



AGROFORESTRY AND HOMEGARDENS

Gender and Sustainable Land Management (SLM)

Gender equality is a key entry-point for SLM adoption, spread and upscaling. The joint WOCAT-UNCCD project on gender-responsive SLM technologies and approaches was launched in 2020 to fill the gap in the availability of gender-disaggregated data. The project deepens the analysis of SLM practice adoption patterns, assesses and analyses their differentiated impacts on women and men and informs gender-responsive policy design aimed at achieving land degradation neutrality.



Methods and data

A gender questionnaire (QG) was developed and reviewed by 20 gender and SLM experts and piloted in 15 countries to test the methodology, the applicability of the tool and the relevance and use of the data collected. Five technology group profiles for gender-responsive SLM technologies and approaches were elaborated based on the WOCAT global SLM database and piloting data. The data under this profile cover 8 Technologies and QGs. Hence, the data is not comprehensive and there are gaps in terms of practices and regions. Two exemplary technologies are attached to each profile.

Mixed production systems in the farm and at home: looking after land and families

Agroforestry can be simply called “trees in productive systems”. More technical speaking, it is a collective name for land use systems where woody perennials are integrated with crops and/ or livestock for a variety of benefits and services. Integration can be either through a spatial mixture or in a temporal sequence. Agroforestry may help create micro-climates and buffer weather extremes. Homegardens are a specific form of agroforestry, comprising trees, perennial and annual crops in a series of “storeys” around the homestead.

These systems diversify food and income sources, improve land productivity and counter land degradation by providing (at least some) perennial cover. Soil organic matter content, fertility and biological activity are improved, and so is hydrological function of the land. Under homegardens, production is mainly for home consumption but surplus may be sold. Homegardens provide opportunities for women, children, the elderly and the disabled, to work productively close to home. They can protect against extreme climatic conditions and provide a resilient system that makes use of abundant fertility, water and labour close to the home.

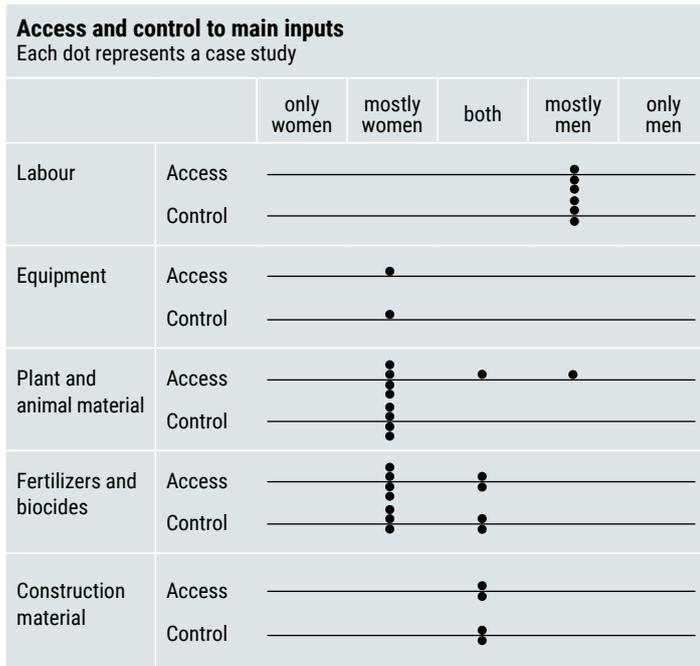
Agroforestry embraces a wide range of practices: these include alley cropping; dispersed trees; parkland systems; improved fallows; windbreaks and shelterbelts. Multi-storey cropping is most commonly associated with homegardens – which themselves are very varied.

Such systems can be found in all kind of environments from low rainfall (semi-arid and subhumid) areas with low tree densities and high rainfall areas (subhumid to humid) with high-density systems.

