
Gender Assessment

**FP124: Strengthening Climate Resilience of
Subsistence Farmers and Agricultural Plantation
Communities residing in the vulnerable river basins,
watershed areas and downstream of the Knuckles
Mountain Range Catchment of Sri Lanka**

Sri Lanka | IUCN | B.25/02

18 February 2020





Gender Assessment and Action Plan

“Strengthening Climate Resilience for Subsistence Farmers and Agricultural Plantation Communities Residing in the Vulnerable River Basins, Watershed Areas and Downstream of the Knuckles Mountain Range Catchment of Sri Lanka”

1. Introduction

Climate change impact women and men differently. Women are more often hit the hardest by dramatic shifts in climatic conditions as in addition to working in the formal or informal sector women in rural Sri Lanka also have domestic responsibilities including child raising, household management, collection of firewood, water, etc. The burden of meeting those responsibilities increases substantially with various manifestations of climate change. Women are also more likely to be affected by poverty, in particular women headed households. The different cultural, domestic and economic roles that women and men play in their households and communities influences their knowledge and access to resources, both of which are key determinants of their adaptive capacities and the strategies they use to cope with changing climate and resource availability (Djouidi and Brockhaus 2011). Gender inequalities and norms that limit women's access to and control of resources, such as land, capital and technical services, can hinder their capacities to navigate the challenges of a changing climate (Brody et al. 2008; Rodenberg 2009), and can also result in the imbalanced division of labor, lower income, fewer livelihood opportunities and legal rights, less mobility and less political and professional representation (GCF, 2014; GCF, 2018). While both women and men are integral players in natural resource management, men often have greater opportunity than women to participate in decision-making on sustainable development of forest and tree resources.

There is ample evidence to demonstrate that climate policies and actions which fail to meaningfully address gender issues, pose risks undermining gender equality while jeopardizing efficiency and long-term sustainability of other targets. At the same time, potential synergies exist between addressing gender inequality and environmental objectives. This makes the integration of gender a priority for the project.

The importance of gender to the Fund has summarized the five objectives of the Green Climate Fund's Gender Policy:

1. Ensure that through a gender-sensitive approach, the Fund will achieve greater and more sustainable climate change results, outcomes and impacts, in an efficient manner;
2. Ensure that women and men will equally benefit from activities supported by the Fund;
3. Address assessed potential project/program risks to women and men associated with adaptation and mitigation activities financed by the Fund;
4. Contribute to reducing the gender gap of climate change-induced social, economic and environmental vulnerabilities; and
5. Build women and men's resilience to climate change.

Women, as well as men, can significantly contribute to combating climate change. Shifting the paradigm towards low-emission and climate-resilient development pathways, which is the Fund's mandate, requires a large number of individual and collective decisions by communities, institutions, and individual women and men. A gender-sensitive approach is, therefore, part of the paradigm shift sought through Fund investments (GCF, 2014; GCF, 2018).

The purpose of this document is twofold: to describe the findings of the gender analysis carried out during the development of the project and to present the gender action plan that has been developed based on the findings of the analysis.

The document sets off with a background chapter on IUCN's Gender Policy (chapter 2). The actual gender analysis is presented in chapter 3. It is divided in three sections and is based on literature review (listed in the references), observations made during field visits, consultations with communities and women and discussions with agriculture and natural resource professionals. The first sections gives an overview of the contextual situation in Sri Lanka by providing data on gender issues, gender-relevant political, economic and cultural rights and pattern, policies and institutions. The second section examines the main sectors relevant for the project with regards to the economic activities and role women play within each sector, and

points out relevant knowledge and skills as well as opportunities and needs. Section three provides baseline information about the project area related to gender.

Chapter 4 explains how the identified gender issues, challenges and opportunities have been addressed and taken up by the project design and chapter 5 contains the actual gender action plan that will guide project implementation in order to address gender gaps and risks women are facing, and empower women and contribute to more gender equality in the respective sectors.

2. IUCN Gender Policy

With a comprehensive rights-based framework¹ underpinning its conservation and sustainable development efforts, IUCN recognises that protecting and promoting women's rights and advancing gender equality, including through women's empowerment, are not only globally agreed imperatives in their own right, but fundamental to meeting its mission.³ It further understands that IUCN's conservation and sustainable development programming offers the provides significant potential to accelerate progress toward gender equality.

The promotion of gender equality and women empowerment are integral to the achievement of IUCN's mission and sustainable development, as well as fundamental to realizing human rights and social justice. IUCN has been a leader on gender and environment considerations for decades. Since 1984, women's issues and gender equality concerns have been given high priority through multiple decisions of IUCN Members' Assemblies and World Conservation Congresses² and, in 1998, IUCN formally approved its first Gender Equality and Equity policy. The Gender policy has been updated in 2018³ and affirms the objective of ensuring a gender-responsive approach to the implementation of IUCN's Programme and project portfolio, including in the design, planning, execution, monitoring and evaluation, and closure phases, as well as in related learning, communications and advocacy efforts.

To operationalise this policy, IUCN Secretariat and Commissions are required to apply the following principles:

- i) Proactively and publicly champion gender equality and women's and girls' rights and empowerment as fundamental to the realisation of human rights and as preconditions to achieving conservation and sustainable development goals.
- ii) Promote and demonstrate equitable and inclusive decision-making, at all levels, and throughout the project cycle, especially increasing the voice, participation, representation and leadership of women and girls, providing them with equal opportunity to participate in, contribute to and benefit from resources, services and governance, regardless of anyone's background, age, race, sexual orientation, gender identity, ethnicity or religion.
- iii) Actively embrace knowledge systems that are curated by women across different societies, highlighting the value of bringing diverse—including traditional—knowledge, practices, values and innovations of women and men for natural resource management.
- iv) Facilitate active and meaningful engagement of women and girls who live within the most marginalised populations and groups, for example through embracing social and environmental safeguards that require specific steps to ensure that impacts are understood, avoided or

¹ Resolutions include, *inter alia*, 4.056 Rights-based approaches to conservation (Barcelona, 2008) and IUCN Policy on Conservation and Human Rights for Sustainable Development (WCC-2012-Res-099-EN)

² e.g., Recalling Resolutions WCC-2012-Res 099, WCC-2012-Res-082, WCC-2004-Res-009, Resolution 18.18 Women and NRM (Perth, 1990)

³ Gender Equality and Women's Empowerment Policy: Mainstreaming gender-responsiveness within the IUCN programme of work. Available at

https://www.iucn.org/sites/dev/files/annex_9_to_c_95_8_iucn_gender_equality_and_womens_empowerment_policy.pdf

minimised to every extent possible and agreed with affected people—such as indigenous women and girls—in accordance with human rights standards.

- v) Promote and ensure equitable access to, use of, control over and benefits from resources, technology, knowledge and services for women and men, in all their diversity.
- vi) Foster a socially inclusive, empowering and enabling understanding of gender equality, including but not limited to promoting women's powerful agency for change, as well as engaging men and boys as champions and partners so that all individuals understand, value and realise gender equality as a benefit for all.

IUCN has put in place an Environmental and Social Management System (ESMS) which provides a systematic procedure to check IUCN projects for potential adverse environmental and social impacts to assure that negative impacts are avoided or minimised to the extent possible while positive impacts are stimulated. At the core of the Environmental and Social Management System (ESMS) Policy Framework are four ESMS standards and eight ESMS principles⁴, and among the latter the Principle on Gender Equality and Women Empowerment. The procedures for screening projects on social risks makes explicit reference to a number of potential gender risks, including the

- risks of creating, exacerbating or aggravating existing gender-related inequalities,
- risk of inadvertently discriminating against women or other groups based on gender, with regards to participation in the design and implementation of project activities or access to opportunities and benefits,
- risk of limiting women's ability to use, develop and protect natural resources, and the
- risk of gender-based violence.

The procedures for identifying and managing environmental and social risks of sub-projects are presented in the Environmental and Social Management Framework (ESMF – see Annex 5) as the specific sites for field interventions for achieving improved land and water management, enhanced primary production and upgraded value chains will only be decided during the project. Only once the sites are identified can the interventions (in the following referred to as sub-projects) be developed in detail together with the relevant local-level stakeholders identified for each of the site/ activity. It is the purpose of the ESMF is to serve as guidance for ensuring that the sub-projects – once defined - will be appropriately assessed on potential environmental and social impacts and, where risks have been identified, that impacts are avoided by design changes or measures have been put in place, in consultations with affected groups, for reducing or mitigating impacts.

3. Gender Analysis

a. Gender-Relevant Contextual Situation and Existing Gender Inequality in Sri Lanka

According to the Gender Inequality Index (GII), compared to other South Asian countries, Sri Lanka possesses a greater degree of gender equality. Sri Lanka's Human Development Index (HDI) in 2013 was 0.750, with a gender inequality adjusted HDI of 0.643. In the same year the country's Gender Inequality Index (GII) – which measures gender inequality based on reproductive health, empowerment (political participation and education), and labor market participation – was 0.383. This score denotes that *inequality between women and men* across those three broad social aspects is relatively low in Sri Lanka; however, the country ranks only 75th among 187 countries, demonstrating that further progress is required to achieve gender parity (ADB and GIZ, 2015; UNDP, 2014; Ratnayake, undated).

