

Gender Analysis and Action Plan Africa Mini-grid Program

Ethiopia Project

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May 2021

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Acronyms and Abbreviations

AMP	Africa Mini-grid Program
DBE	Development Bank of Ethiopia
EDHS	Ethiopian Demographic Health Survey
ESMAP	Energy Sector Management Assistance Program
EEU	Ethiopian Electric Utility
EWiEN	Ethiopian Women in Energy Network
EEP	Ethiopia Electric Power
GEF	Global Environment Facility
GHG	Greenhouse Gases
IDP	Internally Displaced People
KM	Knowledge Management
WB	World Bank
IFC	International Finance Corporation
MFIs	Mirco Finance Institutions
MOWIE	Ministry of Water Irrigation and Energy
NEP	National Electrification Program
PFD	Program Framework Document
SEP	Stakeholder Engagement Plan
SES	Social Environmental Safeguards
SDG	Sustainable Development Goals
UNDP	United Nations Development Program
WASH	Water and Sanitation and Hygiene

1.Introduction

This gender analysis report aims to provide an overview of the gender related gaps and opportunities for the GEF/UNDP Africa Mini-grid project in Ethiopia which has an objective of increasing renewable energy access through mini-grid options to 55,947 beneficiaries of which 50% are expected to be women. The findings of the gender analysis intend to guide the meaningful contribution of the GEF/UNDP AMP project interventions not only improving access to clean energy leading to better environmental outcomes but also contribute to gender equality in the off-grid energy sector development in Ethiopia.

The gender analysis was framed based on GEF/UNDP guidance¹ on gender equality and women's empowerment and which references GEF-7 programming directions and focuses on identifying gender related gaps and opportunities in three areas: access to and control over resources, patterns of decision making and participation in environmental governance, and access to socio-economic benefits and services.

Under the above-mentioned general guidance, this gender analysis report identified and organized gender issues linked to following project component so that addressing gender issues along with the AMP project components:

Component 1: Policy and regulation

Component 2: Project and business model innovation with private sector engagement

Component 3: Innovative financing

Component 4: Knowledge management and M&E

Gender analysis is an analytical and systematic process that enables to identify, understand and describe gender-based differences and the relevance of these differences to specific activity. The findings inform strategic entry points in the project to ensure equal opportunities for women and men to participate in, contribute to and benefit from GEF-financed activities. Furthermore, it intends to highlight the baseline on which the project builds and determine the scope and type of gender-transformative activities that are included along the project implementation cycle.

The methodology applied to conduct this gender analysis includes:

1. Review of previous studies conducted by UN Agencies, various Governments, and non-government institutions
2. Review of policy and legal documents related to gender equality and energy development sector
3. Primary data collected through 5 key informant interviews with MOWIE and EEU gender experts, EWiN and GIZ
4. Four rounds of stakeholder consultations (with GIZ, World Bank, EEU, MOWIE)

Findings of the gender analysis is organized in a way that high level socio-demographic status along with global gender indicators are described followed by results of review of policy and legal frameworks. Gender issues in the overall energy production, distribution and use is also described in detail leading to the presentation of specific findings under each project component areas making it easy to identify actionable items that can be integrated with the overall project strategy and outputs.

It is important to note that this gender analysis is by no means representative of the overall context of the gender dynamics, institutional readiness, status of implementation of policy and legal frameworks across the country which substantially differs across the regions.

¹ Guidance to Advance Gender Equality in GEF Projects and Program 2017

2.Socio-Demographicand economic Dynamics from gender dimension

Ethiopia is a landlocked country in the horn of Africa covering 426,400m² with an estimated population of 114 million in 2020² making the country the second most populous next to Nigeria in the African continent. The country is divided in to 10 regions and 2 city administrations. The average population density is 112persons/km² where a large majority about 80% resides in the rural areas with huge influx of rural-urban migration. The average household size is 5 and 5.3 individuals in urban and rural areas respectively, with marked regional variations.

Females account for 50.8 percent and males 49.2 percent of the total population. Youth under the age of 30 currently represent 70% of the population. Average age at first marriage is 17.1 for girls and 21 for boys, with a significant difference between rural and urban areas³. The average fertility rate for women of reproductive age is 5. An estimated 6.5 percent of marriages in Ethiopia are polygamous ⁴ and 23% of households are headed by women.

The average life expectancy at birth for males was 64 years and for females 67 years old in 2016⁵. The country is also highly diverse, with more than 83 ethnic groups characterized by the practice of traditional and religious life styles which mostly give lower status and privilege to women and girls as compared to men and boys in many aspects of life such as decision making and access to opportunities such as education where self-reported literacy (for reading and writing in any language) is 59% for males and 43% for females⁶.

Agriculture is the main economic activity for the working age population in Ethiopia is engaged in and accounts 73 percent of total employment and about 37 percent of GDP⁷. The activity is characterized by rain fed small holder farmer, less use of technology and overall limited productivity. There is also a huge gender divide in land holding, access to agricultural inputs and control over produces where women despite their contribution remain disadvantaged and invisible in the economy. Over 70% of agricultural labor in Ethiopia is contributed by women.