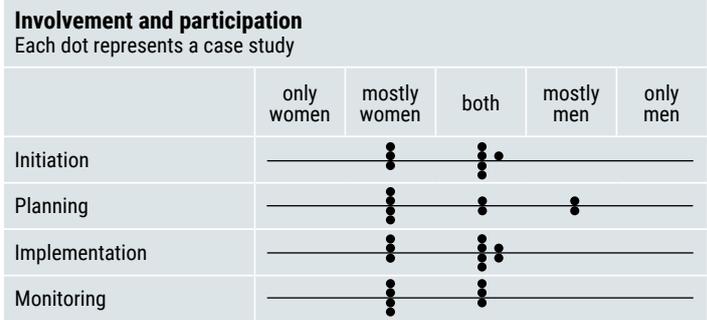
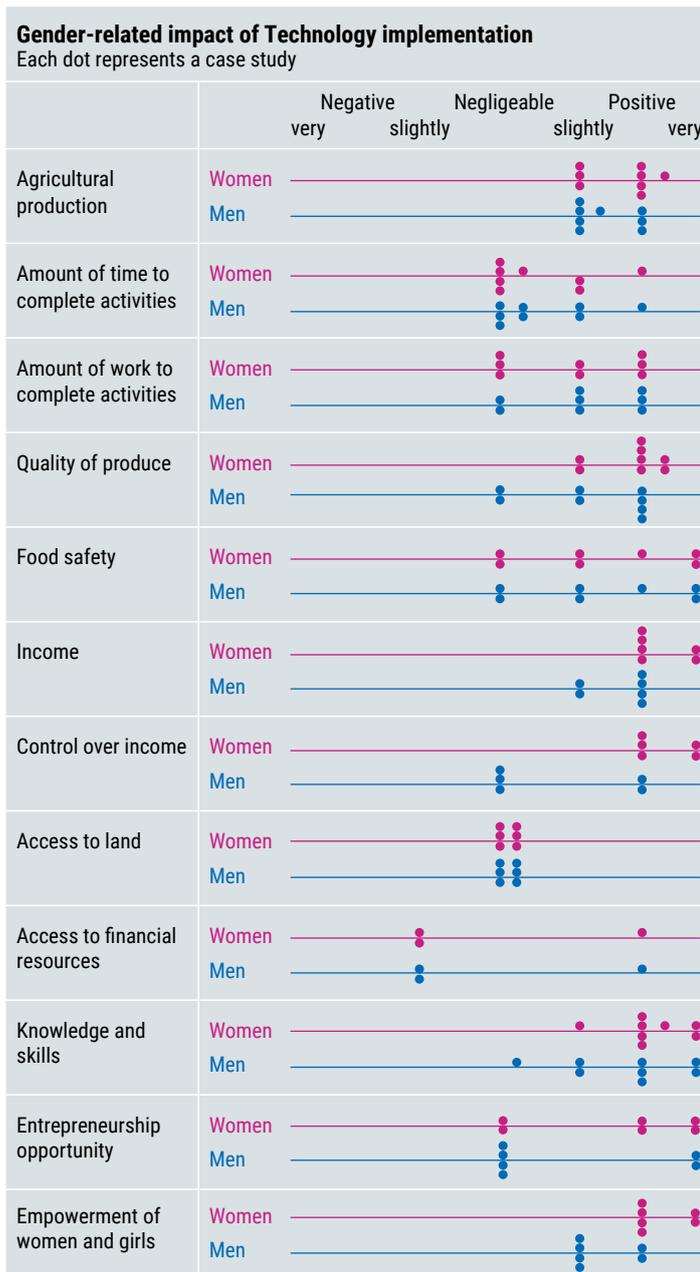
Policy recommendations

- Build awareness to address structural barriers, customary laws, beliefs and cultural norms that limit women’s mobility and their access to labour, land, financing and training.
- To increase a technology’s (or a set of complementary technologies’) appeal, uptake and ownership, involve women and men equally in design and allocation of steps in implementation.
- Provide innovative mechanisms and gender-specific incentives that facilitate access to finance by women, so that they can participate better in building agroforestry systems.
- Strengthen awareness about equal benefit-sharing through appropriate distribution of tasks in developing productive homegardens.
- Adapt specific technologies to the physical capacity of women: for example, establishing vegetative barriers of shrub and tree species instead of earth/ stone bunds.
- Train more female extension workers to provide tailored and gender-responsive advisory services.

