. For limited cases where income generation was reported, this was said to be less than 5,000 ETB seasonally. Amongst those resources said to generate some income, firewood was the most cited. Natural resources were said to be located in most cases on communal land (43%), followed by the household’s own land or a mix of communal and own land (both 28%). Firewood was primarily sourced on land other than the household’s own.

## 5.6 Land Holding and Use

In Ethiopia, land transactions are prohibited and, as described in Section 3, land is considered a public good in Ethiopia that cannot be privately owned. As such, individuals only have a use or holding right. Though it is possible for local administrators to allocate more land to families according to social and demographic criteria, such as household size, in practice, land is scarce. When asked as part of the household surveys if more suitable land could be found in the area if the household wanted to expand its land, 100% of respondents responded no. Cases of renting or other informal types of land use land were extremely rare amongst PAHs, with just a few reporting renting.

Generally, land in the Project area is characterized by flat to undulating topography. The flat plains are mainly under crop cultivation. Settlements are sparse and spread mainly along the valley base and on the slopes of the hills. Vegetation cover constitutes a major landscape element within the Project area. Most of the PAHs’ land can be classified as either farmland or grassland, the latter for grazing purposes. It is common in the Project area for households to have a user right to more than one parcel of land, and such was the case in 22% of PAHs surveyed. Viewing the total land held by each affected household, the average total landholding is 2.3 ha. Compared to national averages for small farms, of 0.9 ha, Project-affected lands are relatively large landholdings for rural household-run farms.<sup>51</sup>

<sup>50</sup> Source: ERM/ESSD Household Surveys

<sup>51</sup> Food and Agriculture Organization (FAO) of the United Nations, The economic lives of smallholder farmers, 2015. Available at <http://www.fao.org/3/a-i5251e.pdf>



**Table 14: PAP Total Landholding Size Ranges<sup>52</sup>**

Total Land Holding Range	Percent of PAPs
Less than one ha	31%
Between 1 and 2 ha	18%
Between 2 and 3 ha	23%
Between 3 and 4 ha	14%
Between 4 and 5 ha	5%
Greater than 5ha	9%

## 5.7 Community Groups

Most PAHs reported household members belonging to some type of community-based organization. The main organizations were women’s groups and religious groups. In the case of both women’s and religious groups, these were said to be *Idirs*, a traditional social and financial institution widespread in the country. *Idirs* have historically been a support institution to help members materially with burials and provide solace after deaths in the family or other times of difficulty. In modern times, *Idirs* can also provide other forms of support such as social networking, entertainment, and community improvement.

## 5.8 Housing

Most houses in the Project area are grass thatched, while a few have iron sheet roofing. Walls are mainly made of mud with earthen floors, though some are constructed of wood. Houses with iron sheet roofing and wooden framing suggest relatively better income level than those that are grass thatched.

**Figure 18: Typical Thatch Roof Houses in the Project Area<sup>53</sup>**



<sup>52</sup> Source: ERM/ESSD Household Surveys

<sup>53</sup> Source: ERM 2019

## 5.9 Transportation

The access road from Iteya to the Project area is a graded earth road in good motorable condition for appropriate vehicles. However, the earth roads in the area are a major source of dust that affects close-by settlements and during the rainy season can become difficult to traverse. According to the household surveys, very few households have bicycles (approximately 5%). Motorcycles were even less common (3%) and vehicles were rarer still (2%). Most of the roads within the Project area are traversed by non-motorized forms of transportation, mainly walking and by horses, donkeys and horse/donkey-drawn carts. An increase in traffic by these non-motorized forms of transportation is notable during market days in the various trading centers.

## 5.10 Water

In 2015, Ethiopia achieved its Millennium Development Goal target, with 57% of the population having access to safe drinking water (an increase from just 13% in 1990).<sup>54</sup> However, overall, safe water availability across Ethiopia remains widely inadequate, particularly in rural areas, where access to safe drinking water services is significantly lower (49%) compared to urban populations (93%). Communities that lack access to safe water often depend on seasonal surface water resources, such as unprotected springs, streams, ponds, and rivers. In many instances, these freshwater resources are scarce, located long distances from community households, and contain severe waterborne diseases. Furthermore, when drought conditions intensify, many of these water sources for people, crops, and livestock disappear.

Households in the Project area generally have access to water, but distances can present challenges, with notable road travel to fetch water, especially utilizing donkeys. The available sources of drinking water in the Project area vary between dry season and wet season. During the wet season, there is higher reliance on rain collection and ponds, whereas during dry season, reliance is on piped water, groundwater, and ponds. The baseline studies for the 2017 ESIA found that 56% of households reported traveling between 0 to 30 minutes to a water point, 12% of households reported taking between 30 minutes to 1 hour; and about 32% of households responded that they must travel more than one hour to collect water from the source.

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<sup>54</sup> USAID Ethiopia Fact Sheet – Water, Sanitation and Hygiene, October 2018. Available at:  
[https://www.usaid.gov/sites/default/files/documents/1860/Ethiopia-Fact-Sheet\\_WASH\\_Oct-2018.pdf](https://www.usaid.gov/sites/default/files/documents/1860/Ethiopia-Fact-Sheet_WASH_Oct-2018.pdf)

**Figure 19: Donkeys Transporting Water in the Project Area<sup>55</sup>**



According to the 2017 ESIA baseline information, when compared to World Health Organization (WHO) standards for drinking water per person per day for tasks such as drinking, cooking, and personal hygiene, 84% of households in the Project area use less than the recommended amount, which may indicate that water is not easily accessible and/or in short supply. Water purification and sanitation are also lacking within the Project area, as the majority (85%) of residents use the water without implementing any purification method.<sup>56</sup>

