

Gender and Irrigation: Briefing Note

March 2019



Quality Assurance Checklist:

In preparing this document, CRIDF can confirm that it has followed the CRIDF internal general procedures including, appropriate CRIDF generic scope of work, and that it has undergone appropriate Quality Assurance (QA) and Quality Control (QC) procedures as detailed in CRIDF's QA manual. Furthermore, CRIDF can confirm the applicable specific internal processes and procedures have been followed (as appropriate):

- CRIDF's Cost Benefit Assessment (CBAs) guidelines have been applied;
- CRIDF's Gender Equality and Social Inclusion (GESI) guidelines have been applied;
- CRIDF's Climate vulnerability mapping methodology has been applied;
- CRIDF's Climate Change Risk Assessment (CCRA) mapping protocol has been applied;
- CRIDF's Procurement guidelines have been followed;
- CRIDF's screens, relevant to this stage, have been completed.

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Disclaimer

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Contents

	Quality Assurance Checklist:	1
1	Objective	3
2	Context	3
2.1	Gender and Irrigation	3
	Access, ownership and control over resources	4
	Timing, location and quality of supply	4
	Participation in irrigation trainings and user groups	4
2.2	Applying a Gender Perspective to the Design of an Irrigation System	5
3	Recommendations	6
3.1	Design	6
	Data Collection	6
	Consultation Considerations	6
	Participation 6	
	Identify Gender Differences	7
3.2	Implementation	7
	Training 7	
	Access to Information and Decision Making	7
	Access and Participation	8
	Address Gender Barriers	8
References	10	

1 Objective

To make irrigation engineers, program managers, sociologists, field workers and other relevant stakeholders more gender sensitive and to help them understand how the design, operation and management of irrigation infrastructure can become more gender balanced.

2 Context

Women play a central role in agriculture and food production in sub-Saharan Africa making up, on average, about half of its farmers¹. According to the FAO, if women had the same access to resources as men, including irrigation, they would produce 20-30% more food on their land.² When women are able to benefit from income generated from farm work, it also contributes to improving household well-being as women tend to spend a larger part of income on childcare, education and health.

Despite these findings, people working on the development and implementation of agriculture projects tend to undervalue the role of women and the contribution they make to food security and income generation. As a result, female farmers continue to face a number of barriers in providing input on their agricultural needs and in deriving equal benefits from agricultural production. Due to barriers such as a lack of legal and cultural status, women farmers control less land and are far less able to make use of improved technologies such as irrigation and inputs such as fertiliser. They tend to have less access to credit and insurance and are less likely to receive extension services, a critical source of information on new technologies. Inheritance laws can also disadvantage women's ability to secure loans for land and other agricultural inputs.

Whereas men tend to dominate, and control revenue generated from cash crops as well as non-farm incomes, women are generally cultivators of crops that are either less profitable or are subsistence crops which may ensure household food security but fail to generate income to improve the overall livelihoods for themselves and their families. In cases where they do generate income from the sale of crops, women frequently have to hand over the funds to their husbands who are seen as the key decision makers within the household. Women also tend to lack a voice in key decision-making processes connected to agriculture which can limit their ability to access inputs, equipment, training and markets. Aside from being underrepresented in farmers' organisations, there are limited opportunities for them to assume a leadership role despite the fact that organisations with women in leadership positions outperform those that lack women.

2.1 Gender and Irrigation³

The emergence of climate uncertainty in sub-Saharan Africa is resulting in small-scale irrigation being recognized as a key strategy for enhancing agricultural productivity and food security. Irrigation can provide a number of benefits such as its potential to improve how time is used, to increase income, enhance nutrition and reduce the negative impacts of seasonal and climate-related shocks. It can, if managed correctly, also contribute to the improvement in women's status in the household and community. As efforts to move from rain-fed agriculture to irrigation are being introduced, it is important to consider the gender implications of irrigation such that both men and women are equally able to adopt irrigation technologies and benefit from these investments.⁴

¹ FAO 2011 *The state of food and agriculture: women in agriculture. Closing the gender gap for development.*

² AgDevDo Annual Report 2016

³ Sourced from Zwartveen, M. *Linking Women to the Main Canal: Gender and Irrigation Management*, IIED Gatekeeper Series No. 54 and Sophie Thies et al. *Promoting Gender Equality in Irrigation*, USAID Feed the Future Innovation Laboratory for Small-Scale Irrigation (FTF-ILSSI) Project Notes, April 2016.

⁴ Sophie Thies et al. *Promoting Gender Equality in Irrigation*, USAID Feed the Future Innovation Laboratory for Small-Scale Irrigation (FTF-ILSSI) Project Notes, April 2016.

