



**World
Agroforestry**

IMPACT OF ON-FARM LAND RESTORATION PRACTICES ON THE TIME AND AGENCY OF WOMEN IN THE DRYLANDS OF EASTERN KENYA



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This brief describes implementation work under the ICRAF led project “**Restoration of degraded land for food security and poverty reduction in East Africa and the Sahel: taking successes in land restoration to scale**”.

Lead centre



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www.worldagroforestry.org/project/restoration-degraded-land-food-security-and-poverty-reduction-east-africa-and-sahel-taking

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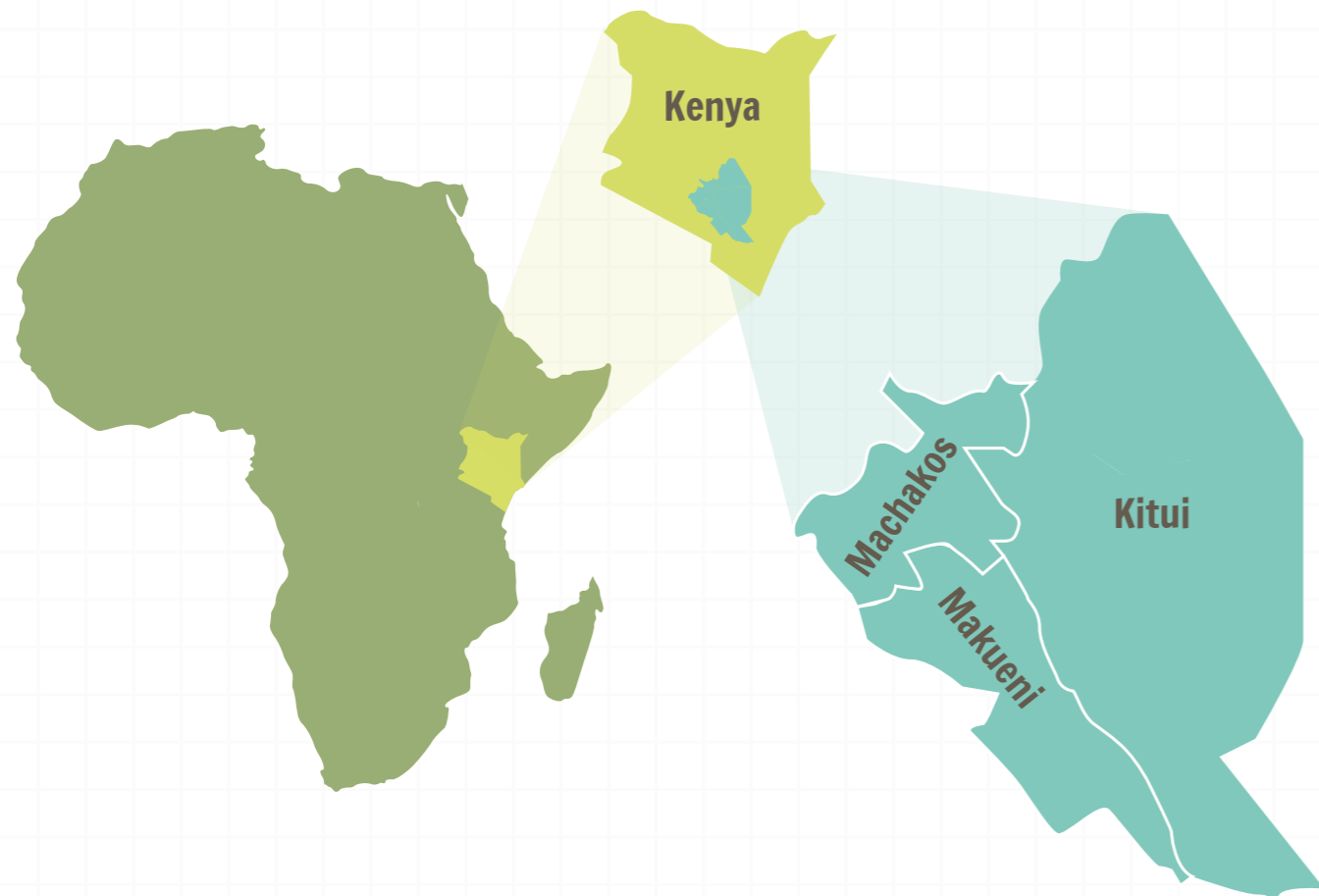
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UNDERSTANDING THE IMPACTS OF LAND RESTORATION INITIATIVES