Ethiopia is ranked 43rd out of 145 countries in the Women's Economic Opportunity Index (WEOI) which contains three concepts: the participation gap, the remuneration gap and the advancement gap. Regarding the labor force participation, data shows for females 79.9 percent and for males 90.3 percent and a female to male ratio of 0.88 with a 0.885 score; ranked 95th in wage equality for similar work with a female to male ratio of 0.59 and a 0.588 score. It was ranked 74th⁸.

By the measure of international parameters, Ethiopia is one of the fastest growing economies in the sub Saharan Africa the country ranked 173rd from 189 countries in the Human Development Index (HDI) of 0.463 (0.424 for female, 0.501 for male)⁹. The global gender gap report which measures gender based gaps in four dimensions (Health and survival, economic participation, education attainment and political empowerment) indicated that the country ranked 82nd out of 153 countries in the overall score and able to close 70.5% of the gender gaps since 2006 to 2020¹⁰.

Even though Ethiopia is progressing well in reducing poverty and gender inequality a lot of development gaps needs to be filled in the country. One key area is access to energy which is the one of the key development ingredients for transformation of economies and betterment of human life.

²Central Stastics Authority 2019

³ Ethiopia Demographic Health Survey 2016

⁴ Organization for Economic Co-operation and Development [OECD], 2012

⁵ World Health Organization (WHO) 2016

⁶ Ethiopia Socioeconomic Survey. CSA and World Bank 2015-16

⁷ ibid

⁸The World Bank in Ethiopia <https://www.worldbank.org/en/country/ethiopia/overview> 2018/19

⁹ibid

¹⁰ World Economic Forum. Global Gender Gap Report 2020

3.National Policy, legislation, and institutional context: Gender and Energy

Globally, the commitment to gender equality in the energy sector has been reflected in both SDG 5 and 7. A review of the 2017 report by the International Union for Conservation of Nature(IUCN) reported that only a third of the 192 national energy frameworks reviewed included any references to women and/or gender¹¹. A follow-on review noted that nearly three-fourths of the 45 documents from 29 Sub-Saharan African countries reviewed considered gender to some extent within their principles, objectives, strategies or activities. A review by UN Women and UNDP-UNEP PEI shows a positive trend, where energy policies acknowledged the need for enhancing women's participation in policymaking and decision-making in the sector.¹²

Ethiopia's full commitment for gender equality and empowerment of women in all sphere of life has been demonstrated by ratifying several international, regional, sub-regional legal instruments on human rights and gender. The major ones related to gender and energy sector are the following:

- **Convention on the elimination of all forms of discrimination against women (CEDAW):** Ethiopia ratified this convention in 1982 and provisions have clear implication over Government's mandate to ensure the full and equal participation of women in all policy formulation and decision making.
- **Beijing declaration Platform for action1995:** Ethiopia was among 189 countries unanimously adopted the landmark declaration to advance women's rights. Out of the 12 critical areas of concern member states attention required women and the environment is included highlighting the plight of millions of women collecting firewood to meet energy demands from the diminishing environment and a call for access to clean energy.
- **Sustainable Development Goals 2015- 2030:** Ethiopia is exerting maximum effort to guide its development path aligned with SDGs particularly Goal 5 – Gender equality and Goal7- Clean, affordable and sustainable energy. The country is among few who voluntarily report on progress on SDGs.
- **The African Renaissance agenda 2063:** It is master plan for transforming Africa to global powerhouse. Ethiopia being the long-standing member of the African Union shares the aspirations and goals in relation to full gender equality in all spheres of life and environmentally sustainable and climate resilient economies.
- **Article 35 of the Ethiopian Constitution (1995)** reiterates principles of equality of access to economic opportunities, including the right to equality in employment and land ownership among men and women.
- **The Revised Family Law (2000):** This grants spouses equal rights in the management of the family and recognizes the equal rights of a married woman to possession and administration of personal property. It allows for joint user right and administration of land and property in marriage.
- **Revised Criminal Code (2005):** It has served as a landmark for gender equality and criminalizes domestic violence, rape, harmful traditional practices (HTPs) such as Female Genital cutting, abduction and early marriage.
- **Labour Proclamation No. 42/1993:** This has explicit provisions that protect women against discrimination in employment and payment, as well as protect pregnant women. A recently introduced **Proclamation No 10/64** requires the establishment of day care centers in all forms of institutions.
- **Environment Policy of Ethiopia (1997):** The policy recognizes the need for empowering women to enable their full participation in population and environmental decision-making, resource ownership and management; and facilitate the participation of women across all sections of society in training, public awareness campaigns, formal and informal education and decision making in environment and resource management.

