



Food and Agriculture  
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United Nations

# Promoting sustainable agricultural mechanization for smallholder farmers

Five **STEPS** to develop effective business models



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# Overview

Sustainable agricultural mechanization (SAM) plays a crucial role in transforming food systems by reducing work burdens, minimizing food losses, creating jobs, and increasing precision, productivity and income (Box 1).

In rural communities, smallholder farmers run various business models for agricultural mechanization. The most common include mechanization hire services, mechanized value addition of food products, leasing, maintenance and repair services, and manufacturing (Box 2).

This five-step guide helps practitioners and project managers improve rural livelihoods by creating or improving business models for sustainable agricultural mechanization for smallholder farmers.



## **BOX 1: What is sustainable agricultural mechanization?**

Sustainable agricultural mechanization is the use of the appropriate machinery and equipment across the entire agrifood value chain – from production to post-harvest operations and transport. This allows for an efficient use of resources, therefore enhancing farmer productivity and profitability.

Despite potential trade-offs, SAM needs to be aligned to the socioeconomic context of rural community members, to ensure inclusive opportunities, reduce negative environmental impacts, and ultimately strengthen the resilience of local food systems. For more information please visit <https://www.fao.org/sustainable-agricultural-mechanization/en/>

Source: Author's own elaboration.

## **BOX 2: Common business models for agricultural mechanization run by smallholder farmers**

### **MODEL 1) MECHANIZATION HIRE SERVICES**

In this model, individual farmers or farmer groups deliver to customers a single or multiple mechanization services, for a fee. Customers generally include other farmers, but also middlemen and small businesses. Diversifying the services offered to farmers by type of crop operation, and off-farm services, such as rural transportation, secures additional income throughout the year. For example, a business can provide harvesting services for cassava and complement this service with maize shelling throughout the year. As these operations occur at different times of the year or in different seasons, the diversified services provide a source of income throughout the year. However, there is a risk that a lack of demand for the services offered could make the cost of maintaining the machinery and paying the salaries of operators a significant obstacle.

That is why it is very important to assess the market demand and competitors in the area before starting or diversifying a business. There are also opportunities to offer services that are complementary to mechanization. For example, providing harvesting services and aggregating the harvest from various farmers for a fee, or providing planting services and selling agricultural inputs (e.g. seeds, fertilizers, etc.) to farmers for a commission from agrodealers.

### **MODEL 2) MECHANIZED VALUE ADDITION OF FOOD PRODUCTS**

Under this model, individual business owners or group members add value to the harvested crops through post-harvest operations, processing of food products and selling the final product to the market. A women's cooperative processing soybeans into fresh cheese might use mechanization for harvesting, threshing, milling, and pressing, then package and label the final product for market sale.

That said, this model should undertake a careful assessment of the demand for this value addition in the different food/crop value chains in the area. This will serve as a reference for the design and operation of the business.

### **MODEL 3) MECHANIZATION LEASING**

In this type of business model, owners lease their farming machinery or equipment to customers, such as trusted machine operators, for an agreed price. The lease can range from short-term, spanning a few days, to long-term, extending over weeks or months. The lessee then has the opportunity to act as an entrepreneur by offering services (Model 1), adding value (Model 2), or using the leased machinery or equipment for their own production.

## BOX 2: Common business models for agricultural mechanization run by smallholder farmers (cont.)

For longer leasing periods, the contract should stipulate who is responsible for undertaking and paying for servicing, maintaining and acquiring spare parts for the equipment or machinery. While this model demands less logistical effort, planning and management of human resources compared to the first model, it carries a higher risk of improper operation or maintenance by customers. This can lead to underutilization of the machinery fleet or deterioration that is beyond repair.

### MODEL 4) MAINTENANCE AND REPAIR SERVICES FOR AGRICULTURAL MECHANIZATION

Under this business model, individuals in rural communities provide maintenance and repair services to owners of agricultural machinery and equipment for a fee, where typically the business owner is also providing the mechanical services. In some cases, the repair shops also employ a few people who provide the maintenance services. Often, they have learned the skills through on-the-job training. Hence, there is potential to improve the technical and business skills in this business. This business model is essential for agricultural mechanization within a community. It keeps equipment operational, reducing downtime and economic losses from machinery breakdowns during the crop cycle.