### 5.11 Development Priorities

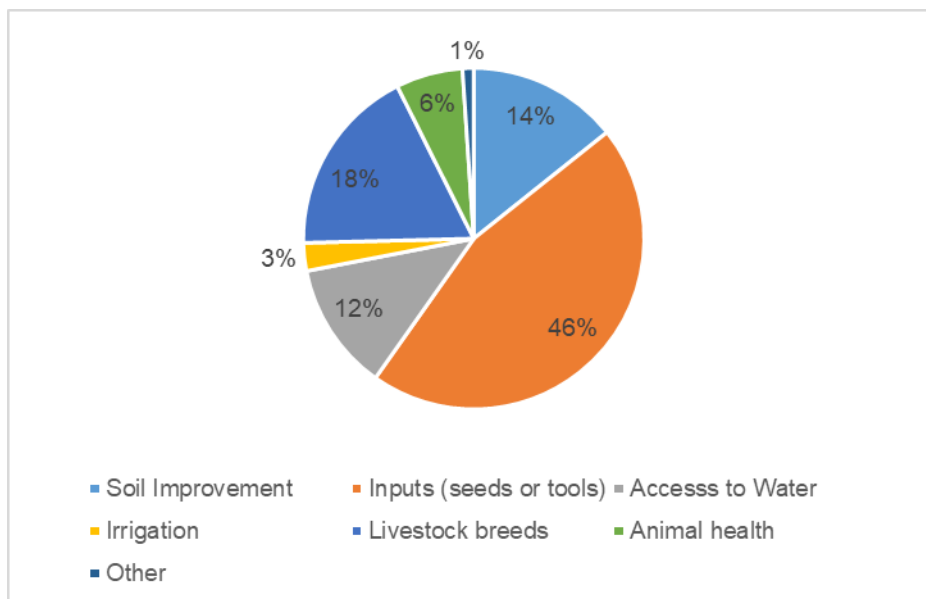
Per the graphic below, when asked about main livelihood and community development needs, PAPs cited a desire to increase productivity to support household needs, especially related to crop and agricultural yields. Many mentioned a desire for help with agricultural intensification, given that land in the area is limited. Access to water was cited more related to animal husbandry than for general household needs.

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<sup>55</sup> Source: ERM 2019

<sup>56</sup> Tulu Moye Geothermal Development Project - Phase I: ESIA V2, VSO and TS Environmental Technology, November 2017.

**Figure 20: Top Livelihood Needs<sup>57</sup>**



### 5.12 Vulnerable Groups

According to the PS, vulnerability may stem from an individual's or group's race, color, sex, language, religion, political or other opinion, national or social origin, property, birth, or other status. Other factors can influence vulnerability may include gender, age, ethnicity, culture, literacy, sickness, physical or mental disability, poverty or economic disadvantage, and dependence on unique natural resources. In terms of Project land acquisition impacts, it is important to consider whether a vulnerable status may contribute to a limited ability to claim or take advantage of assistance provided by the Project and related development benefits. Vulnerability criteria for the LRP was developed in consideration of feedback from stakeholders on who within the community they would view as most vulnerable to land-acquisition impacts, in conjunction with Subject Matter Expert review of survey data based on vulnerabilities common to land acquisition projects in similar contexts. The table below presents the quantity and percentage of PAHs who, based on household survey data, fit within the established categories of pre-existing vulnerability, and may thus be at a higher risk of being adversely affected by the land acquisition.

**Table 15: Households with Pre-existing Vulnerability<sup>58</sup>**

Vulnerable Criteria	Number and %
Low-income households defined as families (3 or more members) reporting monthly household incomes in the bottom income quintile	20 households (16%)
Female-Headed Households	39 households (31%)
Single member households, aged 65 or older	1 household (1%)
Households with no land certificate	12 households (10%)
Households with a member who has a physical or mental disability, or pregnant female	18 households (14%)
Households where the majority of adult members are unemployed	9 households (7%)

<sup>57</sup> Source: ERM/ESSD Household Surveys

<sup>58</sup> Source: ERM/ESSD Household Surveys

As seen in the table above, 10% of PAPs had no land certificate. Proof of land/usage rights is linked to vulnerability, as it raises concerns around a household's ability to claim compensation entitlements and/or development benefits. This is a key gap between local legislation and PS 5, as identified in Section 3.3. TMGO is committed to compensating affected PAPs with no land certificate on equal terms as those that have land certificates in accordance with IFC PS 5.

It is important to note that other vulnerability criteria were considered as part of this exercise but not ultimately included as no cases were identified. These include orphaned children/child-headed households, households reliant on social/welfare support, and ethnic minorities, among others. Single parent households all had female heads of household, and are thus denoted as such in Table 15.

Overall, 69 households (or 55% of the total affected households) surveyed met at least one of the vulnerability criteria established above, and 22 (or 17%) met two or more of the criteria.

## 6 Land Acquisition Impacts

This Section outlines the data gathered to assess Project impacts related to the land acquisition, and then summarizes the nature and extent of impact to land and assets contained thereon. It is important to note that, as described in Section 5.6, on average more than one in five households have a user right to more than one plot of land. As such, the number of affected parcels described in this Section is higher than the total number of households affected.

The data presented in this Section is primarily drawn from the asset inventories that were carried out by the Compensation Committee with the assistance of a civil works construction surveyor in the presence of the landholder and/or the landholder's family members where relevant. Assets inventoried in this effort included productive land (farmland and grassland), fixed planted assets (trees), and structures (houses and fences). Assets were recorded on an inventory sheet that was explained to and signed by the landholder at the conclusion of each inventory. Figure 21 below shows such an example. There were a total of 161 records of asset inventories, spanning the impacts described ahead, which have been compensated by TMGO.

