



FEED AND FODDER FOR LIVESTOCK

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 2 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.

Improving animal nutrition: managing rangeland, pastures and crop-livestock systems

Pastoralism means extensive production systems of livestock using pastures – of grasses and herbs for grazing, and bush and trees for browsing. It is based on open grazing lands: these include savannahs, grasslands, prairies, steppes and shrublands. They are managed through herding – or mobility mechanism including nomadism and transhumance. Fire is often still used as a tool to curb bush and stimulate regrowth. Many pastoralists actually practice “agro-pastoralism” where livestock raising is combined with opportunistic cropping. In integrated crop-livestock systems, which incorporate more intensive production practices, the waste product of one serves as a resource for the other. So, manure is used to enhance crops, while crop residues and by-products provide supplementary feed to animals.

Pastoralism is based on continuous adaptation to highly uncertain environments, especially climate. At its best, it combines economic production in marginal land, with the benefits of carbon sequestration and environmental protection. Well-managed crop-livestock systems increase crop yields, improve soil fertility, reduce erosion, improve livestock productivity and health and reduce reliance on external inputs.

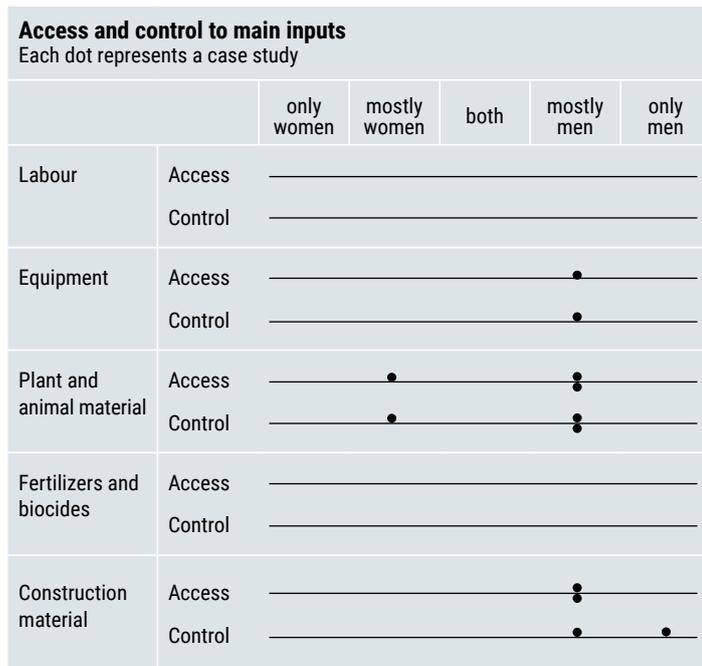
Technologies include establishment of feed banks; improvement of herd composition and health; a more strategic distribution of watering points; adaptive/ rotational grazing; land use plans and effective communal tenure and governance systems. There are also shifting night enclosures; fodder planting, hay making, and stall-feeding systems.

Pastoralism is mainly found in arid and semi-arid areas, while integrated crop-livestock systems prevail in subhumid to humid areas.

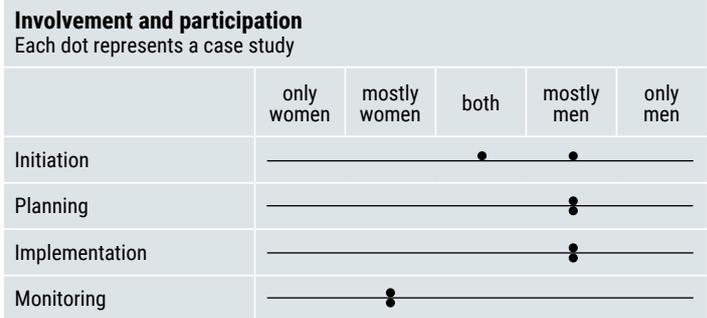
Policy recommendations

- Security of land tenure is key: it must be given priority.
- Strengthen legal awareness of rules pertaining to resource rights, urgently, within communities.
- Rules of inheritance and access to land and its resources need to be clarified – and made more equitable for women and men – to ensure optimal livestock management.
- Affordable technology for women can be facilitated by providing flexible payment solutions: thus always consider payment by instalments, or by proving technology in increments.
- Enable access to credit on low interest terms – and without collateral – as this is especially important for women, in order for them to participate in livestock enterprises.
- Support women’s savings and credit groups. This is a proven method of building their ability to invest in inputs.
- Provide assets, such as dairy cows, sheep or goats: this is a powerful way to provide valuable, and valued, start-up capital.
- Build women’s entrepreneurial skills and financial literacy: this empowers them to control, and benefit from, new technology related to livestock enterprises.