### MODEL 5) SMALL-SCALE LOCAL MANUFACTURING OF MACHINERY AND EQUIPMENT

In this final business model, artisans manufacture agricultural equipment and sell the technologies to farmers. Due to the lack of capital, it is common for small-scale manufacturers to only produce on-demand equipment, contingent on a down payment. This type of business requires access to raw materials, capital to invest in equipment as well as updated technical and business skills. However, this type of business can also serve as an incentive to develop localized designs and solutions tailored to the technical challenges faced by farmers and equipment operators.

Source: Author's own elaboration.





## Step 1



**Identify mechanization needs and market demand in the community** through a participatory and problem-solving approach. Encourage community members to discuss (i) the challenges they face in farming and post-

harvest operations, (ii) the root causes of these issues, (iii) potential mechanization solutions to these problems, and (iv) monitor and evaluate the impact of these solutions. Local partners can help facilitate this process.

To identify the mechanization needs and market demand in the community, use or adapt the following questions (Box 3).

### BOX 3: Guiding questions for identifying mechanization needs and market demand in the community

- What are the three most important crops for your livelihood?
- Focusing on the most important crops, what are the most labour-intensive production operations carried out by women and men along the value chain?
- What operations are already mechanized for the most important crops? Please specify whether the operation uses **human power, animal traction or mechanical power**.
- Do you have access to mechanization rental services? Answer with Yes or No.

If **Yes**, for which operation(s) and crop(s)?

If **No**, explain why not.

- Based on your observation, what are the mechanized operations in high demand in the community, and for which crops?
- Are those operations satisfied by the services offered, or is there still more demand than the what is supplied?
- Do you access mechanization hire services for all your operational needs? If not, or only occasionally, for which operations?
- Are there any specific groups or people in the community with difficulties accessing mechanization services? Answer with Yes or No.

If **Yes**, which groups and why?

- Do you belong to any farmers' group or cooperative? If Yes, do you have savings to invest in mechanization technologies?
- Are there mechanics or technicians close by who can repair and maintain the mechanization technologies?

Source: Author's own elaboration.


The responses to these questions will guide farmers in selecting appropriate mechanization technologies and business models. This selection will be based on local needs, technical availability, capacity, and the market demand for mechanization services or value-added products.

Project and programmes can use focus group discussions with the community to explore smallholder farmers' mechanization needs and find potential solutions. Try to

encourage the participation of women, youth, men and the elderly, and not only the dominant voices. Consider conducting female and male focus group discussions separately to ensure all voices are heard.

You can perform one-on-one interviews with farmers and key informants to complement the findings from the group discussions. Make sure to validate the findings with the community and adjust them if required based on the feedback obtained.

Mechanization projects and programmes can adapt the [gender-sensitive mechanization needs assessment](#) (FAO, 2022) to complement the findings from the focus group discussions. This tool is divided into (i) personal information; (ii) characteristics of value chains and division of work; (iii) work burden; (iv) access to agricultural mechanization and constraints; and (v) mechanization hire services.




Having a project team with diverse expertise that complements each other is crucial for implementing sustainable agricultural mechanization projects. Ideally, the team should include an experienced coordinator, an agricultural engineer, an agribusiness expert, and a gender expert. Collaboration can occur with both individuals and organizations.

## Step 2

**Analyse mechanization business models** to understand, replicate or adapt the way existing businesses deliver services or products to customers. Based on the characteristics of existing business models for mechanization, practitioners, along with smallholder

farmers, will improve, adapt, or create new ones. The business model canvas, developed by Osterwalder and Pigneur, is an effective tool for analysing business models (Figure 1).

The information gathered from Step 1 will help determine which business models are worth promoting. This resource Agri-hire in sub-Saharan Africa – Business models for investing in sustainable mechanization (Houmy, *et al.*, 2021) shows examples of business models on mechanization that can help identify models in rural communities.



Before the emerging entrepreneurs decide on which business models they want to implement, validate the information with smallholder farmers and key informants, like local agrodealers or community leaders. It is also important to understand the benefits, costs and risks associated with the various business models. Therefore, discuss the following questions together with farmers and entrepreneurs to make the decision:

- i. Is there market demand for service “x” or product “y”?
- ii. Is it feasible to replicate or adapt the business in this context?
- iii. What are the benefits of creating or upgrading in terms of time saved, income and costs?
- iv. What are the trade-offs to consider?
- v. Is it profitable and can it make money?