Access, ownership and control over resources

Studies of irrigation development in Africa show that women and men may have different motivations for investing their time and other resources in irrigated crop production. In some cases, new irrigation interventions can even lead to women losing access to land and to the proceeds of harvests in favor of their husbands and male relatives.⁵ In some cases, crops grown by women simply go unacknowledged. As a result, women's water requirements are seldom taken into account when devising delivery schedules.

Intra-household power dynamics can mean that projects that seek to transfer irrigation technology directly to women may give women ownership in name only.⁶ Even when female farmers grow the same crops as men thereby entitling them to receive an equal share of water, it can be difficult for them to claim and receive the amount of water to which they are entitled. When water is scarce, women are often at a disadvantage in acquiring water because of social norms that favour men. Overall, equity tends to be valued differently because of differences in the nature and importance of social relations to men and women. This may account for why women place higher value on equitable water distribution.

Timing, location and quality of supply

There may also be differences about what men and women consider convenient in terms of timing for the delivery/supply of water. Female irrigators may have different preferred daily irrigation times because they have to plan their various productive and domestic activities.⁷ Irrigating after dusk may be particularly difficult for women because of social norms which prevent them from going out at night or fears of gender-based violence. Women and men also have different perspectives as it relates to distribution of water across the season. This tends to be the case because of a division along gender lines between crops and timing for agricultural work to be done. For example, water distribution may be favoured for the harvesting of male-controlled crops but reduced or even stopped when water needed for crops grown by women such as vegetables are grown.⁸

Men and women also tend to have different tasks such that the adequacy of irrigation can be affected by the different roles that they play. Women often have multiple uses for water as it relates to their productive and reproductive roles including for domestic tasks of preparing food, washing clothes and growing vegetable gardens. They tend to prefer that water points be located close to the home in order to accommodate these multiple uses. In terms of water quality, women are also likely to place higher value than men on having access to irrigation water which is clean enough to be used for domestic purposes. They are also much more concerned about the health hazard linked to the use of irrigation water for domestic purposes since they are often responsible for caring for the sick.

Participation in irrigation trainings and user groups

Women are less likely to participate in irrigation trainings due to competing domestic responsibilities despite the fact they are quick to adopt new technologies. They also face limited opportunities to access the market for crops generated through irrigation schemes because of mobility constraints, multiple responsibilities at home, social norms as well as vulnerability to sexual harassment and violence. Women and men will often have different perceptions of the costs and benefits involved in participating in irrigation users' groups. The appeal of participating can diminish for women, partly because the time spent travelling or attending meetings rarely offsets their loss of time for other critical activities. They can be particularly demotivated when decisions are taken outside of these meetings during information get-togethers which tend to fall in the male domain. Because irrigation is commonly perceived to be a male activity, in some cases women are

⁵ Zwartveen, M. *Linking Women to the Main Canal: Gender and Irrigation Management*, IIED Gatekeeper Series No. 54, p. 4

⁶ Sophie Thies et al. *Integrating Gender into Small-Scale Irrigation*, USAID Feed the Future Innovation Laboratory for Small-Scale Irrigation (FTF-ILSSI) Project Notes.

⁷ Zwartveen, M. *Linking Women to the Main Canal: Gender and Irrigation Management*, IIED Gatekeeper Series No. 54, p. 8

⁸ Zwartveen, M. *Linking Women to the Main Canal: Gender and Irrigation Management*, IIED Gatekeeper Series No. 54, p. 8

simply excluded from meetings or consultations. This is compounded by the fact that membership of water user groups is often confined to one member of each irrigating household, either the official landholder or the 'head' of household both of which apply much more to men than women.⁹ Even when women are able to join water users' groups, the existence of patriarchal norms which view the attendance and discussion at meetings as a typical 'male' role makes it difficult for women to bring their opinions and needs forward. Furthermore, women frequently lack the confidence and the experience to deal with irrigation matters in public since all interactions with outside institutions mostly take place with men and because men often receive additional support and training.

2.2 Applying a Gender Perspective to the Design of an Irrigation System¹⁰

Gender-based differences in preferences, responsibilities and access to resources need to be taken into account in the design of irrigation technologies to maximize the contribution of irrigation to poverty reduction and empowerment of women. Introducing a highly productive irrigation system does not automatically mean that all households who are involved in irrigation benefit from it or benefit to the same extent. When planning and implementing irrigation interventions it is critical to recognize that differences and potential conflicts exist between men and women. The application of gender analysis of irrigation projects may lead to a reassessment of irrigation goals, objectives and approaches as well as the strategies to achieve these objectives. Developing a gender perspective to irrigation management consists of answering the following questions:

1. What are the objectives of the irrigation system?
2. What are the needs of female and male water users?
3. What factors need to be considered in the design and implementation of the irrigation system to enable it to accommodate the needs and ensure the benefits of both male and female users?