⁴ See ESMS Manual available at https://www.iucn.org/sites/dev/files/iucn_esms_manual.pdf

Women represent slightly over half (51.5%) of the Sri Lankan population. Sri Lanka has provided free universal health services for the last 70 years, resulting in an increased life expectancy at birth, 78.8 years and 72.1 years for women and men respectively (in 2017). Universal healthcare has enabled the country to greatly reduce the prevalence of some health issue that was previously more common. HIV infection is very low (0.1%), malaria is no longer a problem, and the country is considered polio-free. Institutional births, postnatal care and immunization are all now standard. At the national level, female feticide and infanticide have not been reported in sharp contrast to any regional neighbors, although higher female mortality rates are reported in poor and otherwise disadvantaged areas. Additionally, the lower nutritional status of women and inadequate access to health care can be associated with those poor and disadvantaged areas – most of which are rural agricultural areas (ADB and GIZ, 2015).

Women in Sri Lanka have had voting rights since the 1930s. Free schooling and related support for textbooks, uniforms, scholarship, subsidized transport and school meals have facilitated the achievement of gender parity in primary, secondary and university education. Female students have a higher enrollment and graduation rate in secondary education, resulting in better performance on national examinations. This trend continues at the university level where female enrollment is 62.2% of the total. Female students represent 80% of those enrolled in arts/law; 50–70% in medicine, dentistry, veterinary science, agriculture, management, and commerce; and 20–50% in the computer, information and communication technology (ICT), engineering; and architecture. ICT and engineering are fields that will continue to gain in importance as Sri Lanka transitions to an information and service-based economy; strategies should be developed to increase the number of women professionals in those sectors. Educational achievements have enabled some university graduate women to reach high levels of success in their professional fields (ADB and GIZ, 2015; Ratnayake, undated).

While the voting and education rights of women are well established and strong in Sri Lanka, the legal status of women still requires improvement. The Women's Rights Bill has not yet been approved by the Parliament. Although international instruments that assure women's rights have been ratified, they are not yet incorporated into national legislation. Gender-based discrimination in inheritance rights, property rights, and personal laws remain entrenched. The main cause of this gender inequality in Sri Lanka is the patriarchal nature of its culture, which favors men and boys, at the expense of withholding opportunities from women and girls. Women's long exercised right to vote has not transformed into participation in the political process. The representation of women in Parliament has never exceeded 6% and is reported to be lower in elected local assemblies. This lack of women advocates in the legislature perpetuates the existing subordinate legal and cultural status of women by not challenging the common beliefs, perceptions and stereotypes of gender (ADB and GIZ, 2015; Ratnayake, undated; Wikipedia, 2018a).

While in today's time the Sri Lankan family largely consists of the nuclear family unit of husband, wife and children, in rural areas it is very common that a few extended family members (e.g. uncles, aunts, cousins and grandparents) may live together with the nuclear family. The household head generally is the husband of the nuclear family, but also female-headed households are relatively frequent. According to the Department of Census and Statistics the latter is considered a household in which a female adult member is the one who is responsible for the care and organization of the household or she is selected as the head of the household by the other members of the household. Meeting the family's social responsibilities is given a very high value, and it is generally the woman who performs the majority of duties in this regard (FAO, 2018).

Sri Lanka has experienced strong economic growth since the cessation of the civil war in 2009. The annual growth rate averaged 5.9% between 2009 and 2017. Similarly, the country achieved a major decline in poverty between 2002 and 2009 – from 23 per cent to 9 per cent of the population. Despite this impressive growth, pockets of poverty continue to exist, with women not benefiting equally of this economic growth. The labor market is heavily segmented and offers a limited economic opportunity for the majority of women. Even professional women face horizontal and vertical barriers that limit their access to decision-making,

higher salary positions. Across economic sectors, women continue to have less access to quality jobs, are generally paid less and face more limitations compared to men in the same position. Women tend to be more strongly represented in the low-paid, laborious industries, including the agricultural and informal sectors, where pay, benefits and security are all low; they are concentrated in low productivity and low-income agriculture and plantation sectors with limited to no opportunities for promotion. Many women work in unpaid family agriculture, labor, including the collection of products from forest and other natural ecosystems. Compared to men, women also have more restricted access to capital, agricultural inputs, technical and market information and extension services (Malhotra and DeGraff, 1997; ADB and GIZ, 2015; Trading Economics, 2018; Wikipedia, 2018b, FAO, 2018).

With regards to access to land, there are three prevailing systems in Sri Lanka: (i) inheritance of private land, or grants and permits to use state land; (ii) the purchase of private land; and (iii) the acquisition of a grant or permit to use state land. About 80 percent of the lands in Sri Lanka is owned by the state. The most common way of gaining access to land in rural areas is to obtaining permits and grants to use state lands. The Matrimonial Rights and Inheritance Ordinance, 1876, which was amended in 1922, provides for equal rights to inheritance for male and female spouses. Upon the death of either spouse, the surviving spouse inherits half of the deceased spouse's property. The Land Development Ordinance, 1934, which was amended in 1983 and 1996, entitles the surviving spouse of a deceased person who holds a permit or grant to use state land to take possession of the land under the terms and conditions of the permit or grant without any gender discrimination. However, gender discrimination persists in several articles of this law. For example, the third schedule of the ordinance, which lists the order of inheritance, gives precedence to the male heir over the corresponding female heir.⁵ Inheritance does not prevent women from owning land. However according to cultural practices, the youngest male very often receives the inheritance. Male succession is a huge barrier to land security of rural women. This has a particularly negative impact on widows and their households who can become highly vulnerable after the death of the husband.

As with their peers across the globe, rural women in Sri Lanka are more vulnerable to climate change compared to men for several reasons. Women are responsible for the household management, including providing food and water, garden and livestock management, safeguarding family health, and security of the domicile and assets. These responsibilities make women dependent on household agriculture and collecting food and products from the natural environment. Climate change-induced declines in land and biomass productivity and even changes in seasonality affects woman's ability to perform these tasks. Women's restricted employment opportunities, comparative poverty, limited access to resources and information, lack of social safety-net and longer life expectancy also make them more vulnerable to climate change. Following climate-related adversities, it is much harder for poor women than for poor men to recover their economic status and welfare (GCF, 2014; GCF, 2018).

Commonly held beliefs, perceptions and stereotypes related to gender include:

- a. women are responsible for household financial management
- b. women's role is to take care of children
- c. women should maintain and nurture relationships with friends and relatives
- d. women should cook for the family
- e. women should ensure water is there for the family
- f. women are not physically strong as men so should not work on certain jobs
- g. women are more mentally resilient at a time of distress than men
- h. women should ensure the household is kept neat and in order.

Although this stereotyping is changing rapidly with more women taking up skilled positions with the help of technological advantages (for example, women as container operators in Colombo Harbour), women's

⁵ More information on women's property and use rights in personal laws in Sri Lanka can be found on the FAO Gender and Land Rights Database at: www.fao.org/gender-landrights-database/country-profiles/countries-list/national-legal-framework/womens-property-and-use-rights-in-personal-laws/en/?country_iso3=LKA

participation in politics and in decision-making processes is still low. These and other hindering factors have been taken into consideration in the draft policy on women (2019)⁶. As an institutional measure for spurring and addressing gender matters the Ministry of Women and Child Affairs (MWCA)⁷ has been established as per the Gazette Extraordinary No. 1933 of 9th September 2015; it deserves being noted, though, that the MWCA and its departments and statutory institutions have been in existence for thirty years under a variety of different names. The Sri Lanka Women's Bureau, the National Committee on Women, the Department of Probation and Child Care Services, the National Child Protection Authority and Children's Secretariat are the main Departments and Statutory Institutions under the Ministry. The goal behind the establishment of Ministry was the "creation of Sri Lankan society that is sensitive to the needs of women and children would work for their betterment to achieve this goal."

In addition, number of progressive measures have been adopted by the Government to improve the safety and wellbeing of women⁸. The Government plans to develop new laws to prevent abuse of women and Children and sexual harassment of women and measures taken to women and children can live without fear in Sri Lanka and aims to enforce the laws effectively. A Technical Committee has been appointed to advise and guide the Ministry on the actions to be taken. A Forum of experts was held to decide on age of consent and legal aspects of sexual relationship of girls between the ages 16-18 years, focusing on social, legal and health problems emerging as result of sexual relationships. An important recommendation proposed at the forum was to strengthen the reproductive health education in schools.

A committee appointed to work on increasing women's participation in politics recommended a number of proposals, which have been submitted to the Elections Commissioner and obtained the Cabinet approval for the amendments. A media programme has been launched as part of advocacy for promoting a stronger inclusion of women in politics.

The Sri Lanka's Women's Bureau conducts programmes in key areas to empower female-headed families economically and socially, prevent gender-based violence and foster gender equality. Their work includes the following activities which are relevant for the project: home gardening programmes; a livestock development programme (e.g. providing poultry on loan basis, offering training); and entrepreneur development and market promotion (e.g. revolving credit scheme, trade fairs, business training). The field programmes are implemented through subnational organizational network of the Women's Bureau to implement field programmes including 24 Women's Federations, which are active at the district level, and 310 at the divisional level. The activities of the district and divisional Women's Development Officers are guided by the MWCA through the Women's Bureau. Women's Development Officers operating at the divisional level primarily conduct awareness-raising campaigns for women on a range of topics (e.g. livelihood improvement, violence prevention, laws) and provide some amount of credit for self-employment (FAO, 2018).

b. Women in Agriculture, Natural Resource Management and SME in Sri Lanka

As in most rural based local economics, Sri Lankan women and men have different roles and responsibilities regarding agricultural and natural resource management. There are tasks that are shared by both genders, those that are dominated by women, and those that are dominated by men. This results in the evolution of unique gender-based knowledge, experiences, and strategies regarding resource management, that may be largely unknown to the other gender. In order to approach agricultural and natural resource management from a balanced and informed basis, it is imperative to ensure equitable involvement of and input from both women and men in all project interventions.