**Figure 21: Asset Inventory Sheet**

OBSTRUCTION MEASUREMENT SHEET											
PROJECT NAME:											
EMPLOYER		CONSULTANT				CONTRACTOR					
TMGO		MGM				MIKADA					
Item No.	Station	Owner Name	Easting	Northing	Length	Width	Area	Free Hand Sketch	Owner Signature	remark	
		ሙያዊ	517750	903037	16.7	5.70		 5.65 94.36m² E 12.5 12.00 101423 101430	ሙያዊ + ርዕሰ ቤት		
		ሙያዊ	517797	903028		5.62					
		ሙያዊ	517743	903014		11.30					
		ሙያዊ	517748	903010		2					
		ሙያዊ	517748	903014	67	5.60		 167.30m² E 12.5 12.00 101430 101450	ሙያዊ/ሙያዊ		
		ሙያዊ	517743	903010		8.20					
		ሙያዊ	517718	902957		13.80					
		ሙያዊ	517725	902950		2					
Contractor's survey		Kebele Representative			Woreda Representative						
Name: _____		Name: <u>Amran Abayisem</u>			Name: _____						
Signature: _____		Signature: <u>[Signature]</u>			signature: _____						

### 6.1 Productive Land

#### 6.1.1 Land Impacts on PAHs

As noted in Section 3, land is considered a public good in Ethiopia. As such, land cannot be bought and sold and is not considered privately owned. Instead of private ownership, individuals have a user right that enables them to hold and exploit land for productive use and privately own assets on land, in lieu of owning the land itself. Given this, during the asset inventories, the Compensation Committee classified land into two categories for compensation purposes: grassland (for grazing animals) and farmland (for crop production). These two classifications reflect the two predominant productive uses of land in the area. All land was categorized in this way, even where no obvious productive activity could be evidenced. A total of 146 parcels belonging to one or

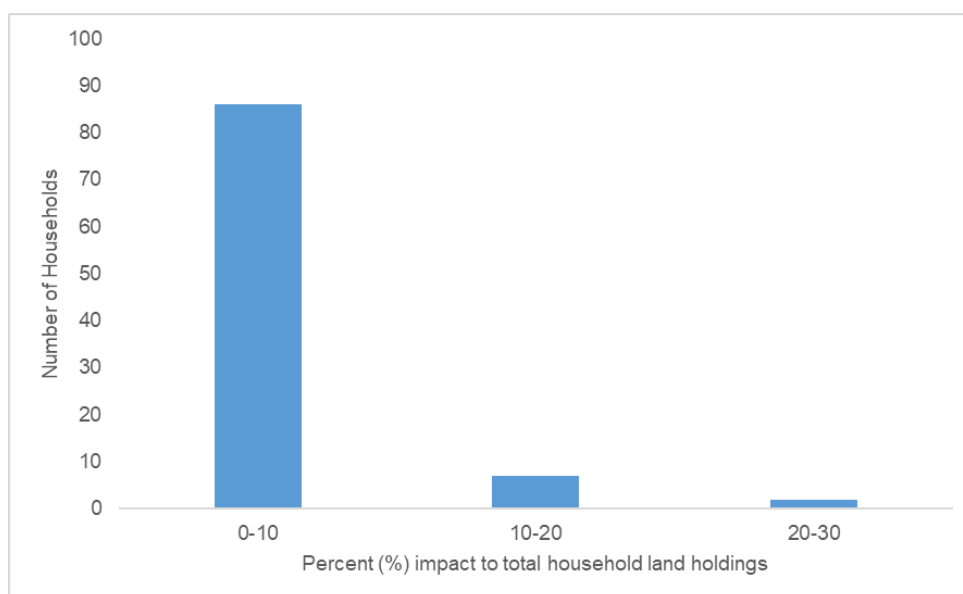
both categories were acquired in part by the Project (no parcel was acquired in whole). The maximum size of farmland acquired from a single parcel was 9,418m<sup>2</sup> (0.9418 ha) and the lowest was 98m<sup>2</sup> (0.0098 ha). The maximum size of grassland acquired from a PAP was 7,276 m<sup>2</sup> (0.7276 ha) and the lowest was 30m<sup>2</sup> (0.003 ha). In total, the land acquisition of the 146 parcels sums to 15.51 ha, made up of 36% grassland and 64% of farmland. A summary of the land acquired in each Kebele by type is provided below.

**Table 16: Total Land Acquired from PAPs by Kebele and Type**

Kebele	Land Type	Total Acquired (ha)	Percent of Total Land Acquired by the Project
Anole	Grassland	2.29	15%
	Farmland	1.95	13%
Dawi Guticha	Grassland	0.53	3%
	Farmland	4.36	28%
Tero Moye	Grassland	2.78	18%
	Farmland	2.32	15%
Shaki Sheraro	Grassland	0.00	0%
	Farmland	1.28	8%
Total	<b>Total Grassland</b>	<b>5.61</b>	<b>36%</b>
	<b>Total Farmland</b>	<b>9.91</b>	<b>64%</b>
	<b>Total Land</b>	<b>15.51</b>	<b>100%</b>

In terms of impacts on a household level, viewing the total land acquired compared to total landholding of each PAP, the average percent impact is approximately 5.37%. The minimum percentage impact is 0.29% and the maximum percentage impact is 29.69%. A summarized view of this information is presented in the figure below.