¹¹ International Union for Conservation of Nature (IUCN)2017 and 2018

¹² Gender and Electricity Policy Making in India, Nepal and Kenya 2017

- **Energy Policy of Ethiopia 1994** –The major objective of the policy is to support development of energy sources for economic growth and replace the major share of traditional biomass as source of energy to modern energy sources. It stipulates the necessity of providing support and incentives for the participation of private sector and community particularly women in the development of energy.
- **Growth and Transformation Plan II (2015-20)**: There is a specific pillar on Women and Youth Empowerment to ensure their effective participation in the development and democratization of process enable them to equitably benefit from the outcomes of development.
- **The Ethiopian Women, Development and Change Strategy, developed in 2017/18**, aims to increase women's economic empowerment by addressing high rates of unemployment and informality and ensuring urban job creation and food security for women.
- **Ethiopia's Climate Resilient Green Economy Strategy 2011**: The strategy envisions Ethiopia achieve the middle-income status by 2025 in a climate resilient green economy. Among the four priority initiatives for immediate investment two most lined with this project were power infrastructure financing mainly electricity and rural energy efficient stoves targeting rural households with massive benefits to impact income, health, education and the empowerment of women while decreasing significant amount of emission.
- **National Electrification Program 2019 (NEP 2.0)**– focuses on expanding integrated grid and off-grid access to 35% of the population and provides an implementation framework for the achievement universal access by 2025. There is explicit acknowledgement of gender gaps in the institutional leadership, addressing GBV and establishing day care facilities for female employees returning from material leave. A technical steering committee established to deal with gender equality issues.

Institutional Set-ups

The Government of Ethiopia has gone beyond ratifying conventions and enacting policies and legal frameworks to the extent of setting-up institutional structures and trained professionals to realize gender equality in all sectors. Accordingly, Ministry of Water, Irrigation and Energy (MOWIE) has set-up Women, Children and Youth Affairs Directorate in 2014 to promote gender equality, institutionalize gender mainstreaming and advocate for the rights of women employee as one of the directorates whose director is also member of the senior management. Similar institutional set-ups created in EEU and EEP. In the EEU, the directorate consists of a director, an office manager, and three full-time gender experts and sits in the CEO's office, indicating its perceived importance within the EEU.¹³

Despite the existence of institutional mechanisms, key informants stated there are many gaps in terms of the internal coordination with other directorates to influence policies, planning, programing, monitoring and evaluation. Capacities are also limited within the directorate on how to systematically push the gender equality agenda across the Ministry thematic focus areas. The participation of women in the policy making particularly in energy sector is not as such visible. According to the key informant from the WCYA directorate there are few moments their directorate engaged in the policy development process partly due to policy makers perception about the directorate capacity to articulate issues and shape policy agendas. In terms of staff composition few women are found at professional level and more number of female staff found in the general support/ non-professional category which includes cleaners, office assistants and secretary role.

4. Patterns of Gender division of Labor

¹³ ibid

As 85 per cent the Ethiopian population live in rural areas where agriculture is the main livelihood the patterns of gender division of labor in the rural agricultural contexts exhibits similarities across the country. Almost all reproductive roles such as cooking, fetching water, firewood collection and childcare are designated roles to women. While the role of men concentrates around managing farming fields which includes ploughing, sawing, harvesting, and selling surplus produces. Women have additional roles in the agricultural fields such as weeding, post-harvest collection, barn cleaning, milk processing and backyard gardening. As compared to men, women are overburdened with both household and farm level activities spending an average of 13-14 hours in performing various activities while men spend 6-8 hours on manually laborious activities, they have better rest and leisure time¹⁴.

In pastoralist areas where 18% of the population live, women play immense role in sustaining family life by cooking, fetching water, collecting firewood taking care of children and small animals. They are responsible for building temporary house, trade milk and goats. Men usually are responsible for livestock, identifying and protecting water points and during dry season they usually travel far distances in search of pasture and water for their animals.

In urban context, women play various roles those few women in formal sector shoulder triple burden of working in their formal job, household chores and they are leaders in community groups and networks. Women in urban areas are also actively engaged in the small business including street vending. More men on the other hand are active in the formal and informal jobs earning better income. They spend little hours in cooking and childcare, but such trend is changing among younger age group because of the adoption of urban lifestyle.

5. Access to and control over resources and basic services

In Ethiopia, the access to basic social services such as education, health and communication services demonstrate disparities in various dimensions amongst is gender. Education wise, in 2016 nearly half of women 48 percent and 28 percent of men age 15- 49 have no education.¹⁵ Though the country achieved equality in gross enrollment rate at primary levels gaps persist in enrollment and completion of secondary school and above. The gender parity index (GPI) at primary level is 0.91 and for secondary level 0.87 in 2019.¹⁶ Data also showed the country is increasing net primary enrolment rates from 51 per cent in 2003/04 to 95 per cent in 2016/17. However, only 53 per cent complete primary school, 25 per cent of secondary school-aged girls are attending secondary school, and an estimated 10 per cent go on to enroll in college¹⁷. Various factors contribute to such parity particularly in rural areas, prevalent social norms that give less value to girls education contributing to child marriage, girls are also expected to support household chores after school limiting their time for study, limited availability of WASH facilities in schools and the experience of gender based violence all contribute to high rates of girls dropout.

Access to essential health care services has shown steady progress in the past decades due to increased investments on number of health workforce, infrastructure, and finance. As a result, the country has achieved commendable result in reduction maternal and child deaths, controlling communicable diseases and raising life expectancy. However still the maternal mortality rate is considered very high 412 deaths per 100,000 live births and the mortality of under 5 children was estimated to be 51/1000.¹⁸ Furthermore 64 percent of the population have access to improved water sources while only 6.3 percent of the population have access to improved sanitation¹⁹. Women and girls suffer more in all instances particularly in relation to access to WASH and maternal health related services.