⁶ Draft Policy on Women – August 2019, Ministry of Women and Children Affairs - <https://www.dropbox.com/s/jxi0apa1dncgbat/National%20Policy%20on%20Woman%20Draft%2016.08.19.pdf?dl=0>

⁷ See website at <http://www.childwomenmin.gov.lk/home>

⁸ <http://www.childwomenmin.gov.lk/institutes/national-committee-women/policy>

The following section of the assessment summaries gender roles in sectors relevant to the key ecosystems the proposed project will address - irrigated rice sector, annual horticultural systems, home gardens, livestock production, plantations and forest and natural resource management. Gender roles in spice gardens and analogue forests are similar to those of home gardens. Given the importance for rural areas and for this project, this chapter also highlights women's role in the sector of small and medium industry/enterprises. The presented information is based on literature and on the discussion with stakeholder during project design. A general finding drawn from the consultation and also supported by FAO (2018) was that while women are heavily engaged in agriculture, their contribution is not recognized, and they lack empowerment to improve their situation.

i. Irrigated rice systems

Rice is the single most important crop in Sri Lanka, occupying approximately one-third of the country's arable land. Rice is important for both food security and income generation. Rice provides approximately half of the calorie intake of the average Sri Lankan. Both women and men are involved in rice cultivation. Together, women and men are responsible for the land preparation, field cleaning, field pond maintenance, canal cleaning, water management, and sowing. Men are responsible for ploughing, field levelling, application of agricultural chemicals, weeding, fencing and protection, thrashing, transportation, and selling rice yields in town. Women are responsible for nursery production, transplanting, harvesting and farm gate sales. Women make these important contributions to rice production, while also being responsible for household management and child caregiving. Sri Lanka is blessed with favorable growing conditions for rice with two cropping cycles per annum in most rice growing areas. Unfortunately, the paucity of adequate water supplies has reduced the 'cropping intensity' in most rice production areas of 1 or less. This results in under-employment or under-utilization of the family labor and lack of food security for subsistence farm families and communities (Ratnayake, undated).

ii. Annual horticultural systems

The climatic conditions of the Sri Lankan highlands are conducive to the cultivation of a broad range of annual horticultural species. Crops commonly cultivated in these systems include kidney beans, beets, chillies, big onions, green gram, cabbages, bitter gourd, pumpkin, tomato, okra, eggplant, Luffa, and long beans. These crops are commonly produced by farm families on small landholdings, most often at the subsistence level. Each farm cultivated a diversity of crops under low input and rain-fed conditions, irrigation may be used if water is accessible. Crop selection is based on household preference and perceived local market demand. Yields per farm per crop are of limited quantity and used for food security and sales in local markets. Gender roles in annual horticultural systems are similar to those in irrigated rice systems. Together, women and men conduct land preparation, field cleaning, sowing, application of agricultural chemicals, weeding, and selling yields in town. Men are solely responsible for fencing and protection. Women are responsible for nursery production, transplanting, harvesting and farm gate sales. As with rice production, women contribute to annual horticultural production while also being the primary household manager and family caregiver (Ratnayake, undated).

iii. Homegardens

Homegardens are a diverse multiple-species, land-use system that combines horticultural crops, perennial crops, livestock and occasionally fish, in areas adjacent to rural homes. These systems produce multiple products and environmental services. The composition, structure and management of home gardens vary greatly according to the household characteristics and management objectives. Originally a subsistence agricultural system, most home gardens has evolved into a commercial orientation with products used for both home consumption and raise income through market sales. As home gardens are part of the home, maintenance is part of the household work, giving women greater influence over the system. Generally, women are responsible for most management decisions and implementation, including species preference,

cultivation, harvesting and use of the product. Tree and vegetable nurseries are often established in home gardens. Man's responsibilities focus on activities that are labor intensive soil or biomass transfer, deep cultivation work, and harvesting timber. Usually, women cultivate a large variety of annual and perennial crops that yield product for household use.

iv. Livestock production

Livestock production is a substantial component of smallholder farming systems in Sri Lanka with animals such as chicken, cattle, buffaloes, pigs, goats, sheep and ducks. In particular, the poultry sector has experienced strong growth. Because poultry production can be done within the household premises and managed in conjunction with women's traditional responsibilities in the home, there are significant numbers of women engaged in small-scale backyard poultry production often based on buy-back agreements with poultry companies (i.e. the company guarantees purchase after providing inputs to the producer). Cattle raising is mainly done by men which is due to a number of underlying causes related to the cultural aspects of the pastoral community, which is by nature patriarchal. In traditional extensive grazing systems, men typically accompany the herd of cattle when taking them to different grazing lands. Women are responsible for animal care and milking. In line with production changes due to pressure more intensive management systems and stall feeding are now practiced which has given rural women more opportunities to engage in cattle and goat production. Factors hindering women's participation in the later stages of the livestock value chain are male domination of the trading and buy-back sector, women's lack of mobility, and gender norms around women and slaughtering activities. Women's lack of capital to develop their own herds perpetuates the male control in the dairy industry (FAO, 2018).

v. Plantations

The plantation sector in Sri Lanka cultivates a large number globally traded perennial commodities, including tea, coconut, rubber, timber and spices - cardamom, cinnamon, pepper, cloves, and nutmeg. These crops are export commodities, that make important contributions to the Sri Lankan economy. The plantation sector employees, both women and men, laborers, primarily Tamils. Women make significant contributions to the sector, but are paid lower wages, worked longer hours, and have minimal access to facilities. Downturns in the plantation sector over the last few years has resulted in under-employment of plantation laborers, further stressing these workers, who has been already at the lowest level of the formal economy sector. They have limited access to land, housing, savings, and basic infrastructure. In an effort to improve their economic conditions, female laborers are seeking employment beyond the plantations, primarily as domestic servants within and outside the country (ADB and GIZ, 2015). However, those jobs are limited; additional options are needed to provide attractive opportunities for plantation laborers, both women and men.

vi. Forest and natural resource management

Besides their significant role in agricultural production and household management, women also have a critical role in forest protection and management. Many of the household's basic needs (water, fuelwood, fruits, vegetables, spices and other non-timber forest product-NTFPs) are collected in or near forests. Women are a key manager of forest resources; they are also the main victim of deforestation and degradation. Recognizing this fact, project managers should take steps to ensure meaningful participation of women in activities related to community forest and natural resource management.

Experience demonstrates that while men often organize and lead community-based forest management and protection committees and activities, women are effective and active group members. Women share the role of forest monitoring with men, often conducting the monitoring task when collecting non-timber forest products (NTFPs) for household use. In contrast, men often prioritize forest utilization for timber harvesting or for collecting other high-value forest products. Since women prioritize the NTFP and environment service roles of the forest, they feel a strong moral obligation to protect the forest and monitor

fire and illegal activities. Forest officials may be unaware of women's role in forest monitoring. Women often report their observations to their husbands or close male family members, who in turn pass the information onto forest officials. While often unseen, women play an important role in forest protect as they are a main beneficiary of the forest and have the most to lose from forest degradation. However, it is clear that women have limited direct power in forest protection (Forest Department, 2016).

Story from: Sri Lanka Community Forestry Program, Forest Department

Ms Thakshila, [29], of Sellabawa, got married in 2006 and lives with her husband who works as a Carpenter, and their two sons – of ages 7 and 4, in a house which had been constructed after the marriage. Her father-in-law was a member of the Community Based Organization (CBO) in the past. But Thakshila's family did not receive the CBO membership, as the husband was always seen going out of the village for his daily earnings.

After a period of time, Thakshila began attending the CBO meetings, also representing her father-in-law. In 2015, Thakshila was assigned as the Secretary to the CBO by a member, but she did not want to accept the position as she had never worked in any societies before. However, with the encouragement received from the other members, and as well as from her family, she accepted the position and started her work as the Secretary in the CBO.

"When they nominated me, I did not think that I could do this, and it was not an easy task. But the members, and also my father-in-law advised me to accept the post. I had studied only up to Ordinary Level and I am a woman; women like to keep everything in perfect order. And hence, I too being a woman began changing the report and record books, taking of meeting minutes, and the work pattern of the CBO. Now, at the CBO, we have learnt and know how to work in a village, and also talk to, and bargain with government officers. As women, we were able to show our work, and how we work in our village and also obtain loan facilities for the village".

"I feel that we - are women members are behind the success of this CBO", she finally stated.

Women play a greater role in forest rehabilitation. They dominate nursery and seedling production activities, including seed and other germplasm selection and collection; soil preparation; sowing and seedling production; watering and maintenance; seedling sales; and revenue management. The key roles of men in nursery management are site preparation and soil/supply transportation. Women do not hesitate to take the lead in nursery management and are often considered better nursery managers due to their time availability and attention to detail. Enrichment planting activities are generally shared by women and men. Men conduct heavier labor activities, site clearing, site preparation, and transporting seedlings. The planting and maintenance of seedlings is generally the roles of women (Forest Dept., 2016).