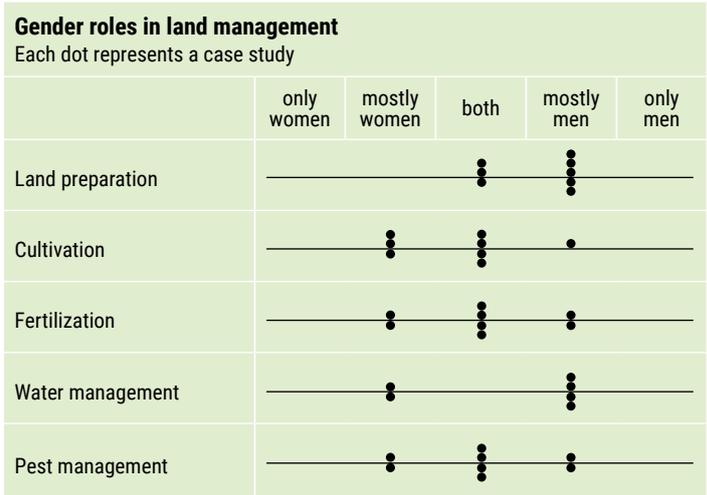
Technology-related aspects



Access: Right to use resources **Control:** Power to decide on the use of resources



Community-related aspects



Ownership and tenure rights

	Women number of case studies	Men number of case studies
Access to land	8 inherited 3 bought	8 inherited 5 bought
Quality of land	7 marginal land 6 fertile land	7 marginal land 6 fertile land
Tenure rights	5 individual (titled) 3 individual (not titled) 3 leased	5 individual (titled) 3 individual (not titled) 3 leased
Perceived land right security	0 low 1 medium 5 strong	0 low 1 medium 5 strong
Ownership of livestock	Large (5) and small (5) ruminants	Large (8) and small (4) ruminants

Land use rights

Type	Gender-specific number of case studies	Not gender-specific number of case studies
Statutory	0	7
Customary	1	0
Inheritance	3	5

Literature

Jhaveri, Nayna. 2021. Gender, tenure security, and landscape governance. PIM Flagship Brief November 2021. Washington, DC: International Food Policy Research Institute (IFPRI).

Teeken, B., Garner, E., Agbona, A., Balogun, I., Olaosebikan O., Bello, A., Madu, T., Okoye, B., Egesi, C., Kulakow, P., Tufan, H.A. (2021). Beyond "Women's Traits": Exploring How Gender, Social Difference, and Household Characteristics Influence Trait Preferences. *Front. Sustain. Food Syst.* 5:740926. doi: 10.3389/fsufs.2021.740926



The land user is applying the decomposed rice straw in her home garden; Photo: National Agriculture and Forestry Research Institute (NAFRI), Lao PDR

Rice straw mulching of vegetables in homegardens [Lao PDR]

Description

The use of decomposed rice straw in homegardens is an effective soil improvement practice. The decomposed rice straw helps to improve soil moisture, and provides organic matter to the soil. This is a cost-effective soil amendment practice and results in increased crop yields.

Land users store the rice straw in specific locations after the rice has been harvested. They stockpile the straw in parts of the rice field that had been water logged or at least in the wettest areas. This way, the rice straw absorbs water before being collected at a later stage. If the rice straw is not heaped, it will dry out and be dispersed by the wind. Typically, there are two times in the year when the farmers are active in the production of compost from rice straw. The first is in October after the rice has been harvested and when there is not a lot of rain. The second occasion is January to February, which allows a period of 4-5 months for the rice straw to decay after it has been collected. The only raw materials needed for rice straw compost are the decomposed straw and soil. Equipment required consists of a knife for cutting the straw, and bags for the collection, as well as a hoe for preparation of the vegetable plot.

The compost production process begins with collection of two bags (20 kg total) of decomposed rice straw from the rice field, which is then well mixed with one bag (10 kg) of soil. This mixture should be applied directly onto the vegetable plots before sowing. Experience shows that after application of the rice straw compost, vegetables grow strongly and are not disturbed by pests or insects. The soil gradually became darker, which is an indicator of good soil fertility. Currently, local people are able to cultivate three crops per year, which generates additional income for each household.

Women-friendliness of SLM Technology

Rice straw mulching is mostly implemented by women. But carrying rice straw from the paddy fields is hard work and an issue for women – because they cannot ride motor-bikes and therefore need help from their husbands.



Location:

Darktaor noy village, Darkchung district, Xekong province, Lao PDR

Land use:

Cropland – Annual cropping

Types of degradation addressed:

Soil degradation

Main purpose(s) of the technology:

- improve production
- reduce, prevent, restore land degradation
- create beneficial economic impact

References

Compiler of Gender Questionnaire:

Bounthanom Bouahom, National Agriculture and Forestry Research Institute

Date: December 2021

Key informant(s):

Thipchan, Provincial Agriculture and Forestry Office

Visit in WOCAT database:

qcat.wocat.net/en/summary/2062



Meeting with land users to discuss gender-related issues and collect gender-disaggregated data; Photo: Bounthanom Bouahom