Given their different roles, responsibilities and access to and control of resources, the costs and benefits of land restoration are likely to differ for men and women. Failing to consider gender dimensions in the design and dissemination of restoration practices can affect their uptake and risks perpetuating existing inequalities¹. Efforts to restore degraded agricultural lands are often knowledge and labour intensive, and risk increasing women's already overloaded workloads and reducing time available for other economic and non-economic activities. Gender dynamics within a household – the relations between men and women that influence the division of labour and the use, control and ownership of household resources – can limit women's participation in decisions about the use of a technology and their access to the benefits of using it.

The World Agroforestry-led project, "Restoration of degraded land for food security and poverty reduction in East Africa and the Sahel: taking successes in land restoration to scale", is an IFAD-EC funded initiative developing innovative ways to scale land restoration activities through embedding research in development. It does this by collaborating with development programmes to systematically test promising restoration options across a range of contexts. In Kenya, the project is working with over 2000 farmers across Kitui, Makueni and Machakos counties to implement on-farm comparisons of various land restoration options, including different tree planting practices and the use of planting basins.



Through monitoring the performance of these planned comparisons, the project aims to better understand which restoration options work best where, why and for whom. Using a mixed-methods approach, we explored the gender-differentiated impacts of tree planting and planting basins and the risks and opportunities they present for advancing

gender equality. **This brief presents the results of the assessment and explores the risks and opportunities that planting basins present for women farmers in terms of their workloads and agency over farm activities and decisions, and offers recommendations on how to diminish the risks and magnify the benefits of on-farm restoration practices.**

¹Sijapati Basnett et al. (2017) 'Gender matters in Forest Landscape Restoration: A framework for design and evaluation'. Center for International Forestry Research (CIFOR), Bogor, Indonesia

Box 1: Gender assessment methodology

The Integrating Gender and Nutrition within Agricultural Extension Services (INGENAES) toolkit² introduces a gender analysis framework and a range of tools that can be used to assess whether agricultural technologies are gender-responsive in their design, use and dissemination. To understand the potential gender-related impacts of tree planting and planting basins, we adapted methods from this toolkit and collected data across Makueni, Kitui and Machakos counties through:



Box 2: Planting basin technology

Planting basins, also known as zai pits, are a simple soil water conservation technique where small holes are dug and crops planted within them. These basins reduce surface water run-off and increase water availability for the crop, improving plant survival and growth. In Kenya, over 500 project farmers have been comparing the performance of these basins for growing maize against their usual cultivation practices (e.g. oxen and plough).



²[INGENAES] Integrating Gender and Nutrition within Agricultural Extension Services (2017). 'Assessing how agricultural technologies can change gender dynamics and food security outcomes' toolkit. University of Illinois-Urbana-Champaign: INGENAES.

RISKS AND OPPORTUNITIES IN TERMS OF WOMEN'S TIME AND LABOUR

Risks and opportunities in terms of time and labour were mostly related to:

- 1 Shifts in labour between men and women, particularly in relation to land preparation, and
- 2 Trade-offs between increased labour requirements and workloads and the benefits of using planting basins.

1 SHIFTS IN GENDER DIVISION OF LABOUR

Key findings

Planting basins may shift labour between men and women, increasing women's involvement in land preparation activities and their already heavy workloads, but potentially also increasing women's autonomy over these activities and allowing for earlier planting.