The design, development and management of farmers' woodlots (FWLs) is an important community forest activity that serves public environment goals of landscape restoration and addresses farmers livelihood objectives by producing priority species (both annual and perennial) for household use and market sales. Community groups can secure a 25-30-year lease of degraded forest land, often Chena land, from the Forest Department to establish an FWL. Both women and men play significant roles in FWL establishment and management. Both genders share the role of intercropping FWLs with annual horticultural crops during the first 4-5 years. As with forest rehabilitation activities, women take the lead in seedling production and planting activities and men in site preparation and transportation. Experience indicates that inequality in management decisions can undermine women's participation in FWLs. To increase the effectiveness and socioeconomic benefits of the FWLs, and all forest management related activities, it is important from the beginning of activities to acknowledge the equitable involvement of both women and men. Selection of species, annuals and perennials, should be shared by women and men to assure all priorities are addressed (Forest Department, 2016).

Story from: Sri Lanka Community Forestry Program, Forest Department

One of the notable activities of the Community Forestry Program of the Forest Department is the Farmers Woodlots (FWL) and there had been 19 members [7Males + 12Females] were given FWL. Among six FWL receivers, who were randomly selected and interviewed during the mission stated that five of them have at least one-acre highland and other is still living in an irrigation tank reservation and very recently obtained a piece of land from the government. All have encroached around two and a half to three-acre government land including of the forest land for chena cultivation. All of them had received around half-acre forest land on the agreement as FWLs, and each one of them has earned over LKR 26,000 per year from the FWL by planting cowpea, sesame seeds, etc. Out of six who were interviewed, four women had signed the agreements with the FD with the concern and encouragements of their husbands.

The most significant finding was that a woman [Sonali] who received an FWL on her name is from a landless family and lives in an irrigation tank reservation, and had paid a fine of LKR 15,000 in the year 2012 for forest land encroachment. Sonali while crying revealed that in 2012, once they were in the encroached land official of the FD round them up. Though she was pregnant, she ran into the thick forest but got caught to the officers, and her husband was produced before the court and fined LKR 15,000. Receiving an FWL has changed their whole life, not only that there is no fear of arrest, but also has a piece of land for cultivation for a living.

In addition to her, there were two women who own FWLs on their name had to pay fine to the courts for encroachment; one had paid LKR 5,000 in 2007 and another had paid LKR 30,000 in 2012.

vii. *Small and Medium Enterprises (SME)*

Small and Medium Enterprises can create employment but also offer income to the business owner. It is estimated that about 80 percent of the economy in Sri Lanka is driven by SMEs out of which women led SMEs are estimated to account for only about 10 percent. It is further estimated that a majority of women entrepreneurs are in micro-enterprises, a large number of which operate in the formal sector and in particular focused on food processing and textile (Attygalle, 2014). SME development and in particular enterprises linked to agriculture such as processing of agricultural produce as well as products and services linked to tourism are expected to provide important income opportunities for women in rural Sri Lanka, both as entrepreneurs as well as employees. However, women face challenges such as lack of access to finance, lack of financial literacy, negative norms and attitudes towards women as entrepreneurs and limited mobility and unequal share of household responsibility, which would need to be addressed.

c. Baseline Information about the Project Area related to Gender

The project area has been delineated as the landscape comprising the upper watershed and downstream areas of the Knuckles Mountain Range. It includes 15 key sub-catchment (watershed) areas as described in the feasibility study. The actual sites and communities for the field interventions are not defined yet. The feasibility study had examined the biophysical characteristics and vulnerability situation of the catchment areas, but the final selection of sites and the exact configuration of the on-the-ground interventions (sub-projects) for achieving improved land and water management, enhanced primary production and upgraded value chains will only be done during project implementation. This is because some of the field intervention require further in-depth assessment and prioritization to determine the sites other sub-projects are demand driven and as such will depend on the interest articulated by the relevant stakeholders. Because of this, in-depth baseline data and gender disaggregation of data will be done after the sites have been selected and the baseline data presented below is only relatively cursory.

i. *Data related to key sectors such as health, education, employment, poverty and participation in politics*

The larger project area covers four districts, namely, Matale, Anuradhapura, Kurunegala and Puttalam. Gender-disaggregated census data for these four districts and data related to key sectors such as health,

education, employment, poverty and participation in politics are summarized below in table 1 and 2, respectively.

Table 1: Census in 2012 of Department of Census and Statistics

District	Matale	Anuradhapura	Kurunegala	Puttalam
No of Divisional Secretariat Divisions	11	16	04	01
No of Grama Niladhari Divisions	577	418	85	04
No of males	232,834	419,019	91,067	1846
No of females	249,332	436,019	95,973	1717
Urban Population	M 25,428 F 26,723	M 18,222 F 18,334	NA	NA
Rural Population	M 178,558 F 190,518	M 400,797 F 418,651	M 91,067 F 95,973	M 1846 F 1717
Estate Sector Population	M 20,633 F 22,966	NA	NA	NA

Table 2: Data on health, education, employment, poverty and participation in politics

Description	Area	Male (%)	Female (%)	Total (%)
Health				
Life Expectancy at Birth (2011-2013) Source: Dept. of Census & Statistics	Matale	71.8	78.5	
	Anuradhapura	70.5	77.8	
	Kurunegala	71.6	78.6	
	Puttalam	70.7	78.6	
	Sri Lanka	72.0	78.6	
Infant Mortality Rates (2014) Source: Registrar General's Dept.	Matale			5.4
	Anuradhapura			6.1
	Kurunegala			8.7
	Puttalam			3.8
	Sri Lanka	8.4	6.8	7.6
Maternal Mortality Rates (2014) Source: Registrar General's Dept.	Matale (2009)		18.8	
	Anuradhapura		19.8	
	Kurunegala		28.9	
	Puttalam		28.3	
	Sri Lanka		25.7	
Education				
Literacy Rates (10 years and over) Source: Census of Population and Housing 2012	Matale	95.7	92.8	94.2
	Anuradhapura	97.0	94.6	95.7
	Kurunegala	97.4	95.7	96.5
	Puttalam	96.3	95.3	95.8
	Sri Lanka	96.9	94.6	95.7
School Enrolment (Provincial Statistics) Source: School Census 2013, Ministry of Education	Central Province (Matale)	49.3	50.7	
	North Central Province (Anuradhapura)	49.5	50.5	
	North Western Province (Kurunegala, Puttalam)	49.7	50.3	
	Sri Lanka	49.6	50.4	
	Sri Lanka	96.8	96.9	
Net Enrolment Rate in Primary Education (2012) Source: Census of Population and Housing 2012				
Proportion of Pupils Start at Grade 1 to reach Grade 5 (2013) Source: School Census 2013, Ministry of Education				
	Sri Lanka	98.3	98.9	
Qualified for Advanced Level at GCE O/L Exam (2013) Source: Dept. of Examination				
	Sri Lanka	55.3	73.1	
Eligible for University Entrance at GCE A/L Exam (2013) Source: Dept. of Examination				
	Sri Lanka	47.8	66.1	58.4
Undergraduate Entrants to Universities 2011/12 Source: University Grants Commission				
	Sri Lanka	37.8	62.2	
Poverty				
Poverty Head Count Index (2016) Source: Household Income & Expenditure Survey 2016	Matale			3.9
	Anuradhapura			3.8
	Kurunegala			2.9
	Puttalam			2.1
	Sri Lanka			4.1
Political Participation				
Members of Parliament (2019) Source: Parliament of Sri Lanka		94.2	5.8	

ii. Labour market, employment and poverty

Table 3 below describes the labour market in terms of labour force participation, employment and unemployment rates in the four districts, disaggregated by gender groups. The figure on labour force participation describes the percentage of individuals who are either employed or looking for work (currently being unemployed)⁹. The relative low percentage labour force rate for women in the four districts seems to indicate that a high percentage of women is neither working nor available/looking for work. However, it is important to understand that these official data do not capture women who are unpaid family workers, engaged in subsistence farming work, provide critical labor for sustaining the household, including the collection of products from forest and other natural ecosystems, or working in the informal sector.

According to government census data analyzed by FAO (2018) the contribution of informal sector employment to the total employment (for both gender groups) in 2013 was about 60.8 percent, the employment contribution of the agriculture sector to the informal sector was 86.8 percent. According to the Department of Census and Statistics in 2017, 61.2 percent of unpaid family workers worked in the agricultural sector. Unpaid family workers represented 16.4 percent of the total employed female population; for men the percentage was just 2.5 (Department of Census and Statistics, 2017).

Unemployment rates of men in the four districts are close to the average rates for Sri Lanka. For female workers, the three districts Anuradhapura, Kurunegala and Puttalam show lower unemployment rates than average rates for Sri Lanka; Matale, on the contrary, has a significantly higher unemployment rate. Again, it is important to take into consideration that unemployed individuals are those who are actively looking for work.