The many direct and indirect linkages between gender and irrigation development can be influenced by a diversity of factors including different cultural, institutional and environmental contexts and will vary with the type of irrigation technology used. Gender analysis can help irrigation planners to set realistic and achievable objectives while assessing the potential trade-offs of achieving these objectives.

Irrigation management with a gender perspective starts by identifying the end users to understand their needs and interests. Unless the actual users are willing and able to use the water delivered by the irrigation system in an efficient and effective manner, the objectives of the irrigation system risk not being achieved. Design processes should incorporate consultations with male and female users to ensure that both of their wishes, needs and requirements are taken into account. Explicit attention needs to be given to how property and use rights to irrigation infrastructure are created and enforced¹¹, with an emphasis on gender differences in willingness and ability to invest labour or other resources connected to construction and maintenance. In terms of gender and social inclusion, efforts should be made to identify specific vulnerabilities within a population such as widows who often face challenges in accessing land.

Data on irrigation practices are rarely sex disaggregated. What's more, household surveys typically tend to overlook critical questions about power and control over the use of water - focusing instead on whether irrigation is practiced, on what crops are grown and using what water source. While the gender of the household head may be recorded, relatively little is known about women's agricultural water management in dual-headed or married households.¹² It is therefore critical to ensure that issues of power and other cultural dimensions connected to the predominance of patriarchal societies in most Southern Africa communities are taken into account.

⁹ Zwarteveen, M. Linking Women to the Main Canal: Gender and Irrigation Management, IIED Gatekeeper Series No. 54, p. 8

¹⁰ This section is sourced from Zwarteveen, M. *Linking Women to the Main Canal: Gender and Irrigation Management*, IIED Gatekeeper Series No. 54

¹¹ Influencing/changing cultural norms around property ownership falls outside CRIDF's scope of influence and level of ambition, but it is still important to: recognize this issue, discuss it with community leaders and consider ways of empowering women within these cultural boundaries.

¹² Sourced directly from: Sophie Thies et al. *Promoting Gender Equality in Irrigation*, USAID Feed the Future Innovation Laboratory for Small-Scale Irrigation (FTF-ILSSI) Project Notes, April 2016.

Given household dynamics, the “adopter” of the technology does not necessarily hold the rights to the technology within a household such as the ability to control the benefits from the technology. It is therefore important to analyse who will be using the water and who will benefit from these uses. Irrigation schemes may end up excluding women and other vulnerable groups due to their lack of access to adequate land and water resources. In addition, insecure land tenure may discourage investment in irrigation, given the risk of losing control over land, especially if irrigation increases its value.¹³

3 Recommendations

3.1 Design

Data Collection

- Conduct participatory needs assessments with men and women, including married women and female-headed households, to understand gender-based differences in access to, control over and preferences for irrigation technology and irrigation schemes
- Ensure that household surveys collect sex disaggregated data which includes gaps in access to irrigation technologies, water resources and land as well as determining who has control over decision making connected to water
- Identify barriers to men’s and women’s participation in groups
- Identify and engage with organizations working on gender issues that are directly and indirectly related to the irrigation project to gather their perspective and learn from studies and work they have done. For example, organizations working on nutrition may be indirect but can share key perspectives on gender and irrigation.

Consultation Considerations

- Identify barriers to men’s and women’s participation in groups
- Develop organizational options which enable women-only groups to debate and synthesize their preferences and relay to the community authorities through a representative.¹⁴
- Use tools like gender-sensitive value chain mapping and activities
- Ensure that invitations to consultations, meetings, trainings and outreach events reach both men and women while acknowledging that reaching women may require different approaches and channels than reaching men
- Organize meetings at times that are convenient for women and consider providing additional funding to cover costs of transport to attend the meeting
- Host meetings exclusively involving women while ensuring their input is incorporated into broader decision-making processes

Participation

- Gather an understanding of who will be able to participate in training on the irrigation technology that takes into account where and when the training is held and who will be in attendance
- Identify and map out specific barriers to participation using participatory processes
- Identify and engage men as supporters and gender champions
- Address barriers such as illiteracy by providing targeted support and ensuring that material is accessible to people who are illiterate
- Provide special training sessions for women including to build confidence and to enable them to play a leadership role

¹³ Sophie Thies et al. *Integrating Gender Equality in Irrigation* USAID Feed the Future Innovation Laboratory for Small-Scale Irrigation (FTF-ILSSI) Project Notes,

¹⁴ Sophie Thies et al. *Promoting Gender Equality in Irrigation*, USAID Feed the Future Innovation Laboratory for Small-Scale Irrigation (FTF-ILSSI) Project Notes, April 2016.