Ethiopia is one of the countries in East Africa with least access to communication services which are exclusively delivered by the Government with no engagement of private sector. Only 19 percent of the population have access to internet and mobile cellular subscription was at 37percent.²⁰ Gender gap is also identified to be huge: there is a

¹⁴Oxfam Ethiopia Rapid Care Work Analysis in three Woredas, Oromia Region Ethiopia 2017

¹⁵ Central Statistical Authority Ethiopian Demographic and Health Survey 2016

¹⁶ Federal Democratic Republic of Ethiopia, Ministry of Education Statistics Annual Abstract, 2020

¹⁷ UNICEF Fact Sheet on Girls Education in Ethiopia 2018

¹⁸ibid

¹⁹ UNICEF Water, Sanitation and Hygiene in Ethiopia 2018

²⁰International Communication Union (ITU)/World Telecommunication/ICT indicators database 2017

20-percentage difference in mobile ownership between men and women.²¹ Only 28 percent of households had a radio, and 14 percent had a television. Having access to the internet, mobile phone and media brings a wider range of benefits while among those few who are able to access men and boys enjoy the benefits more in terms of having information of all types, utilization of financial services and staying connected with social networks.

Access to land and key economic resources and opportunities

In Ethiopia land is owned by the Government and people have user rights for an indefinite period and it's impossible to transfer the land holding to others in sale or exchange. User rights are transferred mainly through inheritance and transfer land user rights. Historically, women are excluded from both types of rights as inheritance is traced paternally, they only have access to the produces from the land and in case of divorce they totally lose such rights.

In the past two decades, transformative actions have been taken by the Government to modernize land registration and demarcation systems which brought significant changes for rural women guaranteeing their access and control over land rights through the issuance of certificates along with their husbands securing compulsory tenure right. Furthermore, the Federal Rural Land Administration and Land Use proclamation No 456/2005 demand community participation in land use and administration at the local level through setting up of a land administration committee in each of the Kebeles²² including at least two female members out of the five total members. This Kebele level committee is responsible for supporting the facilitation of land demarcation, land administration and solving land related disputes at the Kebele level. Through such efforts women's equal access to and control over land has shown great improvements however a lot of complexities exist at implementation level in the different regions including pastoralist contexts and the full realization of tenure security for all women in Ethiopia is yet to be achieved.

Beyond land ownership issues, studies show that in rural agricultural contexts, women have limited access to agricultural inputs such as extension services, farm inputs, market information and financial services. Interventions target men with better literacy level, businessmen and head of the household which is derived by a perception that "men are farmers and heads of the household" while women contribute 75% of the agricultural labor²³. Furthermore, women's independent membership in the agricultural cooperatives and unions was found to be minimal, including in leadership positions, due to inability to pay premiums, perceived benefits from husband's membership, and limited knowledge about the benefits of being member. Female headed households are the most disadvantaged in access to such opportunities and the most food insecure in Ethiopia compared to male headed households.²⁴

The most common types of crops grown in Ethiopia are cereals, pulses, oil seeds and coffee. Evidences show that along the value chains of each of these crops men and women play variety of roles and enjoy benefits in unequal manner. Studies show that women are not considered as key value chain actors as a result excluded from accessing technologies, skills, inputs, decision making on price and market information in both horizontal and vertical value chains. Despite their contributions in the production of each crops the control over the income is minimal and concentrates around crops that fetch less market value²⁵.

In pastoralist contexts, land is communally owned, and clan leaders oversee decision making process through consultations, and land is managed by customary laws. Pastoralist women have limited voice and access to such decision-making process, but they access communal land and other natural resources. Furthermore, livestock is the major economic resources and men manage and control high value livestock such as cattle and camel. They also

²¹ The Mobile Gender Gap Report 2021

²² "Kebele" is the smallest administrative unit in Ethiopia

²³ Empowering Women through agricultural development in Ethiopia 2017

²⁴ Negesse, A., Jara, D., Habtamu Temesgen et al. The impact of being of the female gender for household head on the prevalence of food insecurity in Ethiopia: a systematic-review and meta-analysis. *Public Health Rev* 41, 15 (2020). <https://doi.org/10.1186/s40985-020-00131-8>

²⁵ Aregu L., Puskur R. and Sambrook B. The role of gender in crop value chain in Ethiopia accessed here <https://core.ac.uk/download/pdf/132637186.pdf>

have control over the income generated from selling these animals while women have more control over small animals such as goats and milk products such as ghee.

In general, millions of women and girls in agricultural, pastoralist and urban context of Ethiopia have limited access and control over land and other economic resources which calls for interventions such as AMP to be gender responsive intentionally targeting and benefiting this disadvantaged segment of the population.

Access to Clean Energy

In Ethiopia, 89 % of energy demand is met by traditional energy source mainly biomass in the form of fuel wood, charcoal, branches, dung cakes and agricultural residues. The rest 11% is from electricity and petroleum²⁶. Most of the energy produced and consumed at household level is for cooking purposes. With this massive biomass dependency for household energy needs, the country is losing 8% of its forests annually. and land degradation is very common partly driven by satisfying energy needs.