Table 3: Labour force participation, employment and unemployment rate (in percentage)

		Male	Female	All
Labour Force Participation Rates (2017) Source: Labour Force Survey, Annual Report (2017)	Matale	75.9	40.5	56.0
	Anuradhapura	78.7	46.7	61.3
	Kurunegala	77.6	42.5	58.4
	Puttalam	78.2	36.0	55.5
	Sri Lanka	74.5	36.6	54.1
Employment Rates Source: Labour Force Survey (2013)	Matale	96.7	87.2	
	Anuradhapura	98.0	97.6	
	Kurunegala	97.8	94.5	
	Puttalam	97.7	92.8	
	Sri Lanka	96.8	93.4	
Unemployment Rates (2013) Source: Labour Force Survey (2013)	Matale	3.3	12.8	
	Anuradhapura	2.0	2.4	
	Kurunegala	2.2	5.5	
	Puttalam	2.3	7.2	
	Sri Lanka	3.2	6.6	

It is critical to understand that employment does not necessarily prevent poverty as poverty can also manifest if the income derived from the employment is not sufficient for satisfying basic needs. The Department of Census and Statistics determines poverty by comparing the monthly real per capita expenditure to official poverty line (OPL)¹⁰. If the per capita monthly real expenditure is less than the value of the official poverty line, then that individual is considered to be in poverty. From 2002 to 2016, the long-term overall poverty index has shown a downward trend. However, despite this positive trend, poverty disparities still exist across the provinces and districts as well as between gender groups. This is for instance the case for laborers in the estate sector as the average income of estate sector households

⁹ Definition of Labour Force Participation see: <http://www.statistics.gov.lk/samplesurvey/Explanatory%20notes-2013.pdf>

¹⁰ The current value of OPL is Rs. 4,166 per person per month for 2016, http://www.statistics.gov.lk/HIES/HIES2016/HIES2016_FinalReport.pdf

continues to remain lower than the national averages and other sectors of the economy. This is evidenced by the poverty head-count index presented in table 4, which is the highest for the estate sector. Another important conclusion drawn from the below table is that rural areas show larger absolute numbers of poor people (Department of Census and Statistics, 2017).

Table 4: Poverty head count index, number of poor population and contribution to total poverty —2016

Sector/ Province/District	Poverty head count index	Number of poor population	Contribution to total poverty
	(%)	(number)	(%)
Sri Lanka	4.1	843,913	100.0
Urban	1.9	67,649	8.0
Rural	4.3	693,956	82.2
Estate	8.8	82,308	9.8
Western	1.7	101,342	12.0
Central	5.4	142,044	16.8
Southern	3.0	74,769	8.9
Northern	7.7	83,834	9.9
Eastern	7.3	118,061	14.0
North Western	2.7	64,638	7.7
North Central	3.3	42,191	5.0
Uva	6.5	83,885	9.9
Sabaragamuwa	6.7	133,149	15.8
Colombo	0.9	19,796	2.3
Gampaha	2.0	45,827	5.4
Kalutara	2.9	35,719	4.2
Kandy	5.5	76,429	9.1
Matale	3.9	19,357	2.3
Nuwara Eliya	6.3	46,257	5.5
Galle	2.9	30,775	3.6
Matara	4.4	36,544	4.3
Hambantota	1.2	7,450	0.9
Jaffna	7.7	46,052	5.5
Mannar	1.0	1,005	0.1
Vavunia	2.0	3,526	0.4
Mullaitivu	12.7	12,003	1.4
Kilinochchi	18.2	21,249	2.5
Batticaloa	11.3	60,912	7.2
Ampara	2.6	17,431	2.1
Trincomalee	10.0	39,718	4.7
Kurunegala	2.9	47,930	5.7
Puttalam	2.1	16,708	2.0
Anuradhapura	3.8	33,140	3.9
Polonnaruwa	2.2	9,051	1.1
Badulla	6.8	56,698	6.7
Moneragala	5.8	27,187	3.2
Ratnapura	6.5	72,715	8.6
Kegalle	7.1	60,435	7.2

There are significant disparities between women and men in terms of poverty. The main differences in the poverty situation for women and men are associated with gender inequality in wages for similar work, differences in the estimated earned income per capita for women versus men and the estimated female/male ratio in terms of earned income (FAO, 2018) - all indicating that women are poorer than men. Because of these disparities in income, female-headed households are more likely affected by poverty, by food insecurity and malnutrition. It is therefore worth highlighting that according to the Census of Population and Housing (2001) 20.8 % of households in Matale and in Kurunegala were female-headed in 2001, 19.9% in Puttalam, 19.3% in Anuradhapura.

According to employment data in 2017 presented in table 5, there are three categories that are most relevant employment providers in the four districts:

- (i) skilled Agriculture, Forestry and Fishery,
- (ii) Craft and Related Trade and
- (iii) Workers and Elementary Occupations.

The latter category includes workers who provide simple and routine tasks that mainly require the use of hand tools plus physical effort. Most occupations in this group, such as cleaners, building caretakers, doorkeepers or laborers do not require formal education qualification. In the project's four districts the strongest sub-group within this category is made up by plantation workers. As such, a key conclusion derived from the data presented in table 5 is that agriculture and the plantation sector are the strongest sectors for all four districts in terms of formal employment.

**Table 5: Percentage population under different employment
(source: Department of Census and Statistics, 2017)**

Occupation	Matale	Anuradhapura	Kurunegala	Puttalam
Managers/Senior officials/ Legislators	9	6.8	1.8	6.5
Professionals	4.7	3.9	6.1	5.3
Technical and Associate Professionals	5.2	2.3	5.1	4.9
Clerks and clerical support	1.9	4.1	3	3.4
Services & Sales Workers	7.2	11.7	14.4	11.2
Skilled Agricultural, Forestry and Fishery	19.7	44.2	24.5	15.8
Craft and Related Trade Workers	13.3	10.4	20	15.7
Plant and Machine Operators/Assemblers	8.9	4.2	8.4	8.9
Elementary Occupations	30.1	12.2	15.1	28
Armed forces & Unidentified	0.1	0.1	1.5	0.1

iii. Farming sector

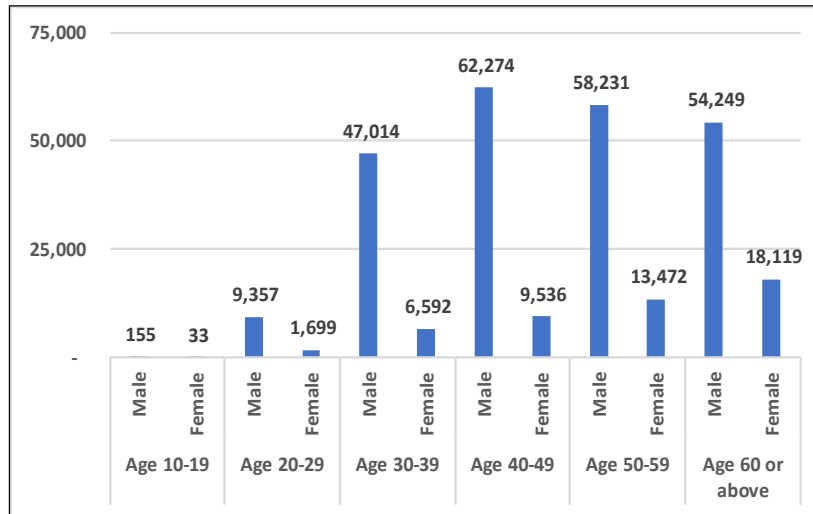
Table 6 below illustrates the distribution of individuals working in agriculture by gender among the DS divisions in the project area. For both, upstream and downstream areas, women make about 18% of the labour force. However, it is worth pointing out that these numbers do not capture unpaid work, subsistence agriculture/ home gardening and the informal sector.

Table 6: Number of farmers in DSD divisions by gender

District	DSD Name	Number of Farmers		
		Total	Male	Female
Kandy	Minipe DSD	12,013	10,083	1,930
	Udadumbara DSD	5,252	4,466	786
	Pathadumbara DSD	7,620	5,858	1,762
	Akurana DSD	4,812	3,804	1,008
Matale	Galewela DSD	13,817	11,262	2,555
	Dambulla DSD	13,565	11,537	2,028
	Naula DSD	6,244	5,374	870
	Pallepola DSD	5,720	4,771	949
	Yatawatte DSD	4,764	3,934	830
	Matale DSD	5,771	4,498	1,273
	Ambanganga Korale DSD	3,661	2,969	692
	Laggala-Pallegama DSD	3,085	2,782	303
	Wilgamuwa DSD	7,068	6,069	999
	Rattota DSD	8,862	7,083	1,779
	Ukuwela DSD	5,623	4,472	1,151
	Upstream DSD Total	107,877	88,962	18,915
Kurunegala	Giribawa DSD	8,042	6,576	1,466
	Galgamuwa DSD	13,259	10,251	3,008
	Ehetuwewa DSD	6,800	5,623	1,177
	Polpithigama DSD	20,441	16,579	3,862
Anuradhapura	Galenbidunuwawe DSD	11,809	10,108	1,701
	Galnewa DSD	8,240	6,940	1,300
	Ipalogama DSD	7,589	6,276	1,313
	Kahatagasdigiliya DSD	9,390	7,816	1,574
	Kekirawa DSD	11,458	9,516	1,942
	Mihintale DSD	6,313	5,210	1,103
	Nachchadoowa DSD	4,823	3,967	856
	Nochchiyagama DSD	9,566	7,885	1,681
	Nuwaragam Palatha East DSD	6,360	5,062	1,298
	Palagala DSD	8,599	7,249	1,350
	Palugaswewa DSD	3,746	3,076	670
	Rajanganaya DSD	7,753	6,318	1,435
	Thalawa DSD	13,427	11,086	2,341
	Thambuttegama DSD	7,831	6,523	1,308
Thirappane DSD	6,708	5,557	1,151	
	Downstream Total	172,154	141,618	30,536
	Project Area Total	280,031	230,580	49,451
	Percentage		82.34	17.66