**FIGURE 1: Business model canvas adapted to promote sustainable agricultural mechanization**

<p><b>KEY PARTNERSHIPS</b> <u>Who are your public and private business partners?</u> <b>For example, input suppliers, repair shops, training centres, government extension offices, banks</b></p>	<p><b>KEY ACTIVITIES</b> <u>What activities does your business do to deliver the value proposition?<sup>a</sup></u> <b>Include administrative, technical, business management and marketing activities, etc.</b></p>	<p><b>VALUE PROPOSITION<sup>a</sup></b> <u>What type of products or services do you offer in your business?</u> <b>For example, planting, maize shelling at farm gate or rural transport</b> <b>Consider time constraints or demand throughout the year of the services you seek to offer</b></p>	<p><b>CUSTOMER RELATIONSHIPS</b> <u>What do you do to keep your customers satisfied and to gain new ones?</u> <u>Are your customers too costly to serve or reach?</u></p>	<p><b>CUSTOMER SEGMENTS</b> <u>Who are your business customers?</u> For example, smallholder farmers in neighbouring communities</p>
<p><u>What type of resources and activities do you get from your partners?</u> For example, supply of filters, and spare parts, repair services, capacity building, subsidies and finance</p>	<p><b>KEY RESOURCES</b> <u>What type of human capital and assets does your business need to run?</u> For example, book keeper, machine operator, mobile-maize sheller, etc.</p>	<p><u>What needs to your customers have that you can satisfy with your business?</u> For example, women farmers may lack mobility to reach sheller centre; farmers may need to sell their produce at weekly markets</p>	<p><b>DELIVERY CHANNELS</b> <u>How do you deliver your product or service to your customers?</u> <u>Are some channels more cost-effective than others?</u> <u>How do your competitors reach their customers?</u></p>	
<p><b>COST STRUCTURE</b> <u>What are the most expensive fixed and variable costs, including activities, resources, etc.?</u></p>		<p><b>REVENUE STREAM</b> <u>At what price do you offer your product(s) or service(s), does the price vary according to season, and how do you set the price?</u></p>		

Note: <sup>a</sup> Include both female and male entrepreneurs when using the business model canvas to gain different perspectives.

Source: Author, based on Osterwalder, A. & Pigneur, Y. 2010. *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers*. Hoboken, NJ, John Wiley & Sons.

## Step 3

**Select the right size of machinery and equipment,** matching farmers and community needs and responding to market demand, based on the findings from Step 1 and Step 2.

The “size” of the machinery refers to the capacity of the machinery or equipment to perform an operation in

terms of volume and speed, the relevant dimensions and power, and the extent to which they are economically viable. Large machines often require larger tractors or engines to be pulled and consume more fuel. Consider your clients’ average land size and their unique needs, while aligning with the volume of requests you can handle within a certain timeframe.

To determine the right size of machinery and equipment for on-farm and post-harvest operations, it is important to be familiar with the information summarized in Box 4.

### BOX 4: Minimum information required to select the right size of machinery and equipment

On-farm operations for crop production	Post-harvest operations
Average land size under production	Volume or quantity of product (e.g. kg of rice to thresh)
Type of crops	Available energy sources (e.g. electricity)
Available resources	
Expected yields	
Working capacity of the machinery and equipment (how much area/volume/kg per day/hour)	
Number and geographic dispersion of customers (the number of potential clients, their distance, and how they can be reached)	
Timeframe available to do the operation	
Potential to grow (e.g. is there a potential to offer the same service to more farmers, or other services? Are more operators required?)	
Cost of operation per unit of work (hour/hectare/tonne) – including fuel, operator, transport, and recovery cost for basic maintenance	

Source: Author’s own elaboration.

In all cases, it is important to:

- match the working capacity of the machinery and equipment with the demand; and
- understand the timeframe available to complete the operation and plan accordingly to provide the services on time while reducing the risk of food losses.

It is useful to learn from other businesses in the community or surrounding areas and emulate the type of technologies they use.

Focus the selection of the machinery and equipment on those available in the market and manufactured by local entrepreneurs. Mechanization projects and programs may also consider newer machinery that manufacturers and suppliers are attempting to introduce into the market.

If there are multiple options of the same technology available from local manufacturers, suppliers or dealers, ensure that the chosen supplier offers:

- training on the safe and correct use of the technology;
- reliable after-sale support;
- spare parts; and
- a minimum 12-month guarantee.

Other important criteria to consider when choosing machinery or equipment include the availability and cost of spare parts, maintenance requirements, ease of use, and compatibility with local agricultural operations.