Using rice straw mulching for soil improvement in the vegetable home garden; Photo: Bounthanom Bouahom

Main establishment and maintenance activities			
Activity	Labour by family	Reason	Labour
Plot preparation	Mostly men	Heavy workload	Hired: none Exchange*: none
Collect rice straw	Mostly women	Cultural Customs and taboos	Hired: no Exchange*: none
Carry rice from field to village	Mostly women	Cultural Customs and taboos	Hired: none Exchange*: none
Mix soil with decayed rice	Mostly women	Cultural Customs and taboos	Hired: none Exchange*: none

* Labour exchange within community

Cultural customs and taboos

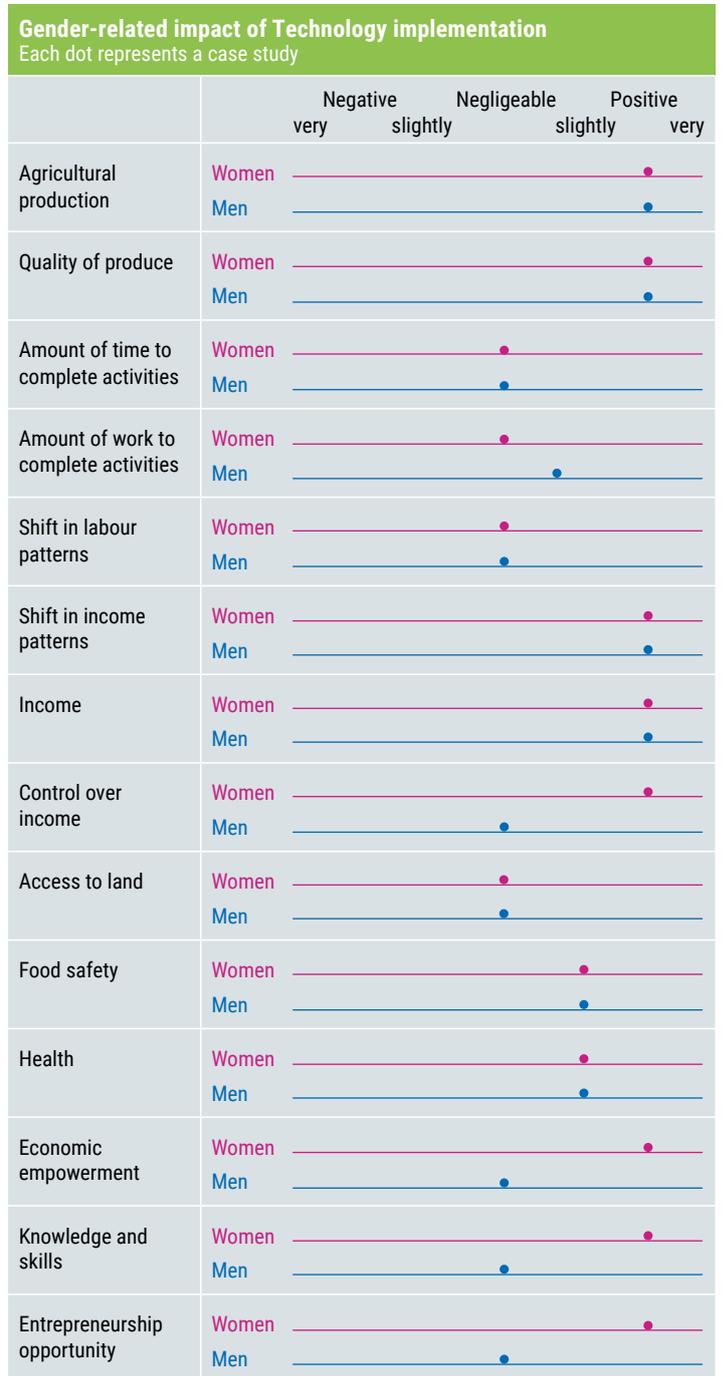
It is not allowed to bring cattle manure to the vegetable home garden.

Land tenure

Customary land use rights are gender-specific in favour of men. When women get married, they move to their husband's family and cultivate their land.

Recommendations to improve gender-responsiveness of the Technology?

The main issue in implementing this technology is the transportation of the rice straw from the paddy fields to the villages. Women do not ride motobikes and men do not have time for the transportation. The technology would be more gender-responsive if men can support women in the transportation.