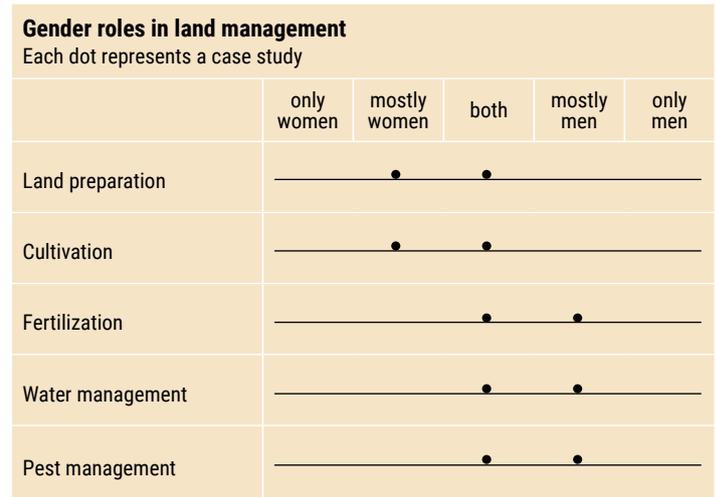
Technology-related aspects



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	2 inherited 2 bought	2 inherited 2 bought
Quality of land	2 marginal land	2 marginal land
Tenure rights	1 open access 1 individual (titled) 2 individual (not titled) 1 shared	1 open access 1 individual (titled) 2 individual (not titled) 1 shared
Perceived land right security	1 low 0 medium 1 strong	1 low 0 medium 1 strong
Ownership of livestock	Few large and small ruminants	Many large and small ruminants

Land use rights

Type	Gender-specific number of case studies	Not gender-specific number of case studies
Statutory	0	2
Customary	2	0
Inheritance	1	1

Literature

- Flintan, F. 2021. Pastoral women, tenure and governance. ILRI Research Report 92. Nairobi, Kenya: ILRI.
- Najjar, D., & Baruah, B. (2021). Gender, livestock rearing, rangeland use, and climate change adaptation in Tunisia. ICARDA.
- Ravichandran, T., Farnworth, C.R. Galiè, A. (2021). Empowering women in dairy cooperatives in Bihar and Telangana, India: A gender and caste analysis. Agri-Gender Journal of Gender, Agriculture and Food Security 6(1):27-42.



Throughout seasons of abundant forage, farmers make hay to feed to the goats during the dry season when pastures are scarce; Photo: Priscilla Vivian Kyosaba

Semi-intensive goat farming for pasture conservation [Uganda]

Description

In a semi-intensive system, animals are kept under confinement in which they are stall-fed for a period of weeks to months, especially during the dry seasons, followed by a period of open grazing/ browsing during the rainy season.

This semi-intensive goat rearing practice is a compromise between extensive and intensive grazing/browsing systems. It is practiced where there is a shortage of pasture during the dry season, and high chances of spreading diseases. The goats are kept under confinement for weeks to months, especially during the dry season. Shelter for the goats is made from relatively cheap materials that are readily available to the farmers. A farmer can rear 70 goats on a 0.4 ha plot of land using this technology.

During the dry season, the animals are fed on maize bran, iodized salt, peelings from bananas, cassava, and sweet potatoes, improved grasses (Napier), and forage species planted along the boundaries of banana plantations.

The extensive system is practiced during rainy season where the farmer grows a mixture of fodder species including sesbania trees and Napier grass grown on half a hectare of land. Sesbania is a fast-growing leguminous tree. The leaves of sesbania are highly palatable and liked by goats. The protein content is about 25%. Sesbania is spaced at 100 cm x 100 cm, and Napier grass is planted in rows at a spacing of 60 cm x 60 cm.

Throughout seasons of abundant forage, farmers harvest the forage together with grasses, and make hay to feed to the goats during the dry season when pastures are scarce. The cost of harvesting the hay is comparable to the cost of paying a herdsman in open grazing systems.