### **Different sizes of machinery coexist in the same community.**

In reality, farmers in the same community may use different sizes of machinery or equipment for the same operation. This variation exists due to different farm sizes and varying investment capacities among farmers. For example, large farmers may afford a combine harvester for harvesting, while small farmers may only afford a reaper. Note that "large" does not always mean better. Large equipment can be heavy and bulky, making them less ideal for smaller or less accessible fields, especially when trying to avoid soil compaction and excessive fuel use.

In many Southeast and South Asian countries, both two-wheel tractors and four-wheel tractors provide services in rice fields. It is common to see reapers and powered threshers working alongside combine harvesters, offering harvesting and threshing services to both large and smallholder farmers.

## Step 4

**Build partnerships and collaboration** with private and public institutions and civil society to organize training and awareness campaigns, co-create businesses, leverage resources and influence policies.

Work together with vocational training centres on mechanization and educational programmes linked to mechanization to upgrade their capacities and build local ownership of the intervention. Vocational training centres can also play an important role in identifying potential entrepreneurs in the local communities.

It is also important to reach and involve grassroots organizations that are closer physically and in terms of relationship to rural communities so they can deliver training. These organizations are good entry points for incorporating mechanization interventions in their areas of work to create a multiplier effect on capacity building and support to smallholder farmers. Work with local partners to facilitate the mechanization needs at the community level, organize demonstration days and on-field community testing, and define market demand on willingness-to-pay for services that are important for creating viable business models for sustainable agricultural mechanization.

The private sector encompasses input suppliers (e.g., agrodealers), manufacturers, repair shops, service providers in related value chains, aggregators of agricultural products, food processors, training centres, associations, financial institutions, and companies specializing in technical infrastructure and information and communications technology (ICT).

It is crucial to establish or strengthen relationships between smallholder farmers and the private sector, not only to procure machinery and equipment but also for repairs, spare parts, maintenance, skill acquisition, information and access to credit. For instance, machinery suppliers should offer after-sales support, warranties and spare parts to their customers, such as smallholder farmers. This support fosters investment, market confidence and builds a trusting relationship that can further nurture customer investments in other technologies. Projects and programmes could also assist small businesses that provide after-sales service for mechanization, enhancing their skills, capacities and business relationships with farmers.

To comprehend the socioeconomic and cultural factors that facilitate or hinder the adoption and scaling up of SAM in rural communities, document and disseminate lessons learned and good practices. Additionally, conduct a literature review and key informant interviews with policymakers and other stakeholders to analyse existing policies and programmes on SAM.

Access to capital to invest in mechanization technologies is an obstacle for smallholder farmers seeking to create a business in agriculture. Therefore, it is important to connect them to financial institutions and subsidy schemes. For example, some banks offer finance products, including agriculture credit cards or loans with repayment schedules that coincide with harvest and post-harvest season, which is when farmers typically have available funds. Through projects and programmes, the most vulnerable groups, such as women and youth, can gain access to grants or zero-interest loans with grace periods for investment, particularly targeting those who lack savings or capital. In line with this, calculate a potential down-payment plan over the years by balancing perceived incomes during production cycles, considering the number of potential clients nearby, and understanding the cost structure (see more information in Module 3 of the training manual: *Hire services as a business enterprise*) (FAO and CIMMYT, 2018).



## Step 5



**Improve the collective know-how** of different stakeholders involved in SAM. These stakeholders have different roles and require different skills to perform their jobs in support of SAM development (Table 1).

Table 1. Skills and training required for different stakeholders to ensure sustainability of mechanization interventions

**TABLE 1: Skills and training required for different stakeholders to ensure sustainability of mechanization interventions**