**Figure 22: Scale of Impact on PAPs' Total Landholding**

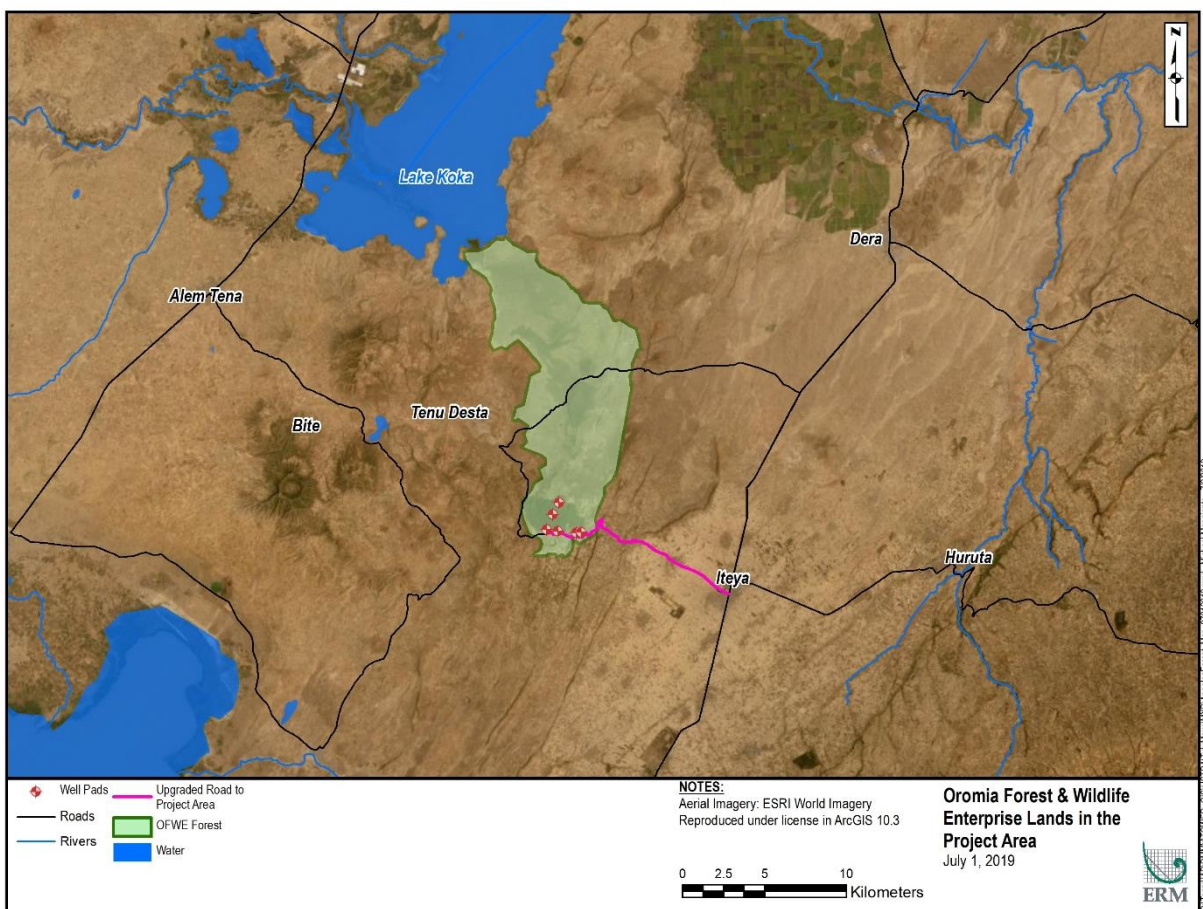


As seen in the figure, the scale of impact is overwhelmingly small and the vast majority of impacted PAPs (91%) had 10% or less of their land affected and 98% had 20% or less of their land affected. Just 2% of households had 20% to 30% of their total lands affected.<sup>59</sup>

### 6.1.2 Communal land impacts

In addition to land claimed by individual PAPs, 12 ha of land was acquired from the OFWE’s concession area, which manages forest areas totaling approximately 3.4 million ha across the Oromia regional state, and specifically 10,241 ha of what they categorize as natural forest that has some overlap with the Project area, as seen in the figure below.

**Figure 23: OFWE Lands in the Project Area**



The OFWE’s holdings in the Project area are utilized by local community members, and a local committee representing such users has a membership of 450 community members. OFWE recognizes these community members as legitimate users and local protectors of the forested areas and permits some livelihood activities which are compatible with natural forest preservation. In practice, however, the primary livelihood activities

<sup>59</sup> It is important to note this analysis of scale was only possible where PAPs provided their land certificate information, and thus a reliable reference was obtained regarding their total landholding. This was the case for 95 PAPs.



that take place in the enterprise are not permitted by the OFWE. These include tree cutting for construction material, firewood, and to make charcoal.

## 6.2 Fixed Plant Assets

Though much of the acquired land is under cultivation, these assets are not perennial crops and were accounted for in the general “farmland” category (noted above). In terms of other planted assets, the asset inventories undertaken by the Compensation Committee recorded many trees and shrubs that would be affected by the Project. As seen in the table below, though none produce edible products, most have a livelihood value. In total 68 PAPs lost trees across these categories, and the others are assets held in common by the *Tulu Moyo Nyaro Association*. In total 2,078 trees and shrubs were inventoried, the majority of which belonged to PAPs.