Location:

Kabale District, South Western Uganda and Kabarole District, Western Uganda

Land use:

Grazing land – Intensive grazing/ fodder production

Types of degradation addressed:

Biological degradation
Physical soil deterioration

Main purpose(s) of the technology:

- improve production
- create beneficial economic impact
- prevention of diseases

References

Compiler of Gender Questionnaire:

Priscilla Vivian Kyosaba, Uganda Land Care Network

Date: January 2022

Key informant(s):

Byarugaba Kenneth, Chairman

Visit in WOCAT database:

qcat.wocat.net/en/summary/3363

Women-friendliness of SLM Technology

The technology is most easily applied by men – as they own land and animals and have a financial advantage over women. Nevertheless, women can potentially be involved in the stall-feeding process itself.



Visiting the goat-shelter after the group discussion; Photo: Priscilla Vivian Kyosaba



Goats are kept under confinement during dry season in which they are stall-fed; Photo: Priscilla Vivian Kyosaba

Main establishment and maintenance activities

Activity	Labour by family	Reason	Labour
Acquiring space for structure	Mostly men	Heavy workload, farm management decision	Hired: mostly men Exchange*: none
Construction of animal shelter or stalls	Mostly men	Heavy workload	Hired: mostly men Exchange*: none
Acquiring goats	Mostly men	Farm management decision	Hired: none Exchange*: none
Cutting pastures and feeding animals	Mostly women	Farm management decision	Hired: both Exchange*: none
Cleaning animal stalls or shelters	Mostly women	Heavy workload, farm management decision	Hired: both Exchange*: none

* Labour exchange within community

Cultural customs and taboos

Intra clan marriage is a taboo.

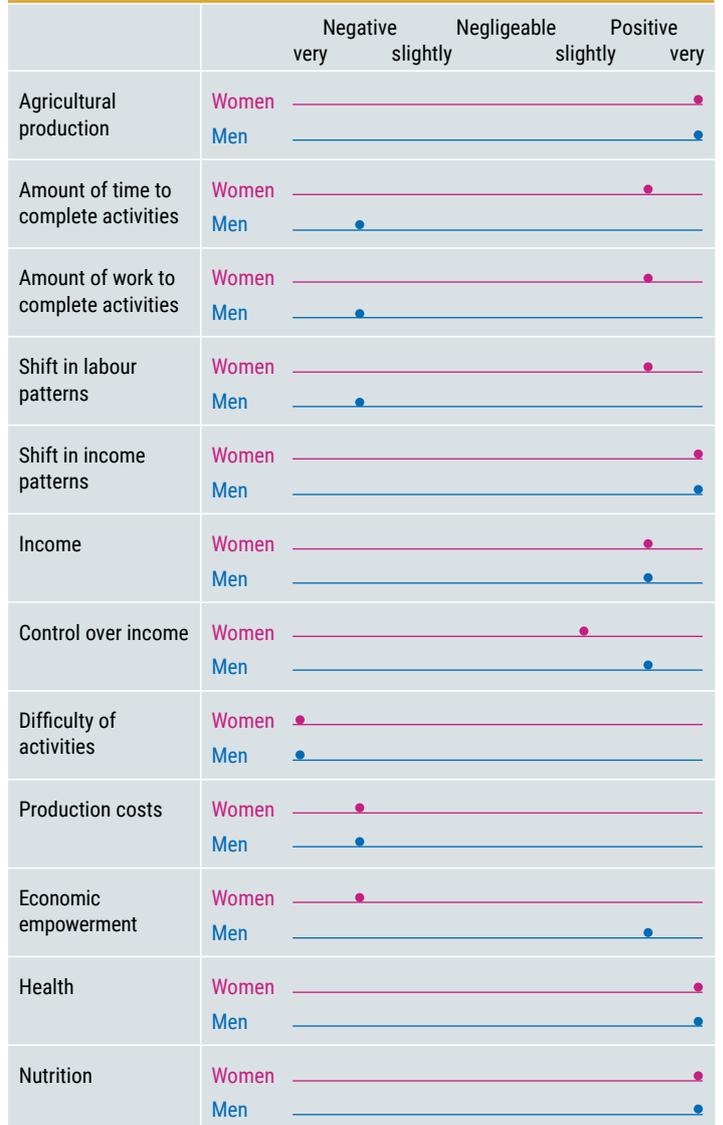
Land tenure

Women and men have the same rights to inheritance however distribution depends on the person leaving the assets i.e. land. Men are mostly considered when land is distributed in family. Statutory land use rights are not gender-specific and therefore treat men and women equally.