Stakeholder	Role	Skill and training required
Smallholder farmers as hire mechanization providers	Manage agribusiness on mechanization hire services	<ul style="list-style-type: none"> <li>business management, accounting, and marketing;</li> <li>awareness-raising on access to mechanization for vulnerable populations (e.g. women);</li> <li>safe and correct use of machinery or equipment (in cases where they will operate the machinery themselves rather than hiring an operator);</li> <li>review and understanding of machine maintenance to ensure proper equipment upkeep; and</li> <li>basic financial literacy.</li> </ul>
Smallholder farmers engaged in food value addition	<p>Add value to food products and sell them in the market. These farmers may also handle on-farm operations in addition to value addition.</p> <p>Note 🗨️: Women in rural communities are traditionally involved in this type of business, which has great potential for upgrading with the improved access to skills and technologies</p>	<ul style="list-style-type: none"> <li>business management, accounting and marketing;</li> <li>agroprocessing, recipe development, hygiene and cleaning protocols, packaging, labelling techniques, marketing strategies;</li> <li>food quality and food design, and shelf life of your product;</li> <li>safe and correct use of machinery or equipment; and</li> <li>basic financial literacy.</li> </ul>
Machine operators	<p>Operate machines and perform basic maintenance and troubleshooting</p> <p>Note 🗨️: Train landless and young individuals with an interest in this field for job and income opportunities</p>	<ul style="list-style-type: none"> <li>safe and correct use of machinery or equipment</li> <li>principle behind the field operation to ensure quality</li> <li>basic maintenance and machine troubleshooting</li> </ul>
Private and public mechanics	These can be private mechanics who are owners of repair shops or from public offices that perform maintenance and repair of machinery and equipment	<ul style="list-style-type: none"> <li>advance maintenance and repair of machinery and equipment;</li> <li>awareness-raising on gender and social norms that hamper men, women, youth or the elderly from accessing services; and</li> <li>monitor machine mileage or hours of use to schedule preventive maintenance.</li> </ul>
Extensionists and trainers	<p>Responsible for capacity building at national and local level. They work for government institutions, non-governmental organizations (NGOs), engineering and agricultural schools, private training centres, etc.</p> <p>It is important to collaborate with institutions or organizations that are close to the communities to ensure effective outreach</p> <p>Note 🗨️: Collaborate with organizations that are already involved in agriculture, agribusiness or mechanization. This allows them to facilitate access to mechanization in rural communities through their ongoing efforts</p>	<ul style="list-style-type: none"> <li>understand the principles behind field operations to ensure quality;</li> <li>awareness-raising on gender and social norms that hamper men, women, youth or the elderly from accessing mechanization;</li> <li>understand specific community needs; and</li> <li>depending on the work they do, they can receive training as trainers on one or more aspects of mechanization as outlined elsewhere in this table.</li> </ul>

**TABLE 1: Skills and training required for different stakeholders to ensure sustainability of mechanization interventions (cont.)**


Stakeholder	Role	Skill and training required
<p> Policymakers</p>	<p>Responsible for developing local and national policies and strategies</p> <p>Note 🗨️: If possible, bring policymakers to observe the results of the intervention and organize knowledge-sharing sessions with them to influence their work</p>	<ul style="list-style-type: none"> <li>• awareness-raising on gender and social norms that hamper men, women, youth or the elderly from accessing mechanization</li> <li>• enable sector alignment for access to finance of available equipment, spare parts policies and the right to repair, as well as technical curricula development in vocational schools, loans for business start-ups, etc.;</li> <li>• promote knowledge exchange with other countries in the same or different regions to discuss gender-sensitive policies, finance mechanisms adapted to smallholder farmers for mechanization, and an enabling environment for the adoption of mechanization; and</li> <li>• organize study tours for policymakers and donors to visit farmer fields and mechanization interventions, a strategy that has proven effective in Asia.</li> </ul>
<p>Input suppliers, as in agrodealers</p>	<p>Sell and distribute machines and equipment, including spare parts.</p> <p>They provide after-sales support, training, and demonstrations on the operation and basic maintenance of machines. They may also offer credit to customers.</p> <p>Historically, input suppliers have not been direct or indirect beneficiaries of projects and programmes. This needs to change. In many developing countries, the agrimachinery input supplier sector is poorly organized, dominated by more powerful interests, or simply non-existent.</p> <p>Note 🗨️: Suppliers need to have spare parts, and ideally provide a minimum 12-month guarantee for powered machines and equipment</p>	<ul style="list-style-type: none"> <li>• capacity building for enhancing business skills and professionalism to better serve customers;</li> <li>• facilitate the organization of input suppliers and promote fair and competitive markets; and</li> <li>• raise awareness and organize demo days in rural communities to support operator training and service providers, helping them to expand their network.</li> </ul>
<p>Finance institution (e.g. micro credit institutions, agricultural banks, etc.)</p>	<p>These provide credits or loans.</p> <p>It is important to engage with financial institutions that offer services tailored to smallholder farmers' needs, such as accepting the machine being purchased as collateral.</p> <p>Note 🗨️: Farmers with mobile phones can make digital payment to banks. This is an important technology for farmers to have as it allows them to access market prices and agronomic advice, etc.</p>	<ul style="list-style-type: none"> <li>• raise awareness about mobile banking options for farmers; and</li> <li>• develop financial tools tailored to farmers' saving needs and ensure they receive education on rural finance.</li> </ul>

Source: Author's own elaboration.