Due to culturally ascribed gender roles, women and girls contribute the largest share to energy production from biomass in Ethiopia. They collect fuel wood from nearby or far forests; collect cow dung and prepare dung cakes and contribute big share in handling and storing agriculture residues. Time use survey shows 22% and 36% of urban and rural households spend more than 2 hours per trip to collect firewood respectively.²⁷ Beyond this most rural women use the energy produced for cooking in open fire, three stone methods which is the most energy inefficient and risky for their health. The preparation of typical Ethiopian food which is called Injera²⁸ requires teff flour and baked on a special clay pan and eaten with various types of stews. All steps are made in an open fire method. As a result, the time lost to collect firewood, travels made looking for grain mills and cooking is so significant and impacted the lives of millions of women in girls immensely.

Empirical evidences show that women are disproportionately affected by energy deficiency drudgery associated with collecting firewood and fetching water, the burden of carrying out household chores without adequate light or using traditional lamps, discomfort in studying for students, and safety concerns related to mobility in the absence of community lighting (van de Walle et al. 2015; Rewald 2017).²⁹

It is undeniable that in the 21st century access to electricity is a basic ingredient to any form of social and economic development. However, in Ethiopia with the population size of 105 million, 55.7 percent of the households have no access to electricity¹. The grid connected population accounts 33.1 percent and off-grid connected represents 23 percent. The lack of access to electricity is more pronounced in rural areas where 80% of the population resides and the main source of energy is biomass, characterized by high inefficiency and emission of carbon to the atmosphere. Moreover, only 3.5 percent of women in Ethiopia have access to clean fuel and technologies for cooking, while access to clean water stands at less than 25 percent. Above and beyond, women and girls heavily carry the burden of meeting much of the energy demand in rural areas by collecting firewood for cooking purposes.

In energy sector, especially mini-grids, gender gaps exist in access to awareness about economic potential of mini-grids, opportunities of learning skills and developing capacities to establish mini-grids, access to finance and entrepreneurship for investing in mini-grids and socio-culturally innate perspective that electricity, like transport and infrastructure, is a sector more suitable for men than women. However, gender gaps in accessing finance and entrepreneurship are the most challenging as demonstrated by research³⁰. To fill such gaps attempts have been made by WB and Development Bank of Ethiopia's (DBE) Market Development for Renewable Energy and Energy

²⁶Review of Policies and Strategies Related to the Clean Cooking Stoves in Ethiopia 2018. MFCCC, SNV, Kingdom of Netherland

²⁷ Time use Survey 2014 Central Statistical Agency Ethiopia

²⁸ Injera is a sour fermented flatbread with a slightly spongy texture, traditionally made out of teff flour in Ethiopian and Eritrean cuisine, and some Somali cuisine

²⁹Govidan M., Palit D., Murali L. Gender and Electricity Policy making in India, Nepal and Kenya 2019.

³⁰ ibid

Efficient Product Credit Line organized a workshop in February 2017 with all Micro Finance Institutions (MFIs) engaged under its credit line to map barriers and opportunities to address the gender gap. Since, then various similar initiatives have been taken by the government and partners, and resultantly female entrepreneurs are coming forward to invest in mini-grid sector.

Also, as part of the technical assistance for MFIs under the DBE credit line, a specific module focused on reaching more women with financing solutions has been delivered in January 2019 to all MFIs actively engaged in consumer finance aspects of off-grid. The training focused on the business cases for reaching women, case studies globally on what works and designing new approaches that focus on women as target market segment. Results of all these efforts have yet to be ripped but observations reveal that the right interventions are in place.

It is true that access to electricity in rural small holder farmers context improve productivity and opens new business opportunities. In this regard, a recent study by Rocky Mountain Institute identified six agricultural production and processing opportunities for rural areas in Ethiopia which include horticulture irrigation, grain milling, injera baking, milk cooling, bread baking, and coffee washing that demonstrate great potential to capture productive use dividend³¹. A closer scrutiny of the position of women and men along these identified opportunities reveal that huge potential is ahead to transform the lives of women in rural areas as each of these types of business are run by women. But thorough analysis is needed to ensure women access the benefits and equally enjoy the commercialization of their traditional gender roles.

Overall, both the government and energy partners are trying to bring gender dimensions in mini-grid sector; but a lot remains to be done to ensure sizable and balanced participation and equal share of benefit of women Vis-à-vis men from the mini-grid space in Ethiopia.

6. Existing Energy Access Programs and gender focus

- **Energy Sector Assistance Program World Bank**- The unique initiative incorporated an ESMA supported gender analysis, high-level policy advice, and the mobilization of significant financial resources to transform gender equality across the entire US\$1.8 billion World Bank energy portfolio in Ethiopia. These gaps centered on employment and leadership in technical fields, access to finance in the adoption of clean technologies, and exposure to gender-based violence in the workplace.

- **Accelerated Distributed Electricity and lighting in Ethiopia (ADELE)** World Bank- recently launched \$500 Million investment on the off-grid sector in Ethiopia. The project commits to track data disaggregated by sex, has also focused areas of intervention on gender and citizen engagement to ensure women get access to quality, reliable and affordable off-grid household energy and public lighting to reduce energy poverty and give women and men additional income-earning opportunities.