Recommendations to improve gender-responsiveness of the Technology?

The main constraints in applying this technology are high implementation and maintenance costs (e.g. establishment of shelter, acquiring the animals etc). As men have better access to land and financial resources, they mostly engage in the establishment activities. Gender-responsiveness can be improved in supporting access to finances for men and women equally.

Gender-related impact of Technology implementation
Each dot represents a case study





Stall Feeding of a Friesian Cow to facilitate the collection of manure for soil fertility improvement; Photo: Priscilla Vivian Kyosaba

Stall-feeding of dairy cows through “cut-and-carry” [Uganda]

Description

This technology involves zero grazing by cut-and-carry feeding. Cows are confined inside a stall, and feed and water are provided.

Due to land fragmentation and conflicts, traditional grazing systems where animals are reared on open grasslands is no longer feasible, or sustainable, since grassland is limited and stray animals destroy neighbouring crops. For dairy farmers, stall-feeding is an innovative and promising system.

In this practice, a Friesian dairy cow and her calf are confined inside a stall. The stall has four partitions. A calf room, a milking parlour, a feeding and drinking area, and a resting room. Within the feeding area is a wooden box of 0.5 m x 1.5 m into which feed is placed for the animal. A half drum that holds 80 liters of water is also located there. Both the wooden feeder and half drum are raised to a height of 0.5 m above the ground surface to prevent contamination of the feed with dung and urine. The farmer cultivates 0.4 hectares of Napier grass, which provides adequate feed for the demands of the cow (75-100 kg of fresh grass per day). The Napier grass is cut, chopped and put inside the wooden trough, while water is fetched from the stream and poured into the half drum.

Through this method, animal movement is restricted. This reduces the exposure to parasites such as ticks which cause diseases such as the deadly East Coast Fever. This practice also reduces land conflicts caused by stray animals destroying neighbours' crops. The animal does not waste energy to look for pasture and water, hence milk productivity is enhanced. Manure is also deposited within the feeding area and thus easy to collect for composting and then application to the farmers' crop and pasture fields. Animals do not need to be attended to, hence the farmer has more time to rest and carry out other activities.

Women-friendliness of SLM Technology

The technology is easily applied by men as they own land and animals and have the financial strength over women. Nevertheless, there are many women involved in such systems in Uganda.



Location:

Northern Region and Rubanda District, South Western Uganda

Land use:

Grazing land – Intensive grazing/ fodder production and Cropland

Types of degradation addressed:

Chemical and physical soil deterioration

Main purpose(s) of the technology:

- create beneficial economic impact
- create beneficial social impact

References

Compiler of Gender Questionnaire:

Rick Kamugisha, Uganda Land Care Network

Date: January 2022

Key informant(s):

David Musinga, Local Council Leader

Visit in WOCAT database:

qcac.wocat.net/en/summary/5466



Interviewing the key informant before the group discussion; Photo: Priscilla Vivian Kyosaba



The cows do not graze but are confined inside the stall, feed and water is provided for the animals; Photo: Issa Aiga

Main establishment and maintenance activities			
Activity	Labour by family	Reasons	Labour
Land excavation	Only men	Heavy workload	Hired: only men Exchange*: none
Installation of the stalls, fence, roof and floor	Only men	Heavy workload	Hired: mostly men Exchange*: none
Land preparation/ planting of pastures	Both		Hired: none Exchange*: none
Cut and carry of feed	Mostly women	Migrated men	Hired: mostly men Exchange*: none
Cleaning	Mostly women	Migrated men	Hired: none Exchange*: none
Milking	Mostly men	Heavy workload	Hired: mostly men Exchange*: yes

* Labour exchange within community

Cultural customs and taboos

Intra clan marriage is a taboo.

Land tenure

National laws give equal access and use of land to both women and men in the courts of law although at community level customary rights are considered. Customary inherited land usually favors men. Women only inherit land of their deceased husbands. Most water sources are public entities which are equally accessed by both men and women.

Recommendations to improve gender-responsiveness of the Technology?

The technology is mostly implemented by men because they own most of the land and have easier access to finances. The gender-responsiveness could be improved by women's participation in decision-making and access to land and financial resources (e.g. low interest loans with no collateral needed).