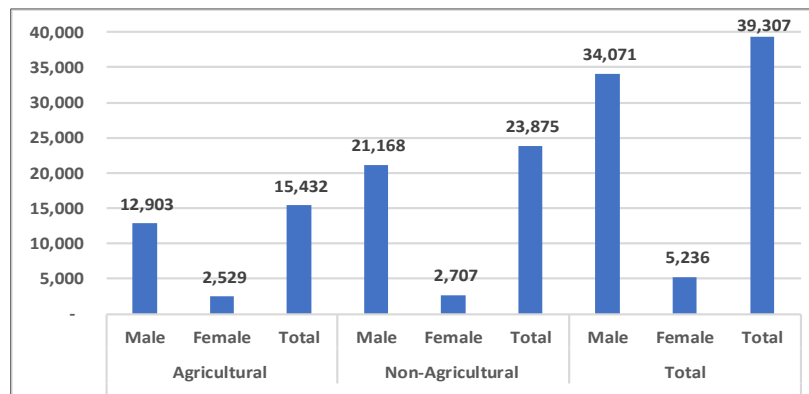
The farming sector can also be analyzed on its age distribution. As demonstrated in figure 1 the distribution of male farmers in the 30's, 40's, 50's and over 60's age groups are about 50,000 farmers in each of the groups. 'Farming' as an occupation is less prevalent in the age group that falls between the ages of 30-39, indicating a shift in professions. However, this shift will not have much of an affect as technologies have compensated for the man-power needs. The female farming population shows an increase with each age category, especially after the child-bearing age.

Figure 1: Age distribution of farmers by gender



While farming continues being the main employment, for a significant percentage of the farmer population in the four districts non-agricultural activities are an important source for secondary income (see figure2). This demonstrates the important role the development of new products and markets linked to the agricultural sector can play in terms of income.

Figure 2: Farmers engaged in own enterprise or self-employment



iv. Ethnic groups

Table 7 below presents the population in the four districts by ethnic background.

Table 7: Ethnic distribution in project districts

District	Ethnicity (% of the population)				
	Sinhala	Sri Lankan Tamil	Indian Tamil (Estate Community)	Sri Lankan Moors	Other
Matale	83.9	4.2	5.3	6.4	0.1
Anuradhapura	91.3	0.4	0.0	7.9	0.4
Kurunegala	92.0	0.9	0.1	6.9	0.1
Puttalam	79.8	5.1	0.2	14.6	0.3

The districts of Puttalam and Matale account for a substantial percentage of Tamils and Sri Lankan Moors. Plantation communities in Matale are the home for most of the Tamils of Indian origin while the Moors are mostly engaged in trading across all four districts. Each ethnic group has different customs and values. For example, men in Moors communities take most of the household decisions and females play a passive role. In the estate populations, the men are known to consume high level of alcohol and the burden of household maintenance falls on women in most cases. The gender-balance in Sinhala communities is somehow better compared to the other ethnic groups, yet, most of the financial decisions in the family are influenced by men. The common feature is the fact that household governance is considered the responsibility of women members of the family while the work on the fields is mostly seen as male resort.

v. Impacts from climate change impacts and disasters – by gender

Preliminary results of an ongoing study carried out by IUCN Sri Lanka on climate impacts on women and children that surveyed over 1,500 disaster (drought, flood and landslide) affected households (commissioned by UNICEF) illustrate impacts that could have gender dimensions (see table 8 and 9). For example, the loss of employment or of income or loss of farm animals are mostly related to men including migration to new employment. Unable to cultivate land and loss of other income earning sources is common to both genders.

Table 8: Impact on livelihoods by types of disasters (flood, drought, landslide)

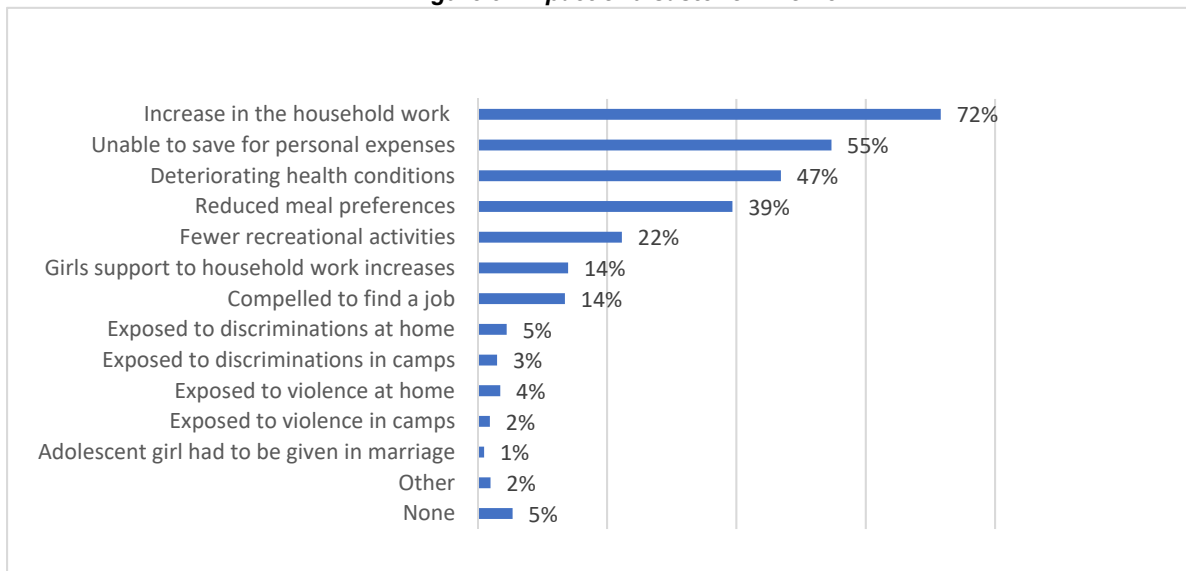
Impact on Livelihood	Percentage of Respondents			
	Flood Only	Drought Only	Landslide Only	Flood & Drought
None	8.5	5.8	19.0	4.7
Loss of employment	6.6	8.3	4.4	40.3
Income is reduced	63.1	74.9	61.4	79.5
Unable to go to the work	50.0	6.5	48.1	37.1
Migrated for new employment	5.0	8.8	7.6	15.5
High costs for renovation and repair	45.8	2.0	22.8	6.8
Destroyed cultivation	21.6	72.9	29.7	54.3
Loss of domestic/farm animals	3.9	4.3	7.6	19.1
Unable to cultivate the land	12.6	55.4	22.8	49.6
Loss of livelihoods assets	14.5	28.6	17.7	40.3
Loss of other income earning sources	11.5	13.8	13.9	9.7
Other	1.3	3.5	3.8	1.8

Table 9: Disaster Impact on Women and Men

Disaster impact	Male		Female	
	Number	%	Number	%
Loss of appetite	114	29.5	496	36.3
Health deteriorated	148	38.3	582	42.6
Recreational activities reduced	68	17.6	284	20.8
Other impacts	11	2.8	23	1.7

The IUCN study also revealed inequalities between men and women in the aftermath of disaster situations. For example, issues related to water borne diseases, food intake, and emotional trauma were identified, and while men and women were impacted in a similar manner, marginally higher impacts were noted for women. It was further concluded that the main consequences of disaster events on women were significant increase in householder workload, loss of savings reducing their resilience and deterioration of their health conditions.

Figure 3: Impact of disaster on Women



In terms of adaptive capacity and disaster coping strategy concerning food shortage, the study identified some differences between women and men as demonstrated in Table 10.

Table 10: Disaster coping strategy – related to food shortage

Coping Strategy	Respondents					
	Male	%	Female	%	Total	%
Relying on less preferred food	128	33.2	560	41.0	688	39.3
Purchasing food on credit basis	134	34.7	500	36.6	634	36.2
Borrowing Food	90	23.3	360	26.4	450	25.7
Reduce the quantity of food	110	28.5	362	26.5	472	27.0
Reduce the number of meals per day	79	20.5	286	21.0	365	20.8
Other	35	9.1	131	9.6	166	9.5

The most significant gender inequalities relevant in this context are:

- a. Provision of water to households will be mostly a women responsibility in Sri Lanka context and shortage of water will adds to the time taken to fetch the water as the tanks and other natural streams dry. In the upstream area the terrain is difficult in rural areas.
- b. When the income is low due to climate and other impacts the family nutrition suffers as indicated earlier and women suffer most as culturally, they choose to feed themselves last. Women have reported loss of appetite (over 36%) after disasters with compared to less than 30% in men.

4. Gender-Sensitive Project Design

a. Integrating a Gender Perspective into Project Activities

In order to ensure the project to be gender-sensitive and to effectively contribute to reducing gender gaps in terms of climate change-induced social, economic and environmental vulnerabilities, the project has been designed as an intervention where gender-consideration are already interwoven into project design and the respective project activities. However, not all activities present similar relevance for gender mainstreaming and the discussion below focuses on those activities where gender elements play a key role. It is important to remember that the selection of sites and the detailed design of the field interventions will take place during the project based on the results coming from the sub-basin planning process. The project will ensure that sufficient time is allocated for the detailed design of the interventions to enable meaningful and culturally appropriate engagement of diverse stakeholders and beneficiaries in this process – women and men. This will ensure that priorities of women are truly understood, opportunities for women empowerment are sought and that activities are designed in a way that women and men have equal access to project services and benefits.