Contour platforms on a slightly flat land plot with Vanilla plants which were covered with mulch; Photo: Gamini Warusamana

Individual platforms and contour platforms [Sri Lanka]

Description

Individual platforms and contour platforms are small terraces that control soil erosion in homegardens and enable the cultivation of vanilla as a cash crop.

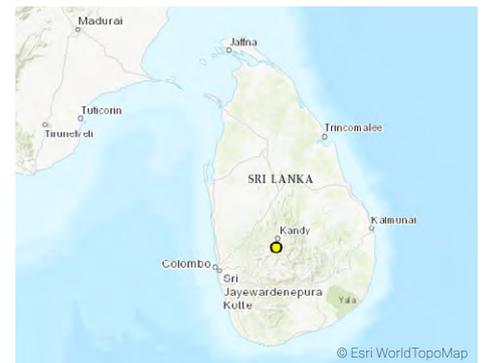
Traditionally, homegardens with randomly planted perennial trees are shady. Therefore, farm families generally believe that cultivation of cash crops in their homegardens is impossible. The introduction of vanilla production, supported by small bench terraces termed “individual platforms” and “contour platforms” has proven the contrary. Vanilla is a shade-preferring crop, and it is highly valuable with potential to generate good income. The platform terraces help conserve soil.

Vanilla grows particularly well where the soil organic matter content is high. Organic matter required to enrich the soil can be collected directly from the homegardens (leaves and residues) and is also derived from organic kitchen waste. These organic residues are recycled into compost, and then used for the cultivation of vanilla. Additionally, mulching is practiced to control topsoil erosion. Each vanilla plant – a tropical climbing vine – grows up a previously planted two-meter-high *Gliricidia sepium* tree. *Gliricidia* serves on the one hand as a “living support stick” and provider of shade and, as a leguminous tree (family: Fabaceae), it has the potential to fix nitrogen in the soil.

Platforms (small terraces) are constructed and used for vanilla cultivation. The individual platforms are constructed around the planting hole and are one meter wide and two meters in length. The distance between two platforms is the same (minimum 2 meters) as the space between the vanilla plants. The lower edge of the platform has a shoulder bund or “lip”, stabilized with coconut husks, tree logs, and stones.

Women-friendliness of SLM Technology

Women need men’s assistance in land preparation when the land slope becomes steep (slopes range from 5% to 45% in the village). Men plant *gliricidia* (*Gliricidia sepium*) as a shade and support tree. The women can easily attend to planting vanilla, tree training, fertilizing, pollination and harvesting.



Location:

Doluwa, Central, Sri Lanka

Land use:

Agroforestry

Types of degradation addressed:

Soil erosion by water

Main purpose(s) of the technology:

- improve production
- reduce, prevent, restore land degradation
- protect a watershed/ downstream areas – in combination with other Technologies
- create beneficial economic impact

References

Compiler of Gender Questionnaire:

Rotawewa Bandara, Gunasena Nimal

Date: February 2022

Key informant(s):

Iroshani Senawirathna and Ekanayeka, both Government officers

Visit in WOCAT database:

qcat.wocat.net/en/summary/5757

qcat.wocat.net/en/summary/5177



Discussion group to test the gender questionnaire; Photo: Rotawewa Bandara



Stone terrace for vanilla cultivation; Photo: Bandara Rotawewa

Main establishment and maintenance activities			
Activity	Labour by family	Reasons	Labour
Construction of contour or individual platform	Both		Hired: none Exchange*: none
Reinforcement of the shoulder bunds with coconut husk/ tree logs/ etc	Both		Hired: none Exchange*: none
Preparing of compost and mixing it into the top soil	Mostly women	Cultural customs and taboos	Hired: none Exchange*: none
Vanilla plant training and pollination	Mostly women	Cultural customs and taboos	Hired: none Exchange*: none
Harvesting and marketing	Mostly women	Cultural customs and taboos	Hired: none Exchange*: none

* Labour exchange within community

Cultural customs and taboos

The society expects women to do a considerable amount of household work, take care of children and husbands; it's a common myth that a women are restricted to household tasks. Patriarchy and marriage support this marginalization as an accepted norm.

Land tenure

Sri Lanka constitution is non discriminatory on land ownership. Though the constitution implies equal rights, there are some inequalities with regards to ownership of land and property under 'personal laws' operating in the country.

Recommendations to improve gender-responsiveness of the Technology?

Implementing this technology is time-consuming; off-season months are suitable to introduce the technology when women and men can spend more time for establishment activities. Men's participation in weeding and plant training will ease women's workload.