- Appoint and train special female staff to provide support and act as role models

Identify Gender Differences

- Investigate who within the household provides labour and who controls income from irrigated production and avoid equating use of technology with control
- Identify whether and how both men and women need and would use water that is made available through the system as well as to determine how to accommodate differences in the design
- If design involves resettlement or settlement of a new area, care should be taken to ensure that women are provided with secure access to newly developed land and water, particularly in cases where women traditionally relied on access to land resources and ensure that options for joint compensation are considered
- Recognise and identify possible measures to address barriers women face with land ownership, even if these fall beyond the remit/mandate of the project
- Investigate gender differences in preferences for the design and location of technology
- Assess accessibility and relevance of the products to different user groups
- Gather an understanding of women's labour burden and its potential to encourage or block the uptake of specific irrigation technologies
- Determine how women and men learn about new technologies in different ways including how communication is conducted in a community, who has access and whether there are differences in how men and women access information
- Investigate whether women and men have different perceptions on the uses of water. For example, women tend to who have multiple uses for water because of their role at the household level, location of the irrigation technology closer to the home is often preferable because it can reduce overall labour requirements
- Because homestead water points can facilitate the irrigation of kitchen gardens which women mostly manage and may use to generate their own income, explore partnerships with efforts focused on water, sanitation and hygiene (WASH)¹⁵

3.2 Implementation

Training

- Adapt training on the use of irrigation technologies to women's capacities (literacy and skills), mobility (providing transport, organizing trainings close to home), schedules (women may be too busy in the mornings and not available for multiple days) and needs (childcare)
- Invite both women and men to trainings and communicate relevant information directly in local languages and use mechanisms that women can access e.g. radio
- Train lead farmers to show other women farmers the benefits of technology
- Promote events, trainings and farmer field days that provide child care at appropriate locations and times of day and encourage women to attend
- Train men and women on drilling wells and maintaining irrigation technologies

Access to Information and Decision Making

- Identify ways to help women secure access to and control over land and water resources to irrigate. This may require working in partnership with organizations that are addressing land issues.
- Determine how women and men gain access to information and develop ways to address differences in communications style and information access
- Leverage platforms that women currently use to access information e.g. radio
- Investigate ways to facilitate information sharing within the household and with other households including with outlets such as women's groups

¹⁵ Sophie Thies et al. *Integrating Gender into Small-Scale Irrigation*, USAID Feed the Future Innovation Laboratory for Small-Scale Irrigation (FTF-ILSSI) Project Notes

- Look for ways to encourage more cooperative approaches to decision making over income such as using household dialogues or whole family approaches.
- Identify ways to ensure the inclusion of women in formal institutions connected to irrigation to ensure their access to information about the management of shared resources and to solicit their input on the governance rules
- Facilitate joint decision making on the use of benefits from production and on household expenditures
- Disseminate information about new irrigation technologies through men's and women's groups
- Enlist trusted people that regularly interact with men and women e.g. extension agents to share information

Access and Participation

- Review criteria for participation on water user associations and irrigation committees to identify and address barriers to participation.
- Promote equality at leadership level and look for ways to facilitate women's role as leaders in relevant irrigation committees and water user associations. This may require capacity building for women on how to lead a meeting, development of self-confidence and negotiating conflict
- Identify barriers to women's participation in construction of irrigation infrastructure and develop mitigating strategies to facilitate their participation
- Inform other household members about women's participation in an event or activity, with the aim of ensuring their support and understanding
- Provide extra resources to women e.g. provide equipment to women's groups to overcome barriers women faced in accessing critical agricultural inputs
- Look at ways to improve market access for women such as providing transport
- Train spouses in joint planning and sharing of workload, transparent information sharing on production practices and marketing
- Identify ways to increase the percentage of female members in farmer organizations
- Work with different women and women's organizations to understand their preferences regarding irrigation and water technologies e.g. design, pricing

Address Gender Barriers

- Provide water points closer to women's homes to reduce women's time burden and to free up time they can spend on farming activities
- Find out if women and men have different needs in terms of payment and adapt the payment system by changing the frequency and timing of the payment or ensuring that husbands and wives are both registered and collect payment together
- Collaborate with women's cooperatives that pool small plots of land together to address women's obstacle to land ownership.
- Devise water delivery schedules in such a way as to accommodate both male and female needs regarding quantity, timeliness, timing, equity and quality of water
- Consider specific uses of water by women, like domestic uses or watering cattle need to be included when operating systems
- Ensure that women have secure land tenure to avoid expropriation. If it does not exist, work with partner organizations that specialize in addressing land tenure issues
- Provide subsidies for women to acquire technologies individually or jointly with husband or women's group
- Enhance women producer groups' connection to markets and to market information to sell irrigated produce
- Look for ways to register ownership of technologies in women's name
- Promote financial products that facilitate women's control over income
- Support female heads of households and labour-poor women in finding and hiring labour

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