The activities where gender mainstreaming plays a key role are described below and the project’s strategies for gender-sensitive design are illustrated in the green boxes. The numbering reflects how the activities appear in the project proposal.

Activity 1.1.2: Rehabilitation and establishment of village tanks, ponds and irrigation networks

Approximately 100 village level ponds and irrigation channels will be rehabilitated or established including both direct rainwater-harvesting and tapping stream networks. The feasibility study had examined the biophysical characteristics and vulnerability situation of the catchment areas, but the final selection of sites and the exact configuration of sub-projects will only be done during project implementation. This is because these interventions require further in-depth assessment and prioritization to determine the sites. Priority to be given for cascade systems; further criteria aiding site identification are: number of farmers to benefit, sustainable maintenance systems, degree of community participation, command area to be cultivated as well as an estimation of costs and benefits.

A GIS-based tool will be used to generate thematic maps for prioritizing interventions in the target upstream areas through multi-criteria analysis. The tool employs basic data including administrative and infrastructural information, land and soil information (land use, land cover, geology, etc), climate information (temperature, precipitation, PET, ACZs) and water resources information (hydrology, hydrography, hydrogeology) and will quantify rainwater harvesting potentials across the target upstream area in order to guide land users in locating appropriate sites for capturing and storing rainwater. Since the method considers relevant biophysical and socioeconomic parameters, the land with the best capability for agricultural production (either crop or livestock) is matched to the available water resources within the landscape/watershed. The entire process is undertaken in full consultation with land users, local authorities and other stakeholders, men and women.

The process for selecting the sites for the village tanks/ponds and irrigation structures will be informed not only by biophysical information but also by socio-economic parameter including current agricultural use of land (e.g. crop or livestock). The consultation process will be set up in a way that equal opportunities for participation are provided for men and women to ensure that women-led land use and irrigation water demand is given equal consideration. In order to guarantee that the village tanks/ponds and irrigation structures will be sustained in the longer term, the project will engage the communities in maintenance of these infrastructures by forming new management structures or advising on existing community-based organizations (CBO). It is observed in many rural development programs in Sri Lanka, that the participation of women in the governance of communal infrastructure is an effective means not only for ensuring gender priorities to be taken into account but also for increasing the permanence and sustainability of the systems. The project will provide additional support measures to empower women and youth leadership in these community organizations.

1.1.3: Restoration of forest mosaic landscapes

This activity focuses on restoring degraded forests within protected areas and forest fragments, re-growing forests in priority areas in the supply of ecosystem services, especially watershed protection, and planting of trees outside forests for improved sustainability and livelihoods. The project will employ a Forest Landscape Restoration (FLR) approach in the forest mosaic landscape areas adjoining protected areas. Key actions will include:

- Assisted natural regeneration and planting of diverse tree assemblages to restore degraded forests,
- Enhancing the ecosystem service provisioning of existing timber plantations through industrial rehabilitation and under-planting with species more suited to the local environment and people's needs than the pines and eucalyptus that were planted previously,
- Restoration of degraded grassland areas, which have thus far defied restoration attempts and
- Ensuring forest resilience through the use of climate proofing in selection of species and genetic compositions of any plantings.

Empowering women in the forestry sector and formalizing their role, especially in a community forestry program, is seen as a strategic opportunity for strengthening women's economic role in the upper watershed and downstream areas of the Knuckles Mountain Range. The project will follow examples of other programs (e.g. Sri Lanka Community Forestry Program, SLCFP), where women realized tangible benefits and income opportunities through paid work on tree planting and infrastructure development. Initially these payments will be ensured by the project, but with time this will be supported via a Payment for Ecosystem Services (PES) Scheme along with other sustainability measures. In addition, the project will ensure that the needs of women are integrated in the restoration strategies to be supported by the project. A main vehicle will be to support women's active participation in the design, development and management of farmers' woodlots (FWLs). This will ensure that women's livelihood objectives in terms of priority species (both annual and perennial) for household use and market sales are taken into consideration and their economic position is strengthened. Examples are the consideration of women's preferences for trees that can be harvested for non-timber forest products (NTFP).

1.2.1: Increasing cropping intensity of irrigated rice in both upstream and downstream areas

This activity focusses on the development of smart farming techniques to grow appropriate climate adapted varieties and make efficient use of irrigation water and fertilizer (maximizing use of organic inputs and recycling) as well as employing integrated pest control based on real time weather and pest incidence data (connected to the information system developed in 3.1.2.)

Because traditional irrigation methods like furrow irrigation (FI) and continuous flooding irrigation (CI) result in high water loss, the project will promote water saving irrigation methods and improve water use efficiency (WUE). The System of Rice Intensification (SRI) that the project will promote is a climate-smart, a yield - increasing system that is being utilized by more than 10 million smallholder farmers in over 55 countries. The innovation combines several agronomic practices to boost yields while reducing the use of purchased inputs and water.

The project will also provide customized advice for enhancing rice productivity through use of appropriate varieties for each context, storage and processing, maintaining quality as well as supporting the enhanced production of associated crops for increased dietary diversity.

Due to prolonged dry spells and insufficient water for irrigation, farmers in the project area hardly cultivate two seasons per year, resulting in considerable pressure on family income and food security. Field consultation confirmed that traditional income sources such as rice farming no longer sustaining families in rural areas and that the lack of income opportunities is an important trigger for women migrating to seek foreign employment. Sustaining farmers' income through increasing cropping intensity and rice productivity will enhance the economic conditions of rural households, increase food security and reduce the economic pressure on women. The project will further strengthen women's economic position by supporting them in activities that are traditionally already in their domain such as rice nursery production, transplanting, harvesting and farm gate sales but by increasing their productivity and business skills.

1.2.2: Intensification of Sustainable smallholder production

This activity will focus on options for sustainable intensification of home gardens, analog forests, spice gardens and annual horticultural crops in the upstream catchment. Interventions include climate proofing of tree species choice, pruning to control the distribution of light in multi-strata systems and improve timber quality and agronomic management.

Home gardens are species-rich, tree-based systems usually occupying lands immediately surrounding or adjacent to the household and are used to produce a diverse array of foods, trees and other products from perennial and annual species. Tree components of these systems yield fruits, vegetables, medicines,

spices, timber, poles, fuelwood, and other commodities (coffee, cocoa, tea). Traditionally focused on producing goods for home consumption, the advent of rural infrastructure and market-economies provide an opportunity for home gardens to be more commercially oriented including SPA industry raw materials (extracts and products) and medicinal/eco-tourism. Spice gardens can be considered a type of home garden focused on commercial production of species for local, national and international markets. Common crops produced in spice gardens include cinnamon, pepper, cardamom and cloves. Spice gardens also include timber, fruit, medicinal, commodity tree species and annual crops as secondary components.

The annual horticultural systems focus on annual crop production with crops such as kidney beans, beets, chillies, big onions, green gram, cabbages, etc. These crops are produced for both household consumption and market sales and farms cultivate a diversity of crops under low input and rain-fed conditions. While focused on annual horticultural crops, these systems also contain tree components that provide both service and production roles. The diversity of tree species is like home gardens and spice gardens.

Analog forests are an ecosystem restoration approach, that seeks to model the process of natural forest development and forest service functions in (re) establishing a sustainable ecosystem characterized by a high biodiversity to biomass ratio. Analog forests are designed through a synthesis of traditional and scientific knowledge, to optimize the production and service potential of the system rather than to maximize the productivity of a single species component. While focused on ecosystem restoration, analog forests are also designed to provide economic benefits. Annual species are also components of analog forests.

Consultation have confirmed that annual horticulture and in particular home garden systems play an important role for income generation and food security for women in the four districts. Building on the existing knowledge and skills of women, the project will promote these sectors in order to increase the productivity of cultivation practices linked to subsistence production but also create market opportunities to increase their potential to realize monetary income. The increased production of these vegetables will also help to improve the status of family nutrition and health and other benefits to families. In collaboration with the private sector, the project will further promote the development of spin-off effects, in particular by creating linkages with agriculture-based industries and through product diversification. It is important to understand this activity as being linked with the business development activities 2.1.2. and 2.1.3 in order to understand the real potential for women to diversify their income increasing their resilience.

1.2.3: Restoration and intensification of sustainable plantations

This intervention will focus on tea, coconut, rubber, timber and large-scale cultivation of spices and includes landscape planning at estate level and the development of food forests to address food security of estate worker families, some of whom have entered contract-farming arrangements with estate companies.

The activity will target both the plantation sector and plantation workers by offering a menu of management practices relevant to their operational context. The project will work with companies to transform under-performing crops and plantations into food gardens of nutritious and high-value superfood species that target domestic and export demand in the green economy. Those efforts will include the adoption and development of agri-processing technology for post-harvest value-adding treatment that targets the production of higher-value green economy markets.

The options offered to plantation workers will focus on strengthening their food security and livelihoods by establishing food forest production systems on land allocated to the workers by the plantation companies where they are employed. The project will promote the establishment of diverse multispecies systems that combine perennial and annual crops for plantation workers and their families.