**Table 17: List of Trees and Shrubs Affected by the Land Acquisition**

Local Name (Afan Oromo)	Scientific Name	Number of Trees Affected			Indigenous or Exotic	Primary Uses
		Owned by PAPs	Owned by “Association”	Total		
1. Laftoo	Acacia abyssinica	95	1	96	Indigenous	Fuel-wood, charcoal making
2. Doddootii	Acacia etbaica	8	-	8	Indigenous	Fuel-wood, charcoal making
3. Waaccuu	Acacia seyal	2	-	2	Indigenous	Fuel-wood, charcoal making
4. Niimii	Azadirachta indica	1	-	1	Exotic/Introduced	Ornamental tree
5. Garrii	Barbeya oleoides	1	-	1	Indigenous	
6. Ceekataa	Calpurnia aurea	632	7	639	Indigenous	Construction, Fuel-wood
7. Agamsa	Carisa edulis	40	-	40	Indigenous	Fuel-wood, fencing
8. Mataqomaa	Celtis africana	10	-	10	Indigenous	Construction, fuel-wood
9. Waadeesa	Cordia africana	3	-	3	Indigenous	Timber for making furniture (from mature tree)
10. Makkanniisa	Croton macrostachyus	627	39	666	Indigenous	Fuel-wood, construction
11. Kooshimoo	Dovyalis abyssinica	184	-	184	Indigenous	Live fence
12. Baargamoo	Eucalyptus sp.	135	-	135	Exotic	Construction, fuel-wood,
13. Dambii	Ficus ovata	6	-	6	Indigenous	
14. Qilxuu	Ficus vasta	6	-	6	Indigenous	Shade, hanging beehives
15. Gaattiraa	Juniper procera	75	3	78	Indigenous	Construction, timber for making furniture
16. Dhumuugaa	Justicia schimperiana	83.5m	-	83.5m	Indigenous	Live fence

Local Name (Afan Oromo)	Scientific Name	Number of Trees Affected			Indigenous or Exotic	Primary Uses
		Owned by PAPs	Owned by "Association"	Total		
17. Kombolcha	Maytenus senegalensis	13	-	13	Indigenous	Fuel-wood, fencing
18. Ejersa	Olea europaea	129	-	129	Indigenous	Milk flavoring, fuel-wood, construction
19. Aaraa	Pittosporum viridiflorum	2	-	2	Indigenous	Fuel-wood, construction, farm tools
20. Hawaasee	Salix subserrata	10	-	10	Indigenous	Fuel-wood
21. Sasbaniyaa	Sesbania sesban	1	-	1	Indigenous	Fodder, nitrogen fixation
22. Turu maanturii	Schinus molle	2	-	2	Exotic	Ornamental
23. Giraawaa	Vernonia amygdalina	1	-	1	Indigenous	Fuel-wood, traditional medicine, fodder for animals
24. Garbii	Acacia albida	2	-	2	Indigenous	Fuel-wood, making charcoal, construction
25. Gaalloo	Psydrax schimperiana	12	-	12	Indigenous	Farm tools, fuel-wood
26. Hadheessa	Teclea nobilis	10	21	31	Indigenous	Farm tools
<b>TOTAL</b>		<b>2,007</b>	<b>71</b>	<b>2,078</b>		

### 6.3 Structures

There are 48 PAPs with structures that will be affected by the Project, including six houses and small shops and 42 fences. In three of the cases of house compensation, the houses were compensated not because the Project footprint necessitated their removal, but rather due to poor condition, PAPs feared that their homes would not withstand construction impacts associated with heavy machinery operating in the area. It is important to note that in all cases, the PAPs still had ample property on which to rebuild their houses in better conditions, and as such, no physical displacement has been caused.

**Figure 24: Compensated House (pictured right) and New House being Rebuilt (pictured left)<sup>60</sup>**



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<sup>60</sup> ERM 2019

# 7 Compensation Framework

## 7.1 Objectives

The objectives of the compensation framework include the following:

- Provide transparent, fair, and timely (prior to displacement) compensation for economic displacement to all PAPs in accordance with Ethiopian law and IFC PS 5;
- Compensate for lost assets at full replacement value; and
- Restore the livelihoods and welfare of PAPs and PAHs such that their wellbeing levels are at least equal to pre-Project conditions, or ideally better.

## 7.2 Compensation Entitlements

### 7.2.1 Eligibility

The following are the Project categories of those entitled to compensation for land-acquisition impacts:

- Formal, legal land holders with a land certificate;
- Those who do not have a land certificate validating their claim to the land but whose use of the land could be validated by the local administration;
- Users of communal land; and
- Those who had rental agreement with government.

### 7.2.2 Valuation Methodology

Compensation for all assets was calculated based on the production and market price provided by members of the Compensation Committee, representing Woreda-level sectoral offices including the following: Agriculture, Environment, Forest and Climate Change, Livestock and Fishery, and Land Administration and Planning.

In accordance with legal requirements, compensation for affected assets was calculated as described in the box below. All valuations were based on current market price. All production levels for crops and grass were the result of an average taken of the volume produced over the past five years.

#### Table 18: Calculations for Affect Asset Compensation

**Farmland - Compensation for crops** = the total area of the land (in square meters) \* the average crop volume obtained per square meter (in kg) \* value of the crop (per kilogram) \* 10 (years)

**Grassland - Compensation for grass** = area covered by the grass (in square meters) \* the current market price of the grass (per square meter) \* 10 (years)

**Compensation for structures** = cost of construction (current value) + cost of permanent improvement on land<sup>61</sup> + the outstanding monetary obligation for the remaining term of lease (only relevant for leased lands in the town area)

**Compensation for trees:** the market price for harvested wood for each type of tree as determined by the Woreda Environment, Forest and Climate Change office.

<sup>61</sup> This category would encompass improvements that might not have obvious infrastructure costs but where labor was invested for an improvement to the land, such as a dug septic tank.

Regarding the OFWE land acquired for the Project, in accordance with legal requirements, the OFWE was responsible for performing its own valuation of the land on a volume basis for the species of trees and other plant resources contained on average in the area. Per the bylaws for the committee and local forest area, 45% of this compensation amount is divided and paid to the community members who are users/protectors of the resource, while 5% is paid to the Kebele administration and the OFWE retains the remaining 50%.