-**Energizing Development in Ethiopia (GIZ)**- supports a sustainable supply of energy services to lower-income households, social facilities and small to medium sized enterprises with a focus on rural areas. The intervention targeted three different types of technologies: energy efficient cookstoves; photovoltaic systems; and the development of independent power supply systems (mini-grids) for remote communities. It is now in its third phase and has scored successful results and about 800 small-scale energy-efficient cookstove producers established their businesses in 330 districts in seven regions. They have sold more than 1,194,000 improved cookstoves since 2006, mostly for baking and cooking. About 1,388,456 people benefit from energy-efficient cookstoves sold under the programme. These stoves have saved almost 400,000 tons of CO₂ and more than 370,000 tons of fuelwood per year.

³¹Borgstein, E., Wade, K., and Mekonnen, D. Capturing the Productive Use Dividend: Valuing the Synergies Between Rural Electrification and Smallholder Agriculture in Ethiopia, Rocky Mountain Institute, 2020. <http://www.rmi.org/insight/ethiopia-productive-use/>

7. Summary of Gender Analysis findings aligned with AMP Project Components and Recommended Actions

Project components	Gender analysis findings
<p>Component 1 Policy and regulations Appropriate policies and regulations are in place that address policy, institutional, regulatory and technical barriers to facilitate investment in low-carbon mini-grids</p>	<ul style="list-style-type: none"> - As part of the national effort to mainstream gender equality issues in programs, policies and institutions the Ethiopian government has set-up institutional mechanisms in all sectors. At MOWIE level, Women, Children, Youth Affairs Directorate (WCYA) established in 2014. The EEU has also WCYA Directorate with 4 dedicated staff and a strategy to promote gender equality, addressing GBV and advocate for the rights of women employees. - In 2018, Ethiopian Electric Utility (EEU) adopted gender and citizen engagement strategy with a focus on increasing leadership capacities of female staff, establishing day care center (supported by WB and IFC) , Addressing GBV- sexual harassment policy development - There are efforts to engage women and youth in many different grid-focused public forums and engaging the WCYA directorate in the policy making process but the advocacy was not systematic most gender related issue in the policy making are overlooked and sometimes donor driven. - A review of NEP 2.0 reveals that the program/policy is gender aware in a sense that there is explicit acknowledgment of the implication of gender gaps in electricity a growing acceptance of gender in electricity policy making but in terms of practical action a lot remains to be done. Key informants mentioned lots of missed opportunities to integrate gender issues beyond the mere numbers. - There is no policy or operational guideline on how to integrate gender in energy sector particularly in the emerging off-grid - As mini-grid sector is an emerging segment with a huge potential to impact gender dynamics in the country, strategic engagement of WCYA in the discourse and policy making is missing link. - NEP 2.0 provides for priority connection (grid or off-grid) to locations with high economic growth potential agriculture sector—and targeted assistance for safety net beneficiaries, while ensuring gender equality in access to electricity services. As a policy this has a critical gender implication in due course complementing the potential to lift millions particularly women out of poverty. - NEP2.0 also focused on equity and inclusion targeting disadvantaged groups and the poor nationwide; and due consideration to ensuring customer affordability, especially for the poor and environmental and social sustainability. However, there is no operational plan or guide or tools or minimum standards set on how equity focused approaches can be implemented. This is also confirmed by a key informant who is engaged in community mobilization for mini-grid development.

	<ul style="list-style-type: none"> - NEP2.0 also promotes the development of off-grid sector through the collaboration of public and private sector - All activities will also be closely coordinated with the Safety Net and other Government programs and related Ministries (e.g., Ministry of Agriculture), enabling local processing of agricultural products and leading to increased local value generation and job creation. - Stakeholders pushing the gender equality agenda in the electrification are – World Bank ESMAP, GIZ EnDev, EWiEn <p>Possible Actions AMP can support –</p> <ol style="list-style-type: none"> 1. Development of operational guide/minimum standards on how to integrate gender in mini-grid development 2. Facilitate capacity enhancement to WCYA directorate for intentional and meaningful engagement in the policy making space such as Rural electrification
<p>Component 2 Business Model Innovation with Private Sector Engagement Outcome Innovative business models based on cost reduction operationalized to support and strengthen private participation in low- carbonminigrid development</p>	<ul style="list-style-type: none"> - NEP2.0 indicate the expansion of mini-grids through different business models highly likely to create new jobs, training and business opportunities for women and youth particularly for the most vulnerable under productive safety net program (PSNP) – This is still under exploration as to how and details will be included after the discussion with (GIZ) - The Anchor Business Customer model is acceptable business model by Ethiopia Government/EEA for mini-grid development even though not tested yet. From gender perspective the choice of the ABC business model needs to be accompanied by exploration of how much job opportunities will be created to women and youth considering their vulnerability. - NEP2.0 indicates irrigation-based horticulture areas are found to be commercially viable areas for mini-grid development – From gender equality point of view, most women in rural context practice irrigated homestead horticulture for household consumption and for limited commercial purposes. With the potential mini-grids provide there is a tendency to increase commercial values of produces creating additional income to women but as key informants pointed out at the same time there is a risk to shift control over some types of produces by men when they become commercially worth which needs a careful scrutiny in the upcoming pilot business models. - At grass root level, there are voluntary women saving and internal lending groups called Self-Help Groups (SHG) with a huge potential to be connected with the productive use aspects of mini-grid. These groups run joint business such as cafes, hair salon, tailor etc and individual women can also borrow to start-up business and the availability of electricity stimulate or modernize such opportunities. But this is only possible if the mini-grid development in the locality purposefully engage these groups Vs conventional members of microfinance - Private sector engagement status in the energy sector is at infant stage but according to NEP2.0 there are few women off-grid entrepreneurs who are able to access set-aside credit from Development Bank of Ethiopia (DBE) able to import solar home systems.