As pointed out in chapter 3, women play a significant role in the plantation sector, in particular in the production of tea, rubber and coconut crops and especially in Matale. However, due to the low wage levels, poverty has become a significant social issue for women plantation workers. The project will incentivize plantation companies to allocate underutilized land to plantation workers, in particular to female-headed

households, and support the latter in the process of valorizing the land by establishing diverse multispecies systems that combine perennial and annual crops linked to nutritional diets. This will ensure appropriate and adequate nutrition for the plantation worker families as their low income provide limited ability to purchase nutritious foods and to access to health care and related services. As women are also more likely to suffer from food shortage given their inclination to feed the family first – as confirmed during the consultation with communities- achieving food and nutrition security is also critical for women health, including throughout pregnancy.

Activity 2.1.2 Enterprise and institutional development to exploit green growth opportunities for smallholder farmers in the uplands and Activity 2.1.3 Identification and implementation of value chain upgrading options for smallholder and subsistence farmers engaged in climate smart agriculture

These activities involve the development of capacity to operate farms and collective groups as business enterprises (including cooperatives, innovation platforms, producer and agri-businesses) and the upgrading of value chains with respect to products, processes and new (green) technologies. The goal is to identify bottlenecks and inefficiencies along and across value chains, to co-innovate new green technologies and to stimulate the development of new businesses and business relationships to exploit green growth opportunities for small holders and subsistence farmers.

Given the site's outstanding natural values, which are reflected in a high level of protection and international recognition of Knuckles Conservation Forest (together with the Peak Wilderness Protected Area and Horton Plains National Park), the project will introduce the IUCN Green Listing process. This is expected to increase the quality and effectiveness of protected area management and provide additional values to the communities including from increased market recognition of the area as tourism destination.

The starting point for these activities is the mapping of existing agricultural value chains (cash crops, spices, herbs and fruits), their actors and of governance structures. Women who are already active business actors in the value chain will be identified as well as opportunities mapped out for the development of new SMEs that can offer not only income to women as business owners but also generate employment for women. The project will devise capacity-building measures tailored to the aspirations, needs and capacities of women and linked to the support for agricultural production provided by the project under activity 1.2.2. Key in enhancing the role of women in agriculture-based industries is developing their entry-level entrepreneurial skills, in particular related to product development and the identification of market opportunities as well as their skills in marketing. Support measures will focus on opportunities linked to innovative green markets and on developing value-added products, including establishing linkages with the tourism sector and enhanced opportunities through the Green Listing process.

b. Gender risks and opportunities

i. Site-level gender analysis

The project preparation phase has already provided first opportunities to study the socio-economic conditions of men and women in Sri Lanka and in the project area, the relationships between men and women, access to resources, their activities, and the constraints they face relative to each other as well as developmental opportunities of women and men. Once the actual sites for the field interventions for achieving improved land and water management, enhanced primary production and upgraded value chains are defined, the project team will drill deeper in the analysis of gender relevant differences and opportunities. This will happen as part of the rapid social baseline analysis planned for each selected site and involve in-depth consultations and focus group discussions with local communities and other relevant stakeholders and through dedicated and separate consultation of women groups and individuals. A sample template outline of the topics covered by the rapid analysis is provided in Annex 10.3 of the ESMF.

This site-level analysis will enable an in-depth understanding of the key socio-economic and cultural features of the different social groups, including prevailing livelihood activities and sources of income, dependence on natural resources, differences in capabilities, know-how and access to resources as well as risks and challenges faced by social groups, including issues of discrimination and marginalization. The data will be disaggregated by gender in order to work out differences in roles, practices and knowledge, on rights and power (including influence on decision making) as well as access to and control over resources. Specific attention will be given to female-headed households.

Having applied a gender-lens for the analysis will be critical when designing the field interventions to ensure they are gender-responsive and, wherever possible, gender-transformative, and that potentials for the promotion of gender equality are sought as well as unintended negative impacts avoided. The latter is the focus of the ESMS screening process further elaborated in the ESMF.

ii. Access to technology and extension services

According to FAO (2018), there is a significant gap between men and women with regard to access to agricultural technology. It is largely men who have technical farming knowledge and competencies and who use technology. The main advisory and support systems for agriculture is implemented by the Ministry of Agriculture through the Department of Agriculture (DOA) and the Department of Agrarian Development (DAD). The provision of technical advice is the responsibility of 'agriculture instructors' who are part of the extension system and have offices in Agrarian Services Centres located at subdistrict levels. Services include providing subsidies to farmers, strengthening farmer organizations and managing Farmers Bank. However, coverage of extension services is not sufficient, as the range of instructors must cover has become too large, and the delivery of services is clearly not gender-sensitive; and while the Farmers Bank, which is run by the DAD, has some programmes that target women, these programmes do not ensure equitable access to technical knowledge, capital, and subsidies (FAO, 2018).

Another programme for promoting rural women is the long-standing Women Farmer Extension programme, which is managed by the provincial agriculture departments and implemented by 'subject matter officers' at the district level. It generally includes training in agricultural processing and entrepreneurship. As a result of this training, some women have succeeded in starting their own small businesses, but it is far from sufficient in size and geographical range.

The project will capitalize on the experience of the latter program and ensure that services and training provided by the project are gender-sensitive. This includes ensuring that the delivery of service is geared toward capacity needs experienced by women, respects the cultural conditions of women and attentive of restrictions or challenges to women participation. Examples of the latter are a) women responsibility in day to day household work not allowing time to participate; b) certain ethnic practices that discourage women to participate (e.g. in the case of the Moors); and c) age and mobility restrictions.

iii. Participation of women and men in decision – making processes

The patriarchal nature of the cultural system in Sri Lanka, which favors men and boys and withholds opportunities for women and girls is a serious challenge for women empowerment and achieving greater representation of women in institutions across the political and economic sphere. The project will address these challenges by seeking opportunities by actively strengthening participation in relevant formal and informal local institutions and promoting leadership of women in the institutions' governance structures. This includes organizations established for natural resource management and community level management groups (SIDTS). Experience of the Sri Lanka Community Forestry Program (SLCFP) are very encouraging in terms of achieved inclusion and active participation of women in local forest management focused CBOs. It was noted that in 2014, 52% of the total membership of CBOs were females and 40.2% of the total number of office bearers were females (Tacconi, L., Gamage, D., 2017).

The project will also seek balanced participation of men and women in the local governance structures of the project, encourage active participation of women when fine-tuning the field interventions in order to ensure that women's views and priorities are well reflected. Engaging women in activities related to project monitoring and evaluation will be another important angle of the project.

iv. Protecting the needs of vulnerable groups (women and men)

The Environmental and Social Management System (ESMS) is based on eight overarching principles, one of which is the Principle on Protecting the Needs of Vulnerable Peoples. The principle requires that vulnerable groups or individuals that are or may be affected by a project, are identified as early as possible, and associated risks and potential impacts are assessed. It further asks for ensuring that differentiated mitigation measures are incorporated so that risks and impacts do not fall disproportionately on vulnerable individuals or groups and that vulnerable individuals or groups do not face discrimination or prejudice in accessing benefits and resources provided by the project.

As already mentioned above, once the sites for field interventions have been selected, a rapid social analysis will be carried out in each of these sites to establish the site-level social baseline (see Annex 10.3 of the ESMF for a sample template outline). The analysis will allow the identification of vulnerable groups and sub-groups within each site and a good understanding of their livelihood conditions, causes of vulnerability, economic potentials and capabilities, their needs for climate resilience infrastructure and dependency on natural resource. Depending on the social context, vulnerable groups or sub-groups could be female-headed households, ethnic minorities, marginalized or discriminated individuals or groups, persons with disabilities, people living in poverty or living just above the poverty line who are at risk of impoverishing in case of natural disaster, bad harvest, health issues etc. This understanding will be critical when fine-tuning the field interventions to ensure consideration of the specific needs of vulnerable groups.

It needs to be pointed out that the consideration of the needs of vulnerable groups is already central to the project's theory of change as the project aims to strengthen resilient livelihoods and improve food security of subsistence farmers; and that vulnerable communities are explicitly identified as beneficiary of the project. Hence, the focus in applying the ESMS principle is to avoid unjustified preferential treatment of specific groups and elite capture as well as to ensure that vulnerable groups do not face discrimination (even inadvertent) in regard to accessing services, resources or benefits. This will be important when selecting the sites for irrigation infrastructure or when allocating forestlands to communities for being used as forest plantations. Whenever technically possible, affirmative action in favor of women or of vulnerable men and women is desirable, e.g. establishing more than 50% of agreements for farmer woodlots with women or allocating underperforming plantation land as home gardens to female-headed households.

The project will apply the following approach to assure that women have equitable access to project resources, services and activities:

- Seek input regarding planning, implementation and priorities from women;
- Special attention will be paid to female-headed households due to their increased vulnerability to climate change impacts and poverty;
- Plan activities to meet women's time availability, location restrictions, and specific priorities;
- Organize women's groups and women only activities, if necessary, to provide an environment conducive for women to participate, share their knowledge and learn more effectively; and
- Facilitate and promote women's access to key resources, such as land and technology and technical assistance.

Experience demonstrates that this approach will strengthen women's involvement and knowledge, as well as lead to enhanced confidence regarding their knowledge of agricultural and natural resource management options, build their leadership skills and strengthen their motivation to contribute to public discussions.