A higher incidence of female-only and male-only labour is used to dig planting basins compared to farmers' usual land preparation practices (i.e. oxen and plough) (Figure 1).

This difference is more pronounced for female-only labour and may suggest a shift in labour from men to women with the uptake of basins.

During focus groups, women in Machakos reported that using basins had increased the amount of farm work undertaken by women as they had been less involved in land preparation activities prior to taking up the basins. Given that women are often primarily responsible for much of the work within the home, increases in their farm work risks increasing their already heavy workloads.

An important advantage of planting basins is that they can be dug prior to the rains and do not require access to a plough. This may be a particularly important benefit for women since they typically have less access to resources, and having to wait for the use of a plough can delay planting and result in severe yield penalties.

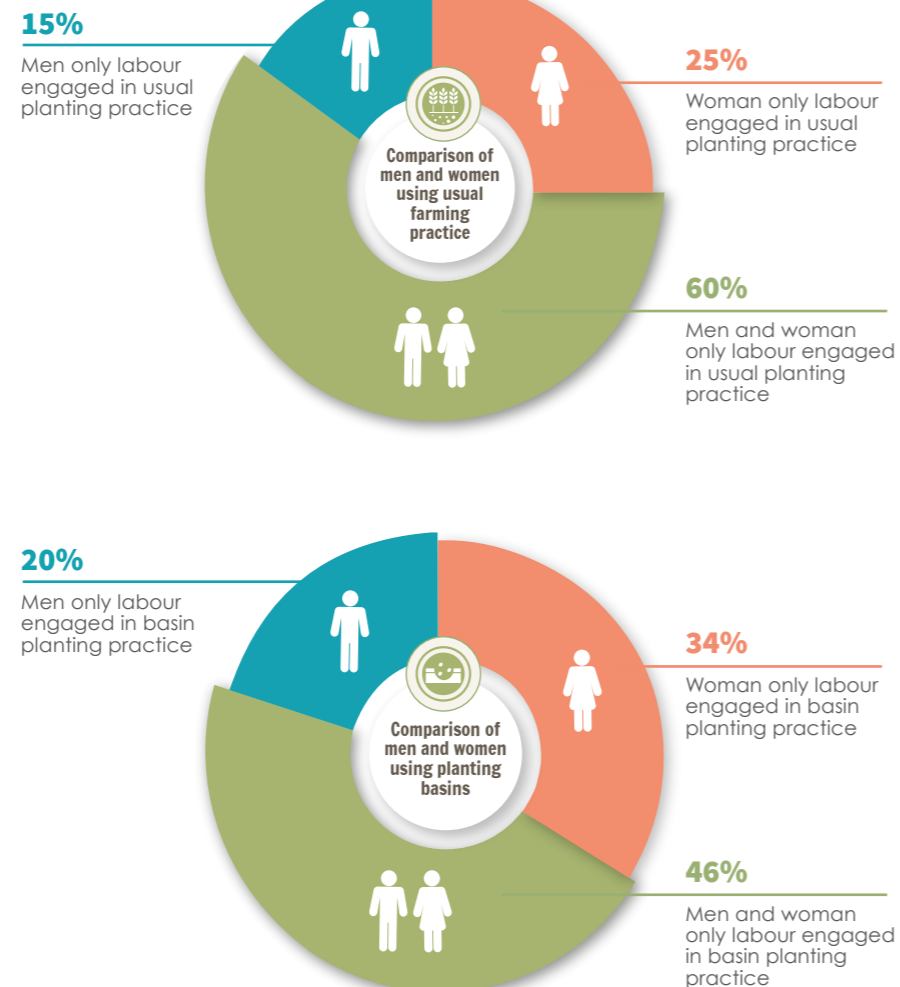


Figure 1: Comparison of men and women's involvement in land preparation using planting basins and farmers usual planting practice (e.g., ploughing) based on project survey data (n=492).