### 7.2.3 Entitlements Matrix

The Project will apply the entitlements matrix shown in the table below. Generally, as detailed in Section 6.1.1, given that most households are experiencing land acquisition impacts that affect only a small percentage of their total landholding it is expected that these households will continue to have land-based livelihoods that are economically viable without major disruption. Nevertheless, as can be observed, the Project has opted to make all persons affected by loss(es) of individual/household productive land eligible for participation in the livelihood restoration programs, and such participation is not tied to the scale of loss

**Table 19: Entitlements Matrix**

Type of Impact	Entitled Party	Compensation	Livelihoods Support
<b>Household Productive Land</b>			
Loss of agricultural land	Landholder/ user of the land as identified in the asset survey (with land certificate or as validated by local administration)	10 years' worth of monetary compensation for yields, calculated at market price	Participation in the livelihood restoration programs (as detailed in Sections 8.3.1 through <b>Error! Reference source not found.</b> <b>Error! Reference source not found.</b> )
Loss of grassland	Landholder/ user of the land identified as in the asset survey (with land certificate or as validated by local administration)	10 years' worth of monetary compensation for yields, calculated at market price	Participation in the livelihood restoration programs (as detailed in Sections 8.3.1 through <b>Error! Reference source not found.</b> <b>Error! Reference source not found.</b> )
<b>Fixed Planted Assets</b>			
Loss of tree(s)	Landholder/ user of the land on which the tree was located, as identified in the asset survey	Monetary compensation based on the market price for harvested wood	-
<b>Structures</b>			
Loss of structure(s) (due to condition or position within Project footprint)	Landholder/ user of the land on which the structure was located, as identified in the asset survey	Monetary compensation for the cost of construction (current value); cost of permanent improvement on land; and/or the amount owed for the remaining term of lease	-
<b>Communal Land</b>			
Loss of communal land with productive value	Identified user of the communal land according to the local committee (OFWE lands)	Compensation was determined by the OFWE and per the organization's bylaws 45% of the total compensation is passed on to the identified users.	-
<b>Other</b>			

Type of Impact	Entitled Party	Compensation	Livelihoods Support
Impacts to vulnerable households	PAHs meeting at least one of the vulnerability criteria established by TMGO (Section 5.12)	-	Inclusion in the vulnerability tracking and monitoring program (Section 8.4)

### 7.3 Compensation Processing

All PAHs were eligible and encouraged to participate in a one-day financial literacy training offered by the Project in advance of the compensation payments. The training focused on saving and credit and investment opportunities within the area. The Cooperative Bank of Oromia facilitated the training. The training was held on April 23, 2019 in Iteya town. The event was well attended by PAPs from Dawi Guticha, Tero Moye and Shaki Sheraro; PAPs from Annole Kebele were unable to attend as an older and respected member of the community passed away and PAPs needed to attend the funeral.

**Figure 25: Training for PAPs from Tero Moye and Shaki Sheraro Kebeles**



**Figure 26: Training for PAPs from Dawi Guticha Kebele**



Once the valuation process was complete and each PAPs' assets had been valued accordingly, meetings were held in each affected Kebele between TMGO representatives, the Compensation Committee and the PAPs to clarify the methodology for the valuation and the calculation for the inventoried assets over the four established categories (farmland, grassland, fixed planted assets and structures). PAPs were given time to consider their individual agreements and ask any questions in advance of signing. The agreement, reflected in the box below, was provided in local language and read to all PAPs before and during signing.

## Table 20: Compensation Agreement

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I the undersigned agree to \_\_\_\_\_ m<sup>2</sup> farmland, \_\_\_\_\_ m<sup>2</sup> grazing land, \_\_\_\_\_ number of trees, \_\_\_\_\_ m<sup>2</sup> of house and , \_\_\_\_\_ m<sup>2</sup> fence (here in after the "Property") for the access road upgrade work that Tulu Moye Geothermal company planned to undertake for geothermal exploration and development.

I hereby agree on the measurement and calculation of the Property made by the property valuation committee and hereby request the company to transfer Birr \_\_\_\_\_ as final payment in to my account at \_\_\_\_\_ Bank, Iteya Branch, Account No. \_\_\_\_\_ in my favor.

I hereby confirm that I do not and will not raise any further claim concerning the Property. I further agree to relinquish the Property with immediate effect.

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Compensation payments were made via bank transfer to the account of each PAPs' choosing in accordance to the agreement signed. As noted in Section 5.5.2 most PAHs already used bank accounts prior to compensation process. Bank use was considered a positive sign that there would not be major risks associated with monetary compensation since PAPs already have some financial literacy and a culture of banking, thus ensuring safe keeping of their compensation payments. Where PAPs did not have a bank account prior to this process, they were offered assistance to set one up with a branch in nearby Iteya town to facilitate their receipt of payment.

## 8 Livelihood Restoration Program

### 8.1 Introduction

As noted in Section 3.3, livelihood restoration is not required under Ethiopian law, but PS5 requires that livelihood restoration measures be considered when livelihoods are adversely affected by a project's land acquisition. Livelihoods should be considered to encompass the full range of means that individuals, families, and communities utilize to make a living. This includes activities designed to earn income (such as crop production for market sale) and activities designed to support household nutrition or other necessities (such as hunting or gathering foods, medicinal plants, or household construction materials). A livelihood is sustainable when it enables people to cope with and recover from shocks and stresses (such as natural disasters and economic or social upheavals) and enhance their well-being and that of future generations without undermining the natural environment or resource base.