	<ul style="list-style-type: none"> - The European Union is financing five hydro mini-grids implemented by GIZ, testing a model for renewable energy–distributed generation that is currently based on cooperatives, but is aimed at scaling up the market for private or public agencies, as well as a combination of both. But all cancelled and changed to Solar mini-grids and there has been reports of some failed attempt made in the community engagement phase (needs further information and verification with GIZ) - Data on willingness to pay (MTF study) for a grid connection and a Tier 2 off-grid solar device indicates that female-headed households are less willing to pay for both energy solutions, in comparison to male-headed households. 15.5 percent of female-headed households said that they would never accept the offer of being connected to a grid and 30.5 percent were against purchasing a Tier 2 off-grid solar product at any given term. 2.6 percent and 18.6 percent of male-headed households, in comparison, said that they would buy. - According to key informant (A) the existing business model for mini-grid in Ethiopia does not take in to account the realities of vulnerable groups such as women and youth it's based on willingness to pay logic and women's voice and contexts are not as such considered. - By 2017, Ethiopia has 39 million mobile subscription, access to TV , radio increasing and with highest rates of maternal mortality 420/100,000, 46% of contraceptive prevalence – All linked to electrification - There are gender gaps in employment and leadership in technical fields, access to finance in the adoption of clean technologies and exposure to gender-based violence in the absence of street lighting <p>Possible action AMP can consider:</p> <ul style="list-style-type: none"> - Develop a guide on how to engage vulnerable community groups in mini-grid development cycles and operation through the ABC model – (can be part of the pilot business model to be supported by this project) - Beyond MFIs – exploring possibilities of engaging SHG as a new model to draw lessons linking these groups to productive use of energy (further exploration needed) - Conduct gender analysis and action planning for which ever mini grid business model to be adopted to benefit women in the energy value chain
<p>Innovative financing</p> <p>An innovative financing mechanism and accompanying financial instruments in place to incentivize investments in the development of low-carbon mini-grids</p>	<ul style="list-style-type: none"> - In Ethiopia, the available financing for private sector off-grid development is through World Bank and Development bank of Ethiopia. Twenty-six private sector companies are importing and selling solar products and 14 micro finance institutions are currently providing energy-financing options to households using funds. So far 170,000 rural households benefited, 60 percent of which are female headed. - Gender gaps in access to finance and entrepreneurship are being tackled in the DBE Market Development for Renewable Energy and Energy Efficient Product Credit Line (US\$45 million). There was no female applicant or beneficiary from this credit line.

	<ul style="list-style-type: none"> - In order to fill this gap, DBE, WB, IFC organized half day information session to women's business associations and female entrepreneurs. In the months after the session, four female entrepreneurs have come forward to apply for a total of US\$1.5 million of funding to import off-grid technologies, from a baseline of only nine male-headed entrepreneurs accessing finance. Now there are 9 female exporters. - The second available finance is through MFIs and in 2016, 28.6 percent of loans were accessed by female applicants through MFIs which increased to 35 percent by June 2017, indicating that the gap is closing. During 2017, in-depth consultations took place with MFIs to understand their challenges in reaching female consumers. This year, women's business associations and female entrepreneurs have been engaged on the opportunities available in the off-grid sector together with the IFC and the Ethiopia Climate Innovation Center (ECIC). - The microfinance landscape in Ethiopia is rural centered, serving about 47% of the population and about 30% of finance is accessed by women. However, lending for off-grid technology represents only 1%. MFIs can also play a key role in ensuring adequate information provision to end-users and are expected to become a key ally in off-grid service provision, with positive effects on financial inclusion as well. - As part of the technical assistance for MFIs under the DBE credit line, a specific module focused on reaching more women with financing solutions has been delivered in January 2019 to all MFIs actively engaged in consumer finance aspects in off-grid. The training focused on the business case for reaching women, case studies globally on what works, and designing new approaches that focus on women as target market segment. <p>Possible actions AMP can support</p> <ul style="list-style-type: none"> - By drawing lessons from the endeavors from WB and DBE we can recommend replication of the approach to mini-grid financing
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8. Gender Action plan

Key considerations taken in to account in proposing the following activities include – Legal and policy environment, existing institutional structures, alignment with project's components, recommendations from stakeholders consultations and linkages with SDG, UNDP/GEF Gender equality and women empowerment standards (Ensuring projects do not exacerbate gender inequality and be responsive of women and men development needs and priorities).