Households where only women were said to be involved in ploughing often relied on the use of borrowed equipment and had the lowest rates of plough ownership compared to households where men were involved in this activity (Figure 2). Such households may

have to wait for the use of a plough during the rainy season and face a higher risk of delayed planting. Planting basins could thus benefit women in these households by reducing their dependence on borrowed equipment and help avoid planting delays.



Figure 2: Percentage of households who own, borrow or rent ploughing equipment by the gender of those involved in land preparation activities using a plough.

UNDERSTANDING GENDER NORMS IN THE CONTEXT OF LAND RESTORATION

Key findings

Gender norms around farming activities are changing, opening up opportunities for the wider uptake of restorative practices, but with potentially unequal results for men and women in terms of workload

When asked whether men or women within their community are discouraged from carrying out certain activities, 39% of interviewees mentioned that women may be discouraged from using a plough or conducting strenuous work, such as digging terraces or basins and fencing. Nevertheless, a number of farmers went on to say that these taboos no longer exist in their community and that agricultural trainings had contributed to this change:

“Previously women were discouraged from holding a plough and spraying pests but as time went on women were trained to do most of those farming activities. As well, men were discouraged from milking cows but as of now there is a revolution in cultural practices in our society”

– Male farmer in Makueni County.

Nine interviewees

5 woman **4 men**

Reported that while cultural constraints persist in their community, they themselves continue to dig terraces and planting basins. One interviewee even stated that her husband prohibits her from digging terraces but that she digs them anyway given their benefits



“ He denies me from digging but I refuse and still [dig] them because I see the difference brought by terracing compared to my neighbour’s farm ”

– Female farmer in Makueni County

Key insights from project survey data

These findings indicate that gender norms are changing in respect to what farming activities women can and cannot do, and even when norms discouraging women from certain activities still exist, these do not necessarily stop them from participating in restorative practices.

Many of these norms centre on women being discouraged from strenuous activities. Changes in such norms could therefore lead to increased drudgery for women, especially if normative

changes are not occurring in the opposite direction, with men becoming more involved in the reproductive sphere (e.g. childcare, cooking and cleaning). Focus groups revealed that men’s participation in reproductive activities is still low, and while they occasionally help with water and firewood collection, washing clothes and possibly cooking, this tended to be conditional on their wives being pregnant, away or sick, or the availability of other women or children within the household to take on these chores.

2 TRADE-OFFS BETWEEN INCREASED LABOUR REQUIREMENTS AND WORKLOADS AND THE BENEFITS OF USING PLANTING BASINS

Key findings

Planting basins can reduce the time available for other household and livelihood activities but reduce time spent weeding - a farming activity women are heavily involved in

Time use

57% of farmers surveyed reported that using basins had increased the total amount of time they spend working on the farm. Of these farmers, 37% percent reported that this had affected their ability to perform other tasks.

These activities differed for men and women (Figure 3), with a higher percentage of men reporting that basins had affected their involvement in community and leisure activities compared to women, and a higher percentage of women reporting that their ability to carry out household chores and collect water and firewood had been affected.

The potential impact of basins on other household and livelihood activities was also cited during focus groups, with women mentioning that digging basins reduces the time available to wash clothes during the dry season.

However, a large percentage of farmers(35%) also reported that using basins had reduced the **overall** amount of time that they spend on-farm. Focus groups suggested this was because basins require weeding less frequently compared to other farming practices, and that weeding the basins takes less time.

During interviews, women spoke more frequently about the basins having reduced their time spent weeding than men. This likely reflects gender roles, with women being more involved in weeding activities than men. Reductions in time spent weeding may therefore be of particular benefit to women given their heavy involvement in this activity.