In this context, the compensation entitlements have been designed to compensate fairly for Project land acquisition impacts, including any related loss or disruption of income and access to productive assets experienced by PAPs. However, monetary compensation alone may not guarantee restoration of living standards to pre-Project levels, and the opportunity for improving livelihoods. As such, and in accordance with the entitlements matrix included in the preceding Section, complementary livelihoods assistance measures will be delivered to PAPs, particularly those at an elevated risk of economic displacement, (those categorized as "vulnerable" households, and/or those with significant loss of land), to strengthen their efforts to sustainably restore their livelihoods.

### 8.2 Process for Designing Livelihood Restoration Options

The livelihood restoration options described in this Section are based on trends identified in the socio-economic/livelihoods baseline and engagement with relevant stakeholders, not least, PAPs themselves. The options are designed to align in a realistic manner with existing resources, knowledge, skills and household experiences in the Project area. Moving forward, the options will continue to be refined in consultation with PAHs and sectoral experts who can best advise on ensuring sustainability of the measures.

PAPs or other members of the PAHs will have the opportunity to choose from the options described ahead and will be encouraged to utilize options that best leverage their current activities and skills. Some PAPs may choose not to participate, but TMGO will make a concerted effort to ensure PAPs understand offerings, and are given adequate opportunity to participate, especially vulnerable groups.

### 8.3 Support Programs to Restore and/or Improve Livelihoods

The following programs will be provided to PAPs to support their livelihood restoration:

- Support for crop farming and improved productivity;
- Support for livestock rearing; and
- Small business training.

These programs are described in further detail below. Finally, vulnerable households will be monitored separately to ensure they are able to take advantage of the offerings and are not falling below baseline indicators.

#### 8.3.1 Support for Crop Farming and Improved Productivity

As part of the household surveys, amongst top livelihood needs cited by households, was a desire to increase crop yields. Many mentioned wanting help with agricultural intensification, given that land in the area is limited.



Amongst major challenges with regard to agricultural production, PAPs cited the following: crop disease, water source, farm inputs, and weeds. With this in mind, the Project plans to partner with the Woreda Agricultural sectoral office which has significant expertise in proven, locally relevant crop enhancement measures. Support measures along the lines of the following will be developed and supported by the Project:

- Capacity building in good agricultural practices and improved agricultural techniques including appropriate mechanization where relevant to address the most pressing inefficiencies;
- Access to improved seeds for high yield crop varieties;
- Access to proven fertilizer and pesticides, provided these are not harmful to the environment or human health; and
- Technical assistance for harvesting, drying and storing skills to increase longevity of outputs.

### **8.3.2 Support for Livestock Rearing**

As part of the household surveys, PAPs manifested interest in expanding their livestock production, especially to be able to bring more livestock to market as an income generating activity. The primary challenges related to livestock rearing cited by PAPs include lack of grazing land, inadequate water supply for livestock, and animal health. Woreda-level officials have knowledge of local techniques that have been successful around cattle fattening. To support livestock rearing and overcome challenges, the Project proposes to support the following:

- Technical assistance for livestock management and good health practices; and
- Animal fodder enhancement techniques and inputs to improve quality and quantity of livestock feed especially in light of limited land for grazing and seasonality where there is less food for cattle.

In addition, at the time of the writing of this LRP, the Project is actively assessing several water supply options for the Project, which would bring piped water into the area. Though estimates of potential output of these waters supply options are still unknown, TMGO is actively considering means to supply both the Project needs and support those of the community to the extent feasible based on the ultimate output of the chosen source(s). Should the water supply source(s) prove to have sufficient output, the Project would consider a providing watering troughs that could be utilized for cattle in the local area.

### **8.3.3 Small Business Training**

In the household surveys PAPs described a desire to diversify their livelihoods to include income generating activities which are less reliant on land-based production. This was especially mentioned for younger generations, thought more apt to receive and make use of training. Support for small business training will focus on existing livelihoods where skills could be upgraded, that are compatible with the economy of the local area. These include skill enhancements related to basic construction, small retail shops (kiosks, tea houses, or the like), food processing, tailoring/sewing, and transportation services (cart and horse transportation). PAPs will be further consulted on the types of trainings they are interested in, and skills needed to be successful, but initially the Project proposes the following could be supported:

- Small business management training such as record keeping, budgeting, investment and marketing;
- Training and awareness raising about microfinance and banking institutions in the area that can provide financing and savings opportunities consistent with the Islamic faith practices by most of the PAHs; and
- Technical training to enhance productivity and skills for the business ideas mentioned above.

## **8.4 Vulnerable Households**

Those households categorized as vulnerable will be monitored separately and more frequently than the general monitoring details in this LRP to ensure that they are accessing the livelihood support programs without

issue and that the assistance is meeting their needs. To accomplish this the Project will develop a PAH vulnerability tracking and monitoring system to assess socio-economic indicators and enable quick reaction on a case-by-case basis if certain households are found to be falling behind in their livelihood restoration efforts.

## 9 Monitoring and Evaluation

Monitoring and Evaluation (“M&E”) are key components of the land acquisition process. The M&E process examines what worked with the process and why, what did not and why it did not, and what adjustments or changes need to be made. Monitoring is the systematic collection of information about a Project’s progress. It is done to improve practices, determine whether resources are being used for their intended purpose, to inform decision making about future interventions, and promote transparency. Evaluation is the comparison of measured Project impacts against the established Project objectives and strategic plans. It looks at the task that was set out to be accomplished, what has been accomplished, and how it was accomplished. Generally, monitoring is an internal activity, whereas evaluation is external.

According to best practice, projects that induce economic displacement should monitor and report on the effectiveness of LRP implementation, including the disbursement of compensation, the effectiveness of consultation, and the restoration of livelihoods. More specifically, the objectives of M&E for this LRP are to evaluate whether:

- Actions and commitments described in the LRP are implemented fully and on time;
- PAHs understand their rights;
- Compensation and livelihood restoration measures are effective in enabling PAHs to at least restore their livelihoods;
- Grievances submitted by stakeholders are addressed, and that the majority are resolved in a timely manner; and
- As necessary, changes in LRP procedures are made to respond to emerging concerns or lessons learned – i.e. that LRP management is adaptive in response to monitoring results.