It should be also noted that gender dynamics and institutional readiness vary in different contexts and responsive mechanisms should be context specific while capitalizing on existing opportunities and resource. For this reason, conducting specific gender analysis and participatory action planning using the mini-grid gender analysis framework is strongly recommended particularly in the productive use aspects. The action plan presents specific gender dimensions that needs to be linked with relevant project outputs.

Project Outputs	Proposed Activities	Indicator	Responsible body
Component 1 Policy and Regulations			
Output 1.2. Mini-grid DREI techno-economic analyses carried out to propose most cost-effective basket of policy and financial de-risking instruments.	1.Ensure the participation, perspectives and voice of women and other vulnerable groups are included the DREI techno- economic analysis, development of regulations and guidelines on waste management, policies around cooperative mini grids	# Women participated in policy level consultations	MOWIE, Women Children and Youth Affairs Directorate
Output 1.3. Development of regulations and guidelines on waste management for mini grid components.			
Output 1.4. Technical assistance, coordinated with GIZ'sEnDev program and the Federal Cooperative Agency, in development of policies and regulations on cooperative-owned mini grids.			
Output 1.5. Capacity support delivered to the FCA in coordination with EnDev.	2. Ensure capacity building opportunities are equally accessed by professional women	# Women professionals accessed capacity building opportunities	MOWIE, Women Children and Youth Affairs Directorate
	2.1 Consider gender mainstreaming in mini grid as a capacity building area	# of trainees received gender and mini grid orientation	MOWIE, Women Children and Youth Affairs Directorate
Output 1.6 Development of operational guide/minimum	3. Develop operational guide/minimum standards on how to integrate gender/social	Yes/No	MOWIE, Women Children and Youth Affairs Directorate

standards on how to integrate gender/Social inclusion perspectives in mini-grid development	inclusion perspectives in mini-grid development		
Component 2. Business Model innovation with private sector engagement			
Output 2.1. Investment support for two cooperative minigrids being developed under EnDev.	4. Integrate gender analysis and action planning in the cooperative mini-grid using the gender and mini grid analysis framework (The analysis can be included as part of the feasibility analysis)	# Mini-grid sites conducted gender analysis and action planning	MOWIE, Women Children and Youth Affairs Directorate
Output 2.2. Support for design and implementation of the KeyMaker model under cooperative mini grids in coordination with EnDev. ADELE,			
Output 2.3. Support for end-users and developers of public and PPP-supported mini grids with regard to productive use.			
Output 2.4. Training and higher education programs established for mini grid design, installation, operation, maintenance, and financial management.	5. Give priority to potential female students to join the apprenticeships, certificates, university programs(Engage with Ethiopian Women in Energy Network)	# of female students joined the AMP supported capacity building programs	MOWIE, Women Children and Youth Affairs Directorate ,EWiEN
Output 2.5. Study of how modular or pre-packaged mini grid systems as well as aggregated purchasing could reduce cost and technical burdens for local implementation.			
Component 3 Scaled-up financing			
Output 3.1. Creation of a facility to provide subsidized financing for productive use equipment.	7. Identify and support financing of equipment to be used by women-owned business (Self-help groups should be considered)	# Women accessed equipment through the subsidized facility	MOWIE, Women Children and Youth Affairs Directorate
Output 3.2. Technical training for commercial banks and microfinance institutions on mini grids and productive use.	8. Integrate gender lens in the technical training for commercial banks and MFIs on mini-grid productive use	# participants trained disaggregated by sex	MOWIE, Women Children and Youth Affairs Directorate

Output 3.3. Innovative linkages of investors to productive use and minigrid financing. AMP	8. Set-aside small funding to support new/emerging female owned business focusing on productive use	# Female owned small business established through AMP support	MOWIE, Women Children and Youth Affairs Directorate
Component 4 Knowledge Management (KM) and Monitoring and Evaluation (M&E)			
Output 4.1: Inception Workshop conducted and Inception Report submitted to UNDP.	7. Ensure data collection systems whenever possible enable the collection of sex and age disaggregated data	# Indicators disaggregated by sex and age	MOWIE, Women Children and Youth Affairs Directorate
Output 4.2: National project stakeholders participate in AMP Communities of Practice led by the regional project	8.Set gender as an agenda to be explored, discussed and new evidences to be shared as it relates with Community of Practice	# COP meetings where gender and energy issues discussed	MOWIE, Women Children and Youth Affairs Directorate
Output 4.3: Lessons learned are captured and shared with the regional project. AMP will compile and disseminate best practices, lessons learned, and impacts from its own work.	9.Develop success stories and technical briefs on gender and mini grid topics	# Success stories/ technical brief produced on topics of gender and mini grids	MOWIE, Women Children and Youth Affairs Directorate
Output 4.4: A Data Strategy is developed and implemented, including linkages to and following guidance from the regional project. Guided			
Output 4.5: Project Monitoring.	11. Ensure the use of sex disaggregated data used to inform actions	# of organizations/ women led movements or advocacy groups participated in the inception workshop	MOWIE, Women Children and Youth Affairs Directorate
Output 4.6: Project Evaluations.	12.Ensure evaluations include indicators and dimensions on how the project contributed to close gender gaps in the mini grid sector	Yes/No	MOWIE, Women Children and Youth Affairs Directorate