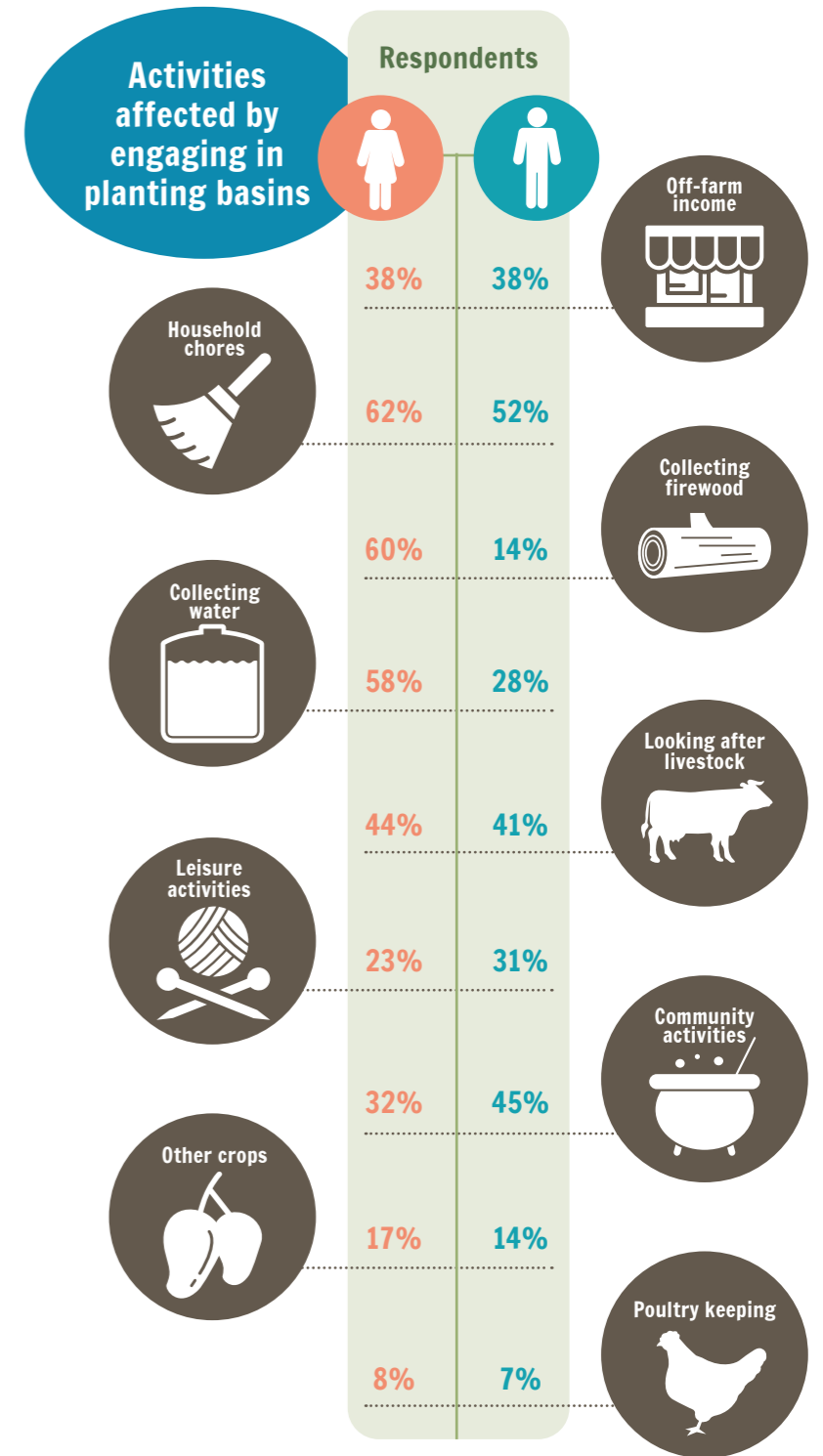


Figure 3: Activities affected by the use of planting basins for male and female survey respondents (answers based on multiple select question).