It is important to link up stakeholders and enhance their skills and common understanding to ensure the sustainability of mechanization interventions. Improving the institutional capacity of public and private training providers, including vocational training centres, NGOs, etc. allows them to provide community-level training, even after the project is over.

Adapt the training material and methodologies to the literacy levels and learning preferences of diverse participants. For example, Figure 2 below is a poster that was developed for both literate and illiterate populations in rural communities to raise awareness about the risk associated with incorrect practices when operating machinery.












**FIGURE 2:** Sample poster on safe/correct use of powered machines that is adaptable for other machines



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## SAFE AND CORRECT USE OF POWERED MACHINES

- ✔ **Get the right skills** for operating the machine.
- ✔ **Read the manual** that comes with the machine.
- ✘ Never let the machine accessible to **children** even when it is off.
- ✘ Never ask **children** to operate the machine.

- ✔ **Wear closed-toe shoes.**
- ✔ **Tie up long hair** to prevent entangling. Keep your hair tamed.
- ✘ **No chappals, no bare feet.**
- ✘ **Do not wear loose-fitting clothing** that may be picked up by moving parts.
- ✘ **Do not wear shawl, saree, and scarf** or similar garments that may be wrapped into moving and rotating parts of the machine.

- ✔ **Be in comfortable position** when feeding the machine (e.g. thresher)
- ✘ **Multiple people** should not climb on the machine platform at once.

- ✔ While operating, keep all shields and guards in place.
- ✘ Never leave the machine unattended while the engine is running.
- ✔ **Keep all flammable materials** (including dry straw) **away from the engine.**

- ✔ **Turn off the machine before touching,** manipulating moving parts or filling the tank.
- ✔ Check if the machine has loose peg teeth, bolts and nuts before operating it.

- ✘ Do not oil, grease or adjust the machine during operation or when hot.
- ✘ Never operate your machine in a closed shed or garage. Exhaust fumes are dangerous to your health.
- ✘ Never remove accumulated straw, grains or other materials inside the machine during operation.
- ✘ Never extend hands or feet into the feed opening of the machine (e.g. thresher, sheller)

- ✔ **Keep a first-aid kit at hand.**

Source: Adapted from <http://www.knowledgebank.in/step-by-step-production/postharvest/harvesting/harvesting-operations/threshing-machine/threshing-machine-threshing-health-and-safety> and Agricultural Engineering Division, NARS, Lalitpur, Nepal.

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Source: FAO. 2020. *Moving forward on food loss and waste reduction*. Rome. <https://openknowledge.fao.org/server/api/core/bitstreams/a986abc7-96f3-4aa1-b134-091e4f11d866/content>



After the training, it is critical to have at least two on-site follow-up visits to trainees, such as e.g. smallholder farmers and mechanics, to reinforce recently learned skills. This is critical to ensure that what has been learned is correctly executed and to provide personalized advice. The longer and more consistently projects accompany farmers, the higher the chances of success in the uptake of mechanization, skills, etc. Promote peer-to-peer networks, provided that the service providers are not in direct competition, for knowledge exchange, troubleshooting, and exploring different market opportunities.



**Women, training location and duration:**

**TIP** When organizing training for any type of stakeholders, it is important to include women as participants. To ensure their participation, consult with them on the ideal duration of the training per day, number of days and location. Remember that women are mostly the main family caretakers and alone are responsible for much of the household chores.

Before deciding the duration of the training, ask women's availability and preferences to increase the likelihood of their participation. Perhaps is better to have 1 or 2 hours of training every day for 4 days than 5 hours in a couple of days.

Location is also important because some women lack mobility and transport to reach farther places. Organizing training close to the communities or, if possible, in the communities themselves are good options. Mobile training centres exist that go from community to community to address this limitation.

In the long term, projects and programmes need to facilitate solving the causes of gender inequalities to improve women's and men's opportunities to reach their full professional and personal potential. The five whys (Georgetown University, 2020, p. 37) or the problem tree (World Health Organization, 2023) can help you identify and analyse the root causes of gender inequalities.



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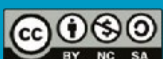
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