### 9.1 Monitoring

TMGO will develop a detailed monitoring plan no later than the start of the livelihood restoration support programs. Both performance monitoring and impact monitoring will be conducted as detailed below.

#### 9.1.1 Performance Monitoring

Performance monitoring is an internal management function, which will allow the Project to measure concrete progress against milestones established in the LRP. Progress will be reported against a schedule of required actions. Among others, the following indicators will be included as part of the detailed performance monitoring plan:

- Overall spending against budget;
- Number of affected persons that have signed agreement forms and that have received their cash compensation;
- Number of affected persons benefitting from each LRP support activity;
- Number of public meetings and engagements held during the monitoring period;
- Number of grievances raised;
- Number of open grievances;
- Number of grievances closed;
- Average time for grievance processing; and
- Monitoring reports submitted.

### 9.1.2 Impact Monitoring

Impact monitoring is an internal monitoring component that is used to determine the effectiveness of the LRP in supporting affected persons in the restoration of their livelihoods. It is also used to identify any adjustments that may be necessary in the LRP's implementation.

The effects of the LRP will be tracked against the baseline conditions of the affected households prior to the land acquisition. Impact monitoring will monitor changes in household livelihood patterns, wellbeing, asset ownership, food security based on self-reported information by each of the individual land affected households. Potential measures (to be finalized during detailed implementation planning) include, but are not limited to the following:

- Uses of compensation payments;
- Households reporting maintenance or increases in agricultural production (or income generated therefrom);
- Households reporting maintenance or increases in livestock production (or income generated therefrom);
- Participation in training programs;
- Monthly household income from all sources;
- Households spending 47% or more of income on food; and
- Number of households utilizing a bank account.

### 9.2 Evaluation

External evaluation will be undertaken by a third party. The overall objective of the external evaluation process is to:

- Systematically assess the LRP implementation process;
- Evaluate the overall success of the LRP in achieving its stated objectives; and
- Determine whether the process successfully restored/ improved the living standards and livelihoods of the affected households.

The external evaluation will be informed by primary and secondary data collection and rely on internal monitoring outputs such as monitoring reports, minutes of meetings and progress reports as well as independent surveys and consultations conducted by the external monitoring and evaluation consultant directly. The external evaluation will consist of an interim audit and a completion audit. The external evaluations will be designed in detail by a competent resettlement/livelihoods restoration expert according to IFC Performance Standard 5 and international best practice. Timeframes for these audits will be established by TMGO, but the final evaluation should be set for a date by which the TMGO believes it will be reasonably likely that the LRP will have achieved its objectives of restoring (or ideally improving) livelihoods.

# 10 Implementation Arrangements

## 10.1 Roles and Responsibilities

TMGO is still defining roles and responsibilities for implementation of the LRP. In general, direction and oversight of the LRP should be at the charge of managerial level staff at TMGO. A Program Delivery Team should be established to be primarily responsible for complying with the LRP, forming local partnerships and organizing the support and training programs in detail, in addition to leading the monitoring efforts (gathering the required data in a timely manner and submitting reports in the agreed format). Ensuring adequate stakeholder engagement and grievance reporting structure and management for the LRP will fall under already established channels for the Project, where the local TMGO office and CLO play a key role.

## 10.2 Implementation Schedule

Initial planning for the LRP has been completed. Activities undertaken during the planning include the following:

- Engagement with Woreda and Kebele administrators and Project area community members;
- Asset inventories;
- Socio-economic/livelihoods baseline surveys;
- Agreements and compensation disbursements; and
- Completion and approval of this LRP.

The completion of the LRP marks the end of the planning phase and the beginning of the implementation phase. Livelihoods programs are expected to last at least 24 months and could be extended if necessary based on monitoring and the interim evaluation results. The following preliminary schedule is proposed and is subject to refinement as a more detailed implementation plan is developed.

**Figure 27: LRP Implementation Schedule**

Activity	2019		2020												2021												2022											
	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A				
<b>Project Level Management</b>																																						
Preparation																																						
LRP Disclosure																																						
Recruitment of LRP Program Delivery Team																																						
LRP-related Stakeholder Engagement																																						
LRP-related Grievance Administration																																						
<b>LRP Implementation</b>																																						
Engagement with PAPs on LRP options																																						
Engagement with local partners on LRP options																																						
Implementation of LRP options																																						
<b>Monitoring and Evaluation</b>																																						

## 10.3 Costs

Costs already incurred for the land acquisition are detailed in Table 21 below and cost estimates for the implementation of the LRP are shown Table 22. For the latter, it is important to note these are roughly estimated high-level costs provided as a starting point for planning purposes and subject to further refinement.

**Table 21: Land Acquisition Direct Costs**

Component	Cost (ETB)	
Land Compensation to PAPs	Grassland	2,603,848.98
	Farmland	9,098,181.43
Land Compensation to OFWE		719,361.43
Compensation to PAPs for fixed planted assets		522,520.41
Compensation to PAPs for structures	Houses	392,234
	Fences	197,035.14
Compensation Committee support costs		118,800
<b>Total</b>		

**Table 22: Livelihood Support Cost Estimate**

Activity	Cost Estimate (USD)
Support for crop farming and improved productivity	\$40,000
Support for livestock rearing	\$25,000
Small business training	\$40,000
<b>Sub-total livelihood support direct costs</b>	<b>\$105,000</b>
Program delivery team	\$45,000
<b>Total</b>	<b>\$150,000</b>