Key findings

Basins provide the short-term benefit of increased maize production - a benefit of particular interest to women, who are often responsible for producing food for the household

Both men and women, reported that planting basins increase maize yield, produce healthier plants and provide a harvest even when rainfall is low. Benefits from basins were largely seen as collective, with the whole household having benefited from their use and increased provision of maize for household consumption.

Increases in food production for household consumption are likely to be of particular interest to women, who are often responsible for growing food for the family, while men are expected to look for off-farm income. This gendered division of responsibility is reflected in the high percentage of interviewees (67%) reporting that only men within their household are engaged in off-farm income generating activities, and could also explain the high percentage of women engaged in the project (76% of project farmers are women).

Key findings

Farmers perceive that the benefits of basins outweigh the challenges and are coming together to overcome labour constraints

Key insights from project survey data

While digging basins takes more time than more traditional land preparation practices, the overall consensus from farmers is that planting basins are more productive than their usual farming practices and worth the additional investment.

The vast majority of farmers surveyed (88%) reported that they plan to dig more basins in the future. Focus groups also reported that, given the benefit of increased yield, they make time for digging basins and that the increase in time spent preparing land is not seen as a barrier.

When asked what might stop men and women from digging basins, participants mentioned sickness, hunger, old age, having limited time, pregnancy and a lack of land. When asked how these challenges could be overcome, they suggested the use of hired labour, enlisting the assistance of other household members and the formation of groups where farmers help each other dig the basins.

Through having attended the project trainings together, farmers, particularly women, have started forming groups and now dig basins together. From the 511 farmers testing planting basins, 30 women and nine men reported having dug their basins with the assistance of neighbouring farmers. In Makueni, women reported that working together provides a number of benefits, including increased morale and motivation, but also comes with its challenges (Figure 4).



Benefits to working in groups to dig basins

- Working in groups increases morale.
- Opportunity to share knowledge with other members of the group.
- Group members that fail to contribute their labour are fined, incentivizing group participation.
- Each group member is able to have many basins dug in just one day.



Challenges to working in groups to dig basins

- Some group members do not have tools for digging.
- Controlling large groups and ensuring that everyone is following the correct method and measurements can be challenging.
- Some members may leave the group once they have had their basins dug.

Figure 4: Benefits and challenges to working in groups to dig basins identified by a women's focus group in Makueni County.



RISKS AND OPPORTUNITIES IN TERMS OF WOMEN'S INVOLVEMENT IN DECISION-MAKING

In terms of decision-making we identified risks and opportunities regarding decisions over the uptake of new technologies, and the effects of successful performance on furthering women's participation in farming decisions.

Key findings

Uptake decisions regarding new technologies are largely made jointly between husband and wife

The majority of interviewees, both men and women, reported that, while they themselves had made the decision to try out the new technologies, there had been at least some form of consultation with their spouse. A similar trend was also observed regarding decisions on where to dig the basins and plant the trees.

The large participation of women in decisions related to the uptake of new technologies is further supported by a wider perception among study participants that there has been a trend towards more joint decision-

making in recent years and most farming decisions are made jointly between husband and wife, particularly in households where the husband is away women may make more decisions on their own.

Joint decision-making and consultation were also seen as means to avoid conflict within the household and a way of ensuring other household members felt included and would therefore support the activity and provide their labour (i.e., look after trees). Activities were said to be more likely to be successful if others are included in the decision.



Key findings

Women's participation in agricultural trainings can help increase their involvement in farming decisions

In addition to legal and constitutional changes related to women's land rights and domestic violence, and increased awareness of women's rights and the concept of gender equality, women's increased participation in agricultural trainings and development projects was also cited as a driver of women's increasing involvement in farming decisions over recent years.

As more women are now involved in trainings, they are gaining knowledge of new agricultural practices and becoming more involved in decisions as their husbands and families recognise that they have knowledge and ideas to contribute.

However, increased involvement in decisions seemed conditional on whether the new technologies or practices are seen as successful. This is reflected by women's stories during focus groups of trying a new technology and, once shown to be successful, having gained more control over decisions regarding the practice and wider farming decisions more generally.

In some cases, with husbands and other household members providing support through agricultural inputs, money to hire labour or assisting with digging basins.



“When I dug the basins, they were hard work but I had a good harvest from them. My children live away but when they came to visit they saw that the basins were productive and said that they wanted to help and support. The next season they bought seeds and fertilizer to use in the basins”

- Female farmer in Makueni county.

Key findings

Women may find it difficult to convey the potential benefits of new technologies to household members who do not participate in trainings or project activities

Focus groups reported that, when there is disagreement over the uptake of a new practice, it is often related to the fact that only one member of the household usually attends training activities. In women's focus groups it was frequently mentioned the need to persuade and be persistent with your husband over the potential benefits of adopting a new technology were frequently mentioned, as was the fact that the male head has the final say.

In Mfito Andei, men explained that taking a planned comparison approach could help overcome disagreements between husband and wife over the use of a new technology:

“If there is a training and one attends the other might not agree because they didn't attend. But they can try the things learnt on one part of the farm and show the results to convince the one who did not attend. They can do one acre according to the man, one acre according to the woman and then they see the results”

- Male farmer in Makueni county.

KEY RECOMMENDATIONS



Provide gender-responsive training

Trainings on restorative practices need to be aware of how gender roles and norms shape the opportunities of men and women and could benefit from:

- **Being aware of gender norms surrounding farm activities that can constrain the uptake of restorative practices.** Trainings and other capacity development activities should facilitate critical awareness and discussion of traditional gender roles and norms that generate inequalities, including encouraging men to take on responsibilities in the reproductive sphere.
- **Encouraging the attendance of spouses.** It was mentioned that in situations where women attend trainings and the husband does not, that the husband may be reluctant to let the wife test the new practice as they have not seen the technology working/attended the training. Encouraging couples to attend trainings could help overcome this barrier.
- **Providing information materials for women to take home.** In situations when couple attendance is not possible, women could be provided with a leaflet or similar material with information on the technology to take home. This would need to be in a well-designed, thoughtful format so that even farmers with low literacy can understand the information, and should also provide guidance on how to address potential scepticism from other household members.



Address gender-based constraints through combining interventions

- Rather than perusing single solutions, restoration projects could look to offer farmers suits of complementary interventions to address multiple issues and gender-based constraints to the use and uptake of new technologies. For example, some women reported that basins had impacted their ability to collect firewood. Combining planting basins with planting fuelwood tree species could help alleviate this constraint through the provision of fuel wood on-farm.
- Farmers may also develop their own ways of overcoming constraints, such as the formation of groups to dig basins. Restoration projects should seek to support such initiatives, for example, how to set up groups and respond to demand driven needs for training. In addition to provide support in acquiring digging equipment or accessing credit.



Encourage on-farm experimentation and use of the planned comparison approach

- Persuasion of other household members was seen as a barrier to the uptake of new technologies such as basins. The planned comparison approach of testing and comparing different practices might also help persuade sceptical household members to try out a new technology, especially because **farmers are given control over what they test and compare.**
- A woman, for example, could reason with their husband that they can test a new practice or technology on a small area and drop the option if it didn't respond well or wasn't considered optional by that farmer before attempting to scale this technology. This emphasizes the learning aspect of the approach and based on farmer and context specific feedback.



Offer continuous and regular support and technical backstopping to both men and women farmers

- Other studies had shown the importance of ongoing participatory monitoring and backstopping to ensure the successful uptake of complex restorative interventions that have several interactive components and require significant and specific behaviour change among participants.
- We found that in the case of many women farmers, this continuous support and engagement also has a positive effect on both their confidence and that of their husbands and families on their capacities. **In addition it is a key driver behind women's increased participation in household decision-